





CALIFORNIA



0 2007 1209069 1

California State Library

RY.

Accession No. 146721

Call No. fc 630.5 P1

75-76



**CALIFORNIA STATE LIBRARY.**  
**SACRAMENTO**

This book is due on the last date stamped below.  
A book may be kept for three weeks and renewed  
for two weeks longer.  
A fine of five cents a day will be charged on over-  
due books.

---

--	--









Digitized by the Internet Archive  
in 2013

CALIFORNIA  
STATE LIBRARY



CALIFORNIA  
STATE LIBRARY



75+76, 1908  
Complete

STATE  
LIBRARY

1639

# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 1.

SAN FRANCISCO, SATURDAY, JANUARY 4, 1908.

Thirty-eighth Year.

## The Vesuvius Plum.

The holiday season is probably the best time of the year to call attention to a creation of Mr. Burbank's which is chiefly ornamental. It is then that, if ever, the commercial spirit of the grower should bow before the esthetic. Mr. Burbank's experience brings him face to face with many new plant beauties, but his chief purpose to serve the world along economic lines compels him to overlook many of them. Once in a while, however, something so striking crops out that it cannot be disregarded and so likely to become popular that there will also be a distinct commercial opportunity in its propagation. Of this nature as it seems to us is the Vesuvius plum which is illustrated on this page and which is shown in color-print in the new publication by the Fancher Creek Nursery, Fresno, entitled "New Products of the Trees," to which we made general allusion two weeks ago. Mr. Roeding claims that the tree is worthy of its eruptive name because its color is so surpassingly beautiful that while it excites admiration at a distance, closer examination only intensifies the first expression of delight which its beautiful foliage is sure to arouse. It is something like *Prunus pissardi*, but so superior that it is likely that the old purple-leaved plum will become obsolete. The fruit is of a deep rich color, possessed of a pleasant acid flavor. It is not a very prolific bearer, hence it is recommended as a striking foliage tree worthy of a place in every garden and park. Mr. Burbank writes this description of the way it came about and what he thinks of it:

"The *Prunus pissardi*, a crimson-leaved form of the *Prunus myrobalana* introduced 20 years ago, is the only good purple-leaved plum generally known. For the past 18 years I have been raising hybrids of this and the *Americana* and *Japan* plums, hundreds of which are superior to the original well-known *pissardi* in all respects; but among all known crimson-leaved tree of any kind *Vesuvius* stands alone. The trees are tremendous growers, taking on a picturesque appearance; branches deep purplish crimson, leaves gigantic (often 4½ in. wide by 6 in. long), but above all, these great leaves are of the most beautiful metallic crimson color throughout, both on the upper and under surface, having a crumpled surface very much like a *coleus*. Nothing in this line can compare with *Vesuvius* in color; tree a very strong grower, taking the graceful form of the *American elm*; fruit nearly globular, 3½ in. around, fair quality especially for cooking, but not an abundant producer of fruit. Any



Burbank's New Ornamental Plum—The Vesuvius.

tree which produces such beautiful foliage should not be expected to produce much fruit. The growth and foliage of *Vesuvius* will make it the coming tree for foliage effect, beautiful in the distance, but more so on closer inspection."

Mr. Roeding thinks that Mr. Burbank in the foregoing description does not do full justice to *Vesuvius* as a most beautiful foliage tree. It would, however, take a poet to make it much more impressive, so we suppose every beauty-lover will have to grow it for himself and awaken the mute poetry of his own soul to show him how beautiful it is. If, however, the reader will remember that the leaves shown in the picture are less than one-half of their natural size and then apply to them what Mr. Burbank says about metallic crimson color and *coleus*-like surface he must begin to get an idea of gorgeousness which will do to start with and believe that there must be scarcely a single deciduous tree which for splendor of coloring can lend so striking a beauty to the lawn, conservatory, or fruit garden. In planting and treatment follow the usual routine with other varieties of plums, only in pruning be careful, after the head is once established, to prune to an upper bud, as this tends to bring out the beautiful weeping effect.

BESIDES buying this year 6600 of the latest and most expensive refrigerator cars for its California fruit traffic, the Southern Pacific railroad has taken up the problem of cooling the fruit before it is packed in the cars. The company is working on the lines shown to be the most successful by the experiments of the Department of Agriculture, which loaded fruit just as it came from the grower, then after careful selection and brushing, and lastly after it had been pre-cooled before it was put in the cars. At this fruit was sent across the continent in refrigerator cars, under careful observation as to temperature along the route and the condition of the fruit on its arrival. It was found that the pre-cooled fruit was far in advance of any other. The Southern Pacific has already begun the building of pre-cooling plants, as well as ice-making plants to supply its cars. When

pre-cooling comes to be the general rule, it will mean not only the saving of a large amount of fruit that now becomes spoiled, but also that the fruit can remain on the trees longer.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

We are moving into the new year without sensations to render the transition memorable. The governor's holidays closed quietly and the general public probably did not know whether they were on or off. As the banks emerged from the protective period no one ran upon them as the timorous thought they might; in fact, the report is that more money went in than came out, because people were anxious to place it where it could be recovered as needed without fear of theoretically closed doors. In fact the people have not been afraid at all and were pleased to have restrictions removed. The bad things in banking, the operators of conscienceless bank wreckers are just about as bad as they can be, but the aggregate of it was too small to excite general alarm. It would seem that the public should learn to be afraid of banks which offer depositors extra good things which they cannot get elsewhere. Experience is that such institutions are unsafe and that the depositor loses more than he can gain in interest. When a bank begins to offer extra good things there is a large chance that they are really extra bad things. The worst of it is that they generally attract money from those who cannot afford to lose it, and they dissipate the hard-earned savings of people who ought not to be tempted by attractions which conservative banking does not favor. Wildcat banking is even worse than feline factors in other affairs, because the public is thrown off its guard by the general impression of security which the very word "bank" conveys. We enter the New Year then with a warning to the unwary and with satisfaction that relatively few suffer from unwisdom, because unsound financial institutions are rare and clearly result from disregard of recognized principles and policies.

The great white fleet is proceeding well along the east coast of South America on its way to California, stopping at leading ports to receive the welcome of maritime nations along the route. The ships are sailing from winter into the summer of the other hemisphere, and will reach San Francisco bay just at the opening of another summer—thus pursuing summer all its way. The arrival of the fleet will be one of the greatest events ever experienced in California and will draw many thousands to our coast cities. The present year, therefore, bids fair to be as great in summer as in winter tourists, and the State will be made proportionally more prominent. Various measures of the greatness of the voyage have been made, not the least interesting being that which Mr. Sidman gives in Harper's Weekly of the provision for victualing the expedition. The size of the task is evident when it is noted that each of the 16 battleships in the squadron has a complement of about 30 officers and 800 men, and each of the six torpedo boats six officers and 70 men, making a grand total of more than 13,700 men to be fed for five months. They will require 6,500,000 pounds of provisions, including 1,200,000 pounds of spring wheat flour, 20,000 pounds of oatmeal, 61,000 pounds of yellow corn meal, 25,000 pounds of cocoa, 20,000 pounds of prunes, about 475,000 pounds of canned peaches, and other canned fruit, 1,000,000 pounds of fresh beef, 100,000 pounds of mutton, 150,000 pounds of salt pork, 50,000 pounds of bacon, 300,000 pounds of smoked ham, 15,000 pounds of veal, 10,000 pounds of sausages, 30,000 gallons of beans, 250,000 pounds of canned string beans, 30,000 pounds of sauer kraut, 100,000 pounds of onions, and 800,000 pounds of potatoes. All these things are merely the stock pro-

visions which go into the ships. Fresh provisions will doubtless be added at all ports, and when the throng strikes California with its naval appetite whetted, there will be a new demand for our springtime products. This is an agricultural view of the event, but it is legitimate and indispensable.

Recurring to the local labor situation upon which comments have been freely indulged in in recent issues, it is interesting to note that Mr. William R. Wheeler, a Californian, and member of the Immigration Commission, deplors the action of the California fruit growers favoring restricted entry of Chinese, because he believes that the opening of the Panama canal will largely solve the problem of labor on the Coast by opening a short route. The problem of distribution, he says, is greater than that of selection, it being almost impossible to divert immigrants from their intended destination. With the opening of the canal, San Francisco will become such "intended destination" of enough Spanish and Italian immigrants to supply the California demand for labor. That is possible, of course, and the new route may also induce a movement of even more desirable immigration from north European peoples, but it will surely be some time before this can become operative, perhaps not less than a decade to finish the canal and get the ships running. We do not know how long it will be. Meantime California, advancing as it has done in the recent past, will have a much greater demand for labor because so few people come here to work for others, but rather to start enterprises for themselves. Every such person does not supply labor, but increases the demand for it. And while we are waiting and hoping for more white laborers, the Asiatics who now have entry will be multiplying, and we still will be getting the worst of an undesirable color instead of the best of it. That is the conclusion from the present situation whichever way you look at it.

We quite sympathize with the effort of the Weather Bureau to assure the people of southern California that the enlarged Salton sea is not likely to modify their climate. We reproduced the Weather Bureau's demonstration of that matter some months ago, but now the Bureau puzzles us a little, for the Weather Review returns to the subject and prints this paragraph:

Without waiting for special local observations of temperature or moisture, we can easily demonstrate the slight influence of this sea on the general climate, especially on the rainfall. The Salton sea has an estimated area of 400 hundred square miles and an average depth of less than 80 ft. The total volume of water may be equivalent to a depth of 28,000 ft. over one square mile, or one foot over 28,000 square miles, or about two inches over the 158,000 square miles of California, and is much less than falls in almost any one area of low pressure during the few days of its progress over the United States. This amount of water would suffice to provide for the irrigation of the whole 300 square miles of the Imperial Valley for 40 or 50 years, if that region required only 20 in. in depth per annum. Therefore the practical question is not how much the Salton sea can affect climate, but how its waters can be used for irrigating the lands that surround it.

The facts with which the paragraph opens are very interesting, but the suggestion that the water be used for irrigation is what puzzles us. First, the water may be fresh now that there is such a volume of it, but by and by, after evaporation works for a while, it will be salt enough to re-open the salt factories probably. Again, the water is below sea level and it cannot be made to run upon the adjacent land, or else it would not remain where it is. True, while it is fresh enough it might be pumped out for the irrigation of its border lands, but that would not pay and no one would undertake it while the Colorado is pouring its flood of fresh water along a contour line which is high enough to irrigate the vast Imperial valley by gravity flow. This fact is what led to the settlement of the desert and indirectly to the re-filling of Salton sea, and if that water could have been pushed back into the river, all the millions to save the low valley would not need to have been spent.

The greatness of American agriculture is a good thing to paste in your New Year's hat. This will do

for one side of the hat, which can be given to leading field crops used for food. The figures are fresh from the Department at Washington:

	Acres.	Bushels.	Farm value.
Corn.....	99,931,000	2,592,320,000	\$1,340,446,000
Winter wheat.....	28,132,000	409,442,000	361,217,000
Spring wheat.....	17,079,000	224,645,000	193,220,000
Oats.....	31,837,000	754,443,000	334,568,000
Barley.....	6,448,000	163,317,000	102,058,000
Rye.....	1,926,000	31,566,000	23,038,000
Buckwheat.....	800,000	14,290,000	9,975,000
Flaxseed.....	2,865,000	25,851,000	24,713,000
Rice.....	627,300	18,738,000	16,081,000
Potatoes.....	3,124,000	297,942,000	183,880,000
Hay.....	44,028,000	*63,677,000	743,507,000

\*Tons.

Keep the other side of the hat empty till we give you figures of other products to fill it.

And now Missouri comes in at the head of the race for agricultural students judging prizes at the recent International Live Stock Show at Chicago. Not only did Mr. T. C. Cochran, of the University of Missouri, win first as best all-round judge of the 1907 show, but his score of 992 points was the highest ever made by any student since the organization of the International Show. The animal husbandry students from the University of Missouri also won two out of the five Armour scholarships offered for the most proficient work in the judging contest. The showing made by Missouri in her first systematic attempt is remarkable, considering that her competitors have been training judging teams since the beginning of the International. Missouri will show them, all right.

Deputy Horticultural Commissioner E. M. Ehrhorn recently scored a good point in his excellent protective quarantine work by condemning 6000 boxes of apples shipped to San Francisco from the State of Washington for containing a pest known as the bud moth. The apples were grown on Orcas island, which lies off the Washington coast, just above Seattle. The fruit had reached the local market, but was condemned before it had been offered for sale. The bud moth is a pest that originated in Japan and some months ago made its appearance in British Columbia. When the moth was detected on this continent, a quarantine was established against the British Columbia fruit. It was not known that the pest had reached this country when it was discovered by the local inspector in the Orcas island fruit.

## Queries and Replies.

### No Apples on Quince Roots.

To the Editor: I have been grafting a number of apples on quince roots. They have made a good healthy growth and seemingly made good unions. A nurseryman, a while ago, told me they would die out after a few years and that I was wasting time in my work. What is your opinion as to this? My object in using quince roots is to get small trees as the apples are an inter-plant in a portion of the walnut orchard. Besides, I expected fruit sooner than from apples on their own root. Text books say little of apples on quince root. How would it do to ask the RURAL PRESS readers' experience?—EXPERIMENTER, Stockton.

We will do as you request and ask RURAL PRESS readers if they ever succeeded with the apple on the quince. We apprehend, however, that your informant is right. We have never known of the quince carrying the apple successfully, and Professor Waugh, in his new book on dwarfed fruit trees, does not mention the quince for this purpose. The quince root, of course, is universally used for dwarfing pears, but the Paradise stock (and its varieties) is the only one mentioned for the apple.

### Jerusalem Artichokes.

To the Editor: I desire to know about the Jerusalem artichoke; the places where it can be cultivated in this State, and the address of some one from whom I can procure seed sufficient to plant several acres. Potatoes are raised in this county, and I presume from that the artichoke would grow here also. I wish to use them for stock feed.—FARMER, Santa Rosa.

Jerusalem artichokes will grow in any soil where the potato does well, but you should plant a few of



them first to see whether you find them of any value. They have been exalted by planters who had tubers for sale year after year, yet no great crop has been planted, nor have we heard of anyone who has made a plantation who cared to extend it. The best way is to get a few of the tubers, which you can usually find in the San Francisco markets at this time of the year, for they are used as a kitchen vegetable. We certainly cannot encourage you in undertaking such an enterprise as you propose until you have further evidence of the satisfactory character of the plant.

#### **Grape Vines on the Mojave Border.**

To the Editor: Kindly forward me any printed matter you may have relative to the climatic and soil conditions necessary to the successful growth of the raisin grape, particularly the Muscat. I am planning to put out quite a large vineyard in the vicinity of Barstow, on the edge of the Mojave desert, at an altitude of about 2200 ft., where frequently during the winter ice forms half an inch in thickness. The principal question I have in mind is whether or not the Muscat will stand the cold.—ENQUIRER, Los Angeles.

We have nothing in print which covers the subjects you mention. There is no doubt about the Muscat vines resisting the temperature which you indicate, providing the higher temperature is constant after the vines begin to grow. If there should be a high temperature which would start out the vines and this should be followed by frost, neither the Muscat nor any other grape vines could resist it, so you see you need to know more than the extreme low temperature. That is the least important. It is necessary to know whether you can expect to be free from frost during the growing season of the vine. Unless vines have already grown in that district nothing but an experiment will determine the facts for you. You can, however, get side lights on the question by ascertaining whether potatoes and tomatoes are successfully grown in that district. They would probably be planted out at about the same time of the year that the grape vine would become active, unless it is prematurely active, and that is one thing you have to look out for. If you cannot find out how vines behave, do not plant many at first. Try a few and let them make you wiser.

#### **String Bean Trying to be Perennial.**

To the Editor: I send you an enlarged bean root. Such thing may not be new to you, but it is new to me, and I am curious to know what you think about it. This root supported a stalk of string beans planted last spring. The conduct of the little patch of beans was unusual from the first. They were very slow about maturing, and very irregular in size, though there was a normal amount of moisture in the soil. I found a few other enlarged roots when removing the old stalks to plant a new garden.—C. D. HOOVER, Santa Cruz.

You have chanced upon an exceedingly interesting phenomenon, although not a new one. It is the disposition of the bean to make perennial roots in a climate which favors such growth. There are a number of beans which do this, but generally of the scarlet runner family or its crosses. The freedom from ground frosts in California makes these plants perennial. You should replant the other roots which you have found, and test them to see what value you may find in a bean which does not require replanting.

#### **Tomato Growing.**

To the Editor: A number of farmers, including myself, are trying to grow tomatoes, but very unsuccessfully. They grow all to vines; they ripen slowly, and some never ripen; some blossom but never mature. The climate is very moderate, averaging 75° for summer heat. Fog is regularly seen every third day until about noon. I would like to know, is there a variety of tomatoes that could be made profitable under such conditions? I have tried hard for three years to grow them, but they were always a failure. I have transplanted them three different times to try and stop sappy growth and I pruned the leading branches to change the growth from the vine to the fruit. It helped some, but not enough. I learned of so many varieties, I come to think that the variety of tomatoes was wrong.—SOURBALL, Watsonville.

We apprehend that your tomato plants have almost too good a time. You do not speak of watering them,

but even when this is not done, so much moisture is present in a deep rich soil that the plant grows too fast. It makes any amount of vine and very little fruit. We doubt if it would make very much difference what variety you used. The conditions evidently tend to make them grow too much top. When you find plants growing this way you might cut down with a sharp spade about a foot from the plant, which ought to check the growth and induce fruiting. Very good tomatoes are grown under just about the same climatic conditions as you describe, but they are usually planted out late, after part of water from winter rains has evaporated and during the latter part of the season they usually do very well, and are desirable to canners after the rush of summer fruits.

#### **Gas Lime and Vegetation.**

To the Editor: Does 'spent' or 'exhausted' oxide of iron have a baneful effect on soils? This is an original compound used for purifying gas, consisting of sawdust, iron filings, copperas, lime, together with a slight percentage of sal-ammoniac to hasten action. The question refers to such compound as a refuse after purification of the gas, and which same, I may add, is noticeably impregnated with gas fumes.—FARMER, Campbell.

If the product concerning which you write is commonly known as 'gas lime,' it has to be used with exceeding great caution. It is a vigorous plant killer, and retains its destructive influence for a long time after being introduced to the soil. It was proposed 25 years ago as a destroyer of lice on the roots of trees and plants and subterranean insects generally. It unquestionably would work in that way, but the experiments show that it evidently has to be used in exceedingly small quantities and very carefully, because of the danger of killing trees, etc. We can suggest nothing except that you try experiments in a cautious way to disclose new facts, and would be very glad to know the results of your investigations.

#### **About Speltz.**

To the Editor: Will you kindly give me some information about speltz? Does it grow well in California? Is it a good forage plant, green or dried? How does it compare in production of seed with wheat or barley? Is there anything particular against it or in favor of it? Is it a good seed for poultry feed?—ENQUIRER, Placer county.

Speltz is a kind of wheat which has an adhering chaff like barley. It grows well in California but is no better than wheat or barley where they do well. It is a very hardy grain and therefore is grown in the north of Europe, where barley and wheat are liable to winter killing. For this reason it may be very desirable in the far north of this continent. It is probably just as good for all feeding purposes as ordinary barley and, having an adhering chaff, it would be better horse feed and poorer chicken feed than wheat.

#### **Strawberries Out of Season.**

To the Editor: Last spring I set out 4000 strawberry plants (Melindas) and later in the spring I found that I could not get water to irrigate them, so kept blossoms and green fruit picked off all summer, allowing none to ripen, and plants got no water all season. They look well and are now making good growth, are white with berries, and have from 5 to 20 berries to each plant. This seems unusual here, and will you tell me if this growth of fruit, which can scarcely ripen, will affect the regular summer crop? Of course, I intend to irrigate regularly this coming spring and summer.—GROWER, Santa Cruz.

If the plants become dormant soon, they will probably behave normally next spring. It is not unusual in the thermal parts of the State to have the plants active out of season and still bear well at the regular time.

#### **Artichokes and Crowing Chicken.**

To the Editor: Will you kindly inform me if artichokes (Globe) can be affected by frost, and also is it anything out of the ordinary for a rooster eight weeks old to crow?—A SUBSCRIBER, Sonoma.

Globe artichokes are hardy against light California

valley frosts, but lose their tops in some places. Crowing chickens are not rare.

#### **California Stock to Be Tried as Yellows-Resistant.**

To the Editor: I wish to try seedlings from California peach pits to determine whether they will resist yellows. How shall I get several barrels of pits? Would it be practicable to get them from some grower who tries to grow extra fine fruit and therefore has his trees in the best condition or get them from canners or driers who have large quantities?—PEACH-GROWER, Connecticut.

You might arrange with some grower to save you selected pits of some strong-growing peach for another year, but canners' pits would be better, as they run, because they never buy poor fruit. They are very exacting in their requirements of fruit of full size, etc. Yellows have never appeared in California, so that all California pits may be expected to be yellows free; but how the offspring of these trees will be affected under conditions favoring the disease, can only be told by a test. There will be no loss in the undertaking, because California pits are now being quite freely used by Eastern nurserymen as a substitute for seedling pits from Tennessee, and held by some to be superior.

#### **No Such Product.**

To the Editor: Certain food dealers in this State are selling olive oil which they claim was made by the State of California at its agricultural experiment station at San Jose. Does your experiment station manufacture olive oil? Under what name is it sold? Is it at all likely that any has reached this State?—ENQUIRER, Columbia, Mo.

Neither the State of California nor the experiment station is producing olive oil commercially and there is no official experiment station at San Jose. We would like to see a label from such a package as you describe.

#### **Old Fruit Trees for Transplanting.**

To the Editor: An old orchard near me is to be taken out. A friend advises me to get the roots and plant, after sawing trunks perhaps a foot from the ground. There are apples, cherries, peaches and pears. It is claimed that the mature roots will shoot stronger and give fruit much quicker than to plant young trees. Would you advise me to do it? They are trees of 5 to 7 or 8 inches in diameter. If it is advisable, should the roots be pruned closely or not? Any points you may give me about transplanting will be thankfully received, for I know nothing about an orchard.—BEGINNER, Monterey county.

We should not for a moment think of the old fruit tree stumps which you describe as worth anything except for fuel purposes. Prune the roots just as long as you can and still get them into the fire-place. Always start an orchard or fruit garden with young, vigorous, clean trees, usually not over one year of age.

#### **Starting Squash Plants Under Glass.**

To the Editor: I want to plant squash seed in the field early in January and cover with a box with glass on the top of box. Now, will it be necessary to remove the glass in the day on account of the heat? If so, at what temperature in the sun would it be necessary to do so? I do not think it would be necessary to remove the glass every day. If so it will be too expensive on a large scale, say one acre. What temperature will the squash stand? Would a vent hole under the box help out any?—PLANTER, Coachella.

We cannot give you the temperatures at which squash plants will suffer when under cover. It would depend somewhat upon the amount of moisture present. It is quite certain, however, that planting in January, it will not be necessary to remove the glass every day; in fact, your plants may be pushing the glass off for themselves, because it will take a pretty high degree of heat to injure the plants if moisture enough is present. We should proceed as you intend, and if the heat seems to be pretty high move the glass a little so as to leave an aperture. If the sun is very hot it may be necessary for you to use a little thin whitewash on the glass. Your experiment is very interesting, providing you try it on a large scale, and we should like to know how you succeed. The method has been quite freely used in garden practice on a small scale, and under these conditions has proven very satisfactory.



## Fruit Marketing.

### Marketing Citrus Fruits by the Growers Themselves.

By Mr. B. A. WOODFORD, General Manager of California Fruit Growers' Exchange, Los Angeles, at the Marysville Fruit Growers' Convention.

The above method of placing in the markets the products of our citrus fruit orchards originated practically with the advent of the Exchange in 1893, so that in treating of this subject we must look largely to the operations of that organization during the last 15 years, although various individual citrus fruit growers and various associations of growers independent of the Exchange have during the same period, with more or less success, handled their own marketing problems independent of any other marketing factor in California.

**RETROSPECT.**—Oranges and lemons have been grown in California for nearly 100 years, but until within the last 30 years the only variety of consequence was the Seedling, planted largely by or through the influence of the Fathers who were in charge of the early missions.

Beginning with 1874, the Washington Navel was introduced in California, and that variety now furnishes three-fourths of the entire orange shipments. The Valencia Late is second in volume of output, is largely increasing, and bids fair to finally become as large in total product as the Washington Navel itself. Lemons have only been produced in commercial quantities during the last 25 years.

Twenty-five years ago the annual total shipment of oranges was barely 30 carloads; 15 years ago, 4000 carloads; and during the last three seasons approximately 30,000 carloads each year.

Difficulties in marketing arose when the volume of business began to increase largely, and reached an acute stage when the shipments were only 4000 cars yearly, at which time the growers were absolutely at the mercy of the speculative buyers, or shippers, on commission, the producers themselves having no direct voice in the marketing of their product. In the season of 1892-3 these marketing difficulties became so serious that in instances without number not only did the grower receive no returns whatever for his fruit, but also, in addition to contributing his crop, was compelled to pay the freight and packing charges which the gross sale of his fruit did not cover.

**ORIGIN OF THE EXCHANGE.**—Various methods of combination among the then existing shippers, and among the growers themselves, were tried, with a view especially to regulating shipments and distributing the fruit evenly in the various markets of the country, but these efforts were spasmodic, irregular, and short-lived, and only partially successful.

In some sections growers themselves undertook to ship and market their own fruit, and in a few instances the growers associated themselves together, marketing on a mutual basis. Owing to the failure of the combinations among speculative shippers, and owing to the disasters that beset the growers in the marketing of their product individually, and encouraged largely by the experience of a few growers who had united in associations, a convention of the growers themselves was held in Los Angeles on the 4th day of April, 1893, the purpose of the meeting being:

"To provide for the marketing of all the citrus fruits at the least possible cost, under uniform methods, and in a manner to secure to each grower a certain marketing of his fruit and the full average price to be obtained in the market for the entire season."

Immediately following this convention, organizations of associations and district exchanges were effected in all the principal citrus fruit districts, the associations for packing and the district exchanges for marketing, which was done at first through an executive committee composed of one member from each district. This plan was followed for two years, but on October 21, 1895, the Fruit Exchange was incorporated, since which date the marketing of all the fruit controlled by the various district exchanges and associations has been exclusively in the hands of the Southern California Fruit Exchange, or its successor, the California Fruit Growers' Exchange, except during the period of 17 months from April 1, 1903, to August 31, 1904, during which time the Exchange interests combined with various speculative and non-Exchange interests under the name of the California Fruit Agency. The net results obtained during the agency were not satisfactory to the growers, and on September 1, 1904, the Exchange resumed the sale of the fruit it controlled independently of any other factor.

The Agency period proved conclusively that the interests of the growers themselves do not readily harmonize with speculative interests, and that in order to achieve the most complete success obtainable the

growers must themselves handle their own marketing operations.

**HOW THE EXCHANGE WORKS.**—The principle of the Exchange lies in each member being entitled to furnish his pro rata share of fruit for shipment to the various markets of the country, giving every grower the opportunity to ship his proportion of the fruit from day to day and week to week, and an opportunity to obtain his fair share of the average price of all markets during the year. All books and accounts are open to the inspection of each member, the whole basis of the Exchange being one of co-operation.

Growers near each other, who so elect, unite in packing their fruit, own their own brands, make such rules as they see fit for grading and conducting their business up to the time of shipment. Usually these organizations of growers own their packing houses, although in some instances the packing houses are rented. Every member is given a like privilege to pick fruit, and every grower's fruit is separated into different grades, according to the quality, weighed, and thereafter usually goes into a common pool and takes its percentage of the returns according to the grade. Any given brand is the exclusive property of the association using it, and the fruit under this brand is always packed in the same locality, and therefore it is of uniform quality. This is of great advantage in marketing, as the trade soon learns that the pack is reliable.

There are now 86 of these organizations of growers operating through the Exchange, covering every citrus fruit district in California and packing over 200 reliable brands of oranges and lemons.

The District Exchanges are composed generally of several associations of growers operating in localities near each other, or in one locality, and the matter of shipping and marketing is controlled by the District Exchange, upon consultation with the associations, and through the associations with the growers themselves.

The California Fruit Growers' Exchange, or the general or central body, consists of one stockholder and director each, selected by the various local exchanges, the governing power of the central organization thus remaining in the hands of the district exchanges. Thus from top to bottom the organization is planned and controlled absolutely by the fruit growers and in the interest of all members. No corporation or individual except the growers themselves receives either dividends or private gain from the Exchange operations. The duties of the central Exchange are found largely in the placing of the fruit in the various consuming markets.

**WHAT THE EXCHANGE HAS DONE.**—While the Exchange has, through its operations in California, freed itself from speculative trading by taking its business out of the hands of the middlemen here, it has never opened retail or jobbing houses in the consuming markets, but has and does put the fruit in the hands of legitimate dealers for distribution, and to do this has established exclusive agencies in all the Eastern cities of the country, employing in these agencies active and capable men of experience in the fruit business, for the most part on a salary, and having no further business of any kind to engage their attention. None of these Exchange representatives are permitted to handle any other than Exchange citrus fruits. These agents sell to smaller cities adjoining their headquarters, and over all are two general or traveling agents with authority to supervise and check up its various offices, the headquarters of these two general agents being Chicago and Omaha respectively, where complete information is kept of all the business transactions of the Exchange in all markets. This information is gathered from day to day and distributed by these general agents among all markets, thus making it impossible for a customer to take advantage of any Exchange representative in any market, and knowing the consumptive needs and the price being obtained in all markets, a proper distribution of fruit is effected, thus preventing an over-supply in one section of the country while a shortage might exist in another.

Approximately 35 to 40% of all the fruit shipped by the Exchange is sold at public auction at point of consumption, the remainder being sold at private sale.

The Exchange has the most complete system of gathering trustworthy information regarding supplies, market conditions, etc., of any factor engaged in the citrus fruit business, and owing to the volume of its business the Exchange can furnish this information at a much less cost to its growers than any other selling agency.

During the history of the Exchange the output of the State has increased from 4000 to 30,000 carloads yearly, and the shipments by the Exchange have increased from less than 2000 to above 16,000 cars yearly, and in percentage of the whole crop from 25% in the earlier years to 55% during the season just closed, clearly showing the popularity of the Exchange with the growers.

In 1893, when labor and material were much cheaper than now, the charge by the speculative or commission shippers for packing each box of oranges was 40 to 50 cents, to which they added a charge for selling of from 7 to 10% on the delivered price, making the total

cost to the grower for packing and marketing from 60 to 75 cents per box, as against an average cost of about 35 cents per box for both packing and marketing during recent years to Exchange members. Other growers, as well as Exchange growers, have benefited through the Exchange's handling its business at actual cost, in that speculative shippers must charge about the Exchange cost if they expect to get fruit from the growers.

During the last three seasons, since the Exchange resumed its own marketing operations after the downfall of the Agency, it has shipped a little more than 43,000 cars of oranges and lemons and has distributed among its growers therefor a little over \$28,000,000, with a loss on account of failure to collect and in transmission of funds of only \$310, this amount being only a part of the returns on one shipment of the 43,000, a record that will hardly be surpassed in the years to come by any business organization.

In addition to packing and marketing the fruit of its growers the Exchange has always taken a keen interest in transportation and tariff matters. The cent-a-pound duty on imported citrus fruits was obtained largely by the Exchange membership, through a committee composed almost exclusively of Exchange people, and the somewhat reduced icing charges, the reduction of the freight rate on lemons, as well as a smaller reduction in the orange freight rate, were brought about either by the Exchange alone or with the assistance of other growers not Exchange members, through the Citrus Protective League, these transportation savings amounting to \$1,000,000 yearly.

The Exchange is not a trust in any sense. It does not seek to control production nor arbitrarily to fix prices. It does undertake, so far as possible, by co-operation, to displace the competition of one grower with another in the matter of packing and marketing their fruit by purely economical as distinct from trust methods. It insures to every grower the full reward of growing good fruit and to every association the benefit of good grading and packing.

Through the operations of the growers in packing and marketing their oranges and lemons, as outlined above, the industry has greatly prospered and has assumed immense proportions. While it is not claimed that all the difficulties of an orange or lemon grower can be avoided by becoming a member of the Exchange, and while difficulties will from time to time surely beset the citrus fruit business, just as is the case in iron and steel, hogs and cattle, corn and wheat, and all other lines of business, still the growers of citrus fruits will undoubtedly find in the future as they have in the past years that by standing with each other in these packing, marketing, and other matters that are of common interest to all, the difficulties that have to be met from time to time will be reduced to a minimum and the greatest net amount attainable for their products will be received.

The citrus fruit growers in California who market their products through the California Fruit Growers' Exchange have an enormous amount of business, large enough to maintain their selling organization in every part of the world at a reasonable rate of expense. There are great possibilities, however, for an enlargement of the co-operative marketing plan as now practiced by the Exchange, to the benefit of other California producers. During the last two seasons many applications have come to the Exchange from growers and organizations of growers who produce celery, cantaloupes, and other fruits of the soil, urging that the marketing of their commodities be included with the citrus fruits. All such applications have been refused, with the single exception of a considerable portion of the deciduous fruits of California.

The benefits to be derived from an enlargement of the Exchange marketing plan so as to cover other products of the State would not only be in obtaining these marketing services at actual cost by the growers of such products, but undeveloped markets, not only in this country but throughout the world, could be more vigorously exploited than is now the case, when all these producing interests act independently of each other. Offices in all the principal cities of Europe, in the Orient, in Australia, and in other parts of the world, under competent local management, advertising and pushing the sale of California products only, would surely result in an increased demand and increased prices for the products of the State.

## The Field.

### Burnet in Santa Cruz.

To the Editor: Though I have had only limited time for testing burnet, or potentilla, I am glad to comply with your request in the PACIFIC RURAL PRESS and add my little experience.

The little packet of seed I received from the University last spring, only five or six seeds in all, was planted on March 8 by an old redwood stump near the roadside, which I thought would be as dry a place as there could be anywhere on the sidehill ground that



we some time hope to have seeded to pasture. The seed came up in due time, and the plants have remained green to the present time, except the tops of stalks that matured seed. I have been gathering seed as it ripened all through the fall until I have about an ounce, which is just planted in the hope of getting more seed for another season. I gave the plants no cultivation except to keep the weeds down around them so that I could save the seed. Of course I cannot yet speak of its value as stock food, but I feel sure that it has all the merits that Mr. Overacker has discovered for it, and we have much hope that it will prove to be a valuable all-the-year-round pasturage plant for our sidehills. Since the recent rains, a fresh growth of green is appearing among the older green, and we are getting ready to send a lot of appreciation to Mr. Overacker and the University.

Santa Cruz.

C. D. HOOVER.

### Mr. Etter's Grass Garden Up to Date.

To the Editor: As the year draws to a close I will again write and give you the latest for publication, as gleaned from the Ettersburg grass garden. Supplementary to the series of articles I had published on my study of forage plants in Humboldt county in the PACIFIC RURAL PRESS last December, January, and February, I now take pleasure in giving your readers the following account of another season's work:

I am just in receipt of a communication from Prof. M. E. Jaffa in which he gives the analyses of what I consider some of our most likely range grasses, or grasses for upland culture. These analyses go back of my own observations and go a long way toward simplifying matters. Before this I had the various grasses sized up in a general sort of a way, but now we know pretty nearly what they contain and no longer need trust altogether to the calf and the billy goat.

It will be remembered that I spoke well of rib grass (*Plantago lanceolata*), and it will be seen by reference to the table given below that Professor Jaffa sustains me in my observations. It will also be noticed that some of the other promising species are so far overtopped by rib grass that their position is lowered by comparison.

The reader will bear in mind that the first five are single analyses, while the last six are average analyses of a number of samples:

NAME.	Water	Protein	Fat	Carbo- hydrates	Crude fibre	Ash
1. Rib grass.....	10.00	13.82	2.66	48.05	17.07	9.00
2. Hookers' brome grass.....	10.00	3.97	0.94	54.97	26.45	3.67
3. Red Fescue (native).....	8.33	7.20	1.66	45.39	30.989	6.43
4. <i>Deschampsia elongata</i> .....	26.31	3.33	1.22	35.95	29.36	3.83
5. <i>Festuca spectabilis</i> .....	10.00	5.01	1.92	46.72	31.35	5.00
6. Orchard grass.....	9.90	8.01	2.66	41.00	32.04	6.00
7. Italian rye grass.....	8.59	7.05	1.07	45.00	30.05	6.90
8. White clover.....	9.07	15.07	3.09	39.03	24.01	8.03
9. Red clover.....	15.03	12.03	3.03	38.01	24.08	6.03
10. Kentucky blue grass.....	21.02	7.08	3.09	37.08	23.00	6.03
11. Flat pea ( <i>lathyrus</i> ).....	8.04	22.09	3.02	31.04	26.02	7.09

The last six of this list are for comparison, and are from the Year Book of the Department of Agriculture of 1894.

It will be observed by studying the above table that rib grass stands exceedingly well among our forage plants. When I said that the goat preferred rib grass to almost anything else, it stands that we can give the goat, the father of caprice, wisdom in the choice of things that are good to eat. When I made the statement that dairy cows made high tests in butter fat when on pasture containing a considerable admixture of rib grass, it will hardly be urged that it is a pest in the pasture, even though they do not eat the seed stems.

Before I took up this study of forage plants on a broader basis five years ago, I stood by rib grass as one of our most likely range plants, and at that time I stated that what we needed most was a companion plant that was a better winter grower than rib grass is, to supplement it in December and January. I believe burnet is the plant that will do it. It is certainly making a very gratifying showing here with me.

I have a large collection of clovers, some 50 or more, growing here, and not one of them is making the splendid winter growth that burnet or alfalfa is on stalks that came late on cultivated ground and did not seed during the summer.

A strong point I have argued for these deep rooting perennials on the range is that they will grow and thrive well on open porous soils where the shallow rooting annuals do but little. Then again, as I pointed out, every little rain is an advantage to them, come it early or late. As it happened with us here this year, it rained well into June and the rib grass kept right on growing. This did no harm in particular to the annuals, but when we had another heavy and unusual rain in August it leached the dry annuals and did

them harm. This same rain gave the rib grass another boost. The same might be said of the light showers later this fall. They spoiled the dry feed without starting the new, but where there was rib grass on the range it was making feed right along.

I notice in the PACIFIC RURAL PRESS this evening that Howard Overacker Jr., of St. Helena, Napa county, is succeeding well with burnet. I can corroborate what he says of the seed obtained from J. M. Thorburn & Co., of New York. The only difference I could see in the two kinds was that the 'garden' burnet seed was hand picked, and the 'field' burnet was mixed with sainpoin or espersette seed. I sowed about 300 yd. of row with one pound of seed which I obtained from that firm and it is looking fine at this date—December 12.

In conclusion I would recommend that interested parties get a sample of *Lotus corniculatus* or 'bird's foot trefoil' seed from the above-mentioned seed firm (38 Barclay street, New York City) and give it a trial. I consider it promising.

I regret that we have no analysis of this burnet. It was my intention to put up a sample for this purpose last May, but a wet spell of weather and a bad hand disturbed my calculations. At no distant date I hope we will have an analysis.

ALBERT F. ETTER.

Ettersburg, Humboldt county.

### The Forest Service Will Kill Coyotes.

To the Editor: The offering of bounties for the scalps of predatory animals has so often failed to accomplish the good hoped for that the bounty plan has lost favor in many localities. The Wool Growers' Association of Oregon has gone on record at its meeting at The Dalles as favoring the abandonment of the bounty system and substituting that of killing the animals by private effort and employment of professional hunters. The association will take up the work, and ask assistance from the national association. J. N. Burgess, president of the association, estimates that Oregon sheep owners lost the past year \$250,000 by predatory animals, and that the loss of other farm stock, including poultry, would increase the loss to half a million dollars.

The United States Forest Service has demonstrated that efficient work can be done by trained hunters who are sent to the ranges to make a special business of killing wolves, and such other denizens of the forests as prey on flocks of sheep. A number of such hunters are now at work, and they are ridding some of the ranges very rapidly of the animals which do so much damage each year. Wolves are tracked to their dens, the pick and shovel as well as the rifle are brought into play, and the young are found and destroyed. A campaign of that kind strikes at the root of the evil.

So vast, however, is the western country that the work of a few hunters can give only local relief; but if State stock growers' associations go at it in earnest as Oregon's association proposes, the war will soon grow decidedly interesting for the four-footed skulkers that have grown fat on mutton, pork, veal and poultry.

CORRESPONDENT.

Washington, D. C.

## The Dairy.

### Dairy Statistics and Their Value.

By Mr. WM. H. SAYLOR, Secretary, State Dairy Bureau, at the California Creamery Operators' Convention, University Farm, Davis.

Your executive committee has assigned to me a very dry, and to the average person, a very uninteresting subject. Figures, like facts, do not have the fancy that is attractive to the average mind. A lack of interest in statistics is not only the case on the part of the people to whom they may be presented, but it is even more apparent when they are requested to contribute their efforts to securing them. One of the most difficult undertakings that confronts the United States government is the taking of the census every ten years, an undertaking that costs the government an immense sum of money and many times what it should cost were it not for the indifference of the average citizen, and even after this great task is completed the officials cannot say that it is anything more than an approximation.

There are many persons who look upon efforts to secure statistics as unnecessary official inquisitiveness. This should not be the case. We are advancing into an age of certainty in every line of endeavor and are no longer groping our way in the fog of guesswork and uncertainty. The object of statistics in any line

is to reduce human effort to a basis of positive knowledge. It is essential to a highly civilized people. The savage, surrounded by the gifts of nature, and with limited desires, took his chances on securing and maintaining his existence, and when these failed him an adjustment with his desires was secured by starvation. But where the world supported one man in the savage state, it is called upon to support thousands today. What is the number of people that the world, a nation, a State, or a community must support? What is the sum total of their various desires and to what extent are we meeting them and how will we be able to meet their future increase? What is the extent of the many afflictions and misfortunes that befalls mankind and the means with which he works? The answers to these broad questions constitute the science of statistics—the accurate knowledge of what is taking place in the world. While they possess little interest to the average mind, they are of great importance and this is becoming more general as the accuracy and reliability of statistics advance, to the successful business man, the statesman and the student of human events.

Probably the most unreliable class of statistics that we have to deal with, owing to the difficulty of securing them accurately, is that relating to agricultural production, but even here great progress has been made and not only does the dealer in agricultural products govern his course largely by statistics relating to his particular line, but our farmers are also basing their dealings largely upon statistics that show the extent of the demand for their product and what the amount is that is available to meet it. Speaking more along the line of agricultural production, it is important that we should know where the various products of the farm are grown and their volume, as well as the cost of their production. By knowing these facts our efforts can be directed along more economic lines.

During the past ten years I have had an opportunity to study and come in contact with statistics relating to dairy production through the State Dairy Bureau and I must say that I have found it a most interesting study. It has been interesting to note the disregard of many of those in whom we must rely to secure them and for whose guidance they are intended. It has been interesting to me, and I believe equally so to every student of progress in our grand State, to note the general expansion of the dairy business, and especially in the different localities that have contributed to this progress, and which has brought to them corresponding prosperity.

**SIGNIFICANCE OF STATISTICS.**—The object of the State law in requiring the State Dairy Bureau to secure and issue these statistics is a wise one. It enables us to know what the extent of the industry is and by knowing this it receives its proper recognition and encouragement. The rapid growth in production shows to the world our unexcelled possibilities and opportunities in the way of dairying. That our butter output has increased from 23,000,000 pounds eight years ago to 44,000,000 is the best testimony as to our dairy resources. This showing may mean little to the unobserving mind, but for the keen business man casting about in his search for opportunities they mean a great deal. Were it not for a recognition of the magnitude and progress in the butter business in California I doubt if we would have a creamerymen's convention, such as this one.

When we find out through statistics that certain localities are making more rapid progress in an industry than others it is invaluable evidence of the adaptability of that community to the industry and the showing is a valuable asset of the community. The statistics compiled by the State Dairy Bureau during the past ten years which show that certain counties in this State have grown in butter production tenfold in from eight to twelve years, has attracted great attention, as it should. It means to the thinking dairyman in a community less favored that he must be working at a disadvantage and that his brother in the business has better opportunities, and if a wise business man he adjusts his methods to meet the superior opportunities.

Of greater importance than in merely showing the extent of an industry in a community or the opportunities that it affords is that class of statistics that shows disadvantages, drawbacks and failures in an industry, since by means of these we are made sure of their existence and magnitude, which stimulates us to surmount them or find a remedy. It is this feature that makes a knowledge of accurate statistics of invaluable aid to the legislator, the official and the publicist. Show those who are in a position to afford relief by figures the extent of a wrong influence and you immediately get action.

As statistics indicating failure, disadvantages and drawbacks have a value to public enterprise they should also have when they show the failure of the individual. This brings me to the most serious problem in dairying, which is the greatest obstacle to success. I refer to the statistics that have been compiled to show the low productiveness of the dairy cows of this country and the correspondingly low returns they make for the food and care they obtain.

This is a line of inquiry that I have been eager to



engage upon since my first connection with the Bureau and have attempted it during several successive years, but through an apparent inappreciation among those whom we hoped to benefit, we were unable to secure data of sufficient reliability to warrant making the results public. Two years ago, through the dairy inspection service inaugurated by the Bureau, we were enabled to make some progress along this line, but unfortunately lost in the San Francisco fire the bulk of the data obtained by our inspectors. It is only what was collected between the time of the fire and the necessary suspension of the most of the inspection work that has become available for publication and is therefore necessarily very incomplete.

**WHAT THE COWS ARE DOING.**—Without trying to impose upon your patience by reading figures, I would like to call your attention to some of the conspicuous features of a statistical nature brought out in this limited inquiry into dairy management. The data available represents the work of 598 dairymen with a total of 28,912 cows. The most conspicuous feature brought out is that in some of these herds the average gross annual earning per cow was as low as \$20 and as high as \$100, depending partly on the disposition of the product, but more largely upon the productive capacity of the cows. The gross annual income of these 28,912 cows averaged \$54.98 during the year ending September 30, 1906.

Taking the various districts of the State as governed by their feed conditions we find a considerable variation in the earnings of dairy cows. In the district represented by Humboldt and Del Norte counties we find the annual gross income per cow is \$52. Coming down to Marin and Sonoma counties, where a large part of the product realizes the prices paid for milk for city supply and we find the cows earning \$57.57, while in Los Angeles county, where the bulk of the milk produced during the last few years is going into the cities as milk and cream, we find the dairy cows are averaging an annual earning capacity of \$81.16. Taking into consideration only the cows in Los Angeles county whose milk is sold in the city exclusively and we find their average gross income to be \$102.46. I am extremely sorry that our figures do not this year cover the San Joaquin and Sacramento valleys, which have not been available.

Another effort that we have made in connection with our statistics has been to ascertain what it costs the dairymen to produce these various sums from their cows. This, however, is next to impossible and even though our inspectors did make a personal canvass among the dairymen it seems that very few of them can give any definite information as to what it costs to do business. Too often it happens that the dairyman does not know that he is losing money by his efforts until it is too late. When the question is put to him as to what it costs him to feed and care for a cow during a year, he even hesitates to make a guess.

Bearing on the high average gross income per cow when milk is sold for consumption, the cost of production and selling increases vastly. From the reports it is shown that seventy-two per cent of the dairymen who produce milk for consumption feed concentrated foodstuffs, much of which is purchased in the feed market, in order to keep up the milk flow throughout the year. On the other hand, it appears from the data at hand that the dairymen who produce milk for butter and cheese rely almost altogether upon the pasturage and roughness that can be produced on their land, grains and millfeeds being used by less than ten per cent of the dairymen. This is well shown in the case of Humboldt, Mendocino, and Del Norte counties, from which the Bureau has almost complete records. Out of 296 dairymen in those counties from which reports are at hand it appears that only eight per cent of them feed grain and millfeeds, relying entirely upon the pasturage and rough forage that is grown upon the land. Almost the same practice is followed throughout the alfalfa-growing districts of the San Joaquin and Sacramento valleys. That it is possible for a dairyman to secure from cows of even average producing capacity a gross annual income of from \$50 to \$60, taking into consideration the mild climates that eliminate almost altogether the necessity for sheltering cows, is splendid proof of California's adaptability for dairying, at least in those areas from which the Bureau has secured its data.

**THE COWS AND THE LAND.**—Having arrived at the fact that the cows in at least certain areas of California earn from the roughage that grows and that may be grown on the land, an average of \$52.02, as in the case of Humboldt, Mendocino, and Del Norte counties, and even better in the irrigated territory, it will be worth while to note the area of land that it takes on an average to support a cow. In this way we can see what land realizes when utilized for dairying. Of the 598 dairymen from which data are at hand, it appears that 28,912 cows are kept on 152,549 acres of land, or an average of one cow for every 5.28 acres of land. If data were at hand including more dairies in the irrigated, alfalfa-growing districts this average would be materially lower. Thus it is shown that in the seven counties south of the Tehachapi, the average is one cow to 3.19 acres; but even here there

are included large areas that consist of rough, hilly land upon which only natural grasses grow during the often brief humid season. In Yolo county, where alfalfa is the main reliance for food, we find that on an average one cow is maintained on 2.24 acres. If we take all the data we have as a basis, which includes the coast counties from Del Norte to San Diego, but not including the important dairy counties of Monterey and San Luis Obispo, we have, as has already been stated, an average of one cow to be maintained on 5.28 acres of land and as the gross average income per cow has been shown to be \$54.98, we may say that the acreage devoted to dairying in this large district of the State realizes a gross annual average income of a trifle over \$10 per acre. In considering this feature, sight should not be lost of the fact that a large proportion of this area is hilly, semi-mountainous, and generally unillable.

**COST OF KEEPING THE COW.**—From the very nature of the business and from the fact that farmers and dairymen do not, as a rule, keep a close account of the money details of their business, it is difficult to secure and present a statement showing the cost of keeping cows. However, the Bureau, through its inspectors, endeavored to secure some information bearing upon this question. The data secured were supplied through answers made by dairymen to the question, "What is the cost of operating your dairy during a year?" and the accuracy depends upon a proper conception of the question to those making the reply.

The difficulty of securing any satisfactory information to a question of this kind, aside from the fact that the information is taken not from an expense account kept by the dairymen, but from memory only, lies in the fact that dairymen do not always have the same conception of what the cost of operating is. Too often they will not make a full charge against their business for the labor of themselves and their families. Neither are they always likely to make a full and uniform charge for the pasturage consumed, which should be on a basis of the rent or interest on investment in the land. Assuming that the replies to the inspectors in this regard were reliable, we are in a position to make the statement that, in the case of 529 dairymen, owning 26,980 cows, the cost of feeding, handling, and disposing of their products was \$394,164, or an average of \$14.65 per cow for a year. If these figures are correct, they certainly speak eloquently of California as a State of wonderful dairy possibilities. In States less favored by soil and climate, the cost of the hay alone for carrying cows through the winter exceeds this figure. In the East the generally estimated cost of keeping a cow for a year is \$30. If cows that will average a gross yearly income of \$54.98 can be kept at a total cost per year of \$14.65 it is easy to see the reason for the rapid expansion of the dairy business in this State that has already been mentioned in this paper.

Now for a few figures in regard to the kind of dairy cows we are keeping in California. It is remarkable to note the apparent lack of interest on the part of our dairymen in securing the largest possible production out of their cows. The interest in breeding for increased capacity is astonishingly lacking and I may almost say the same in regard to right feeding in order to be sure that he is feeding cows capable of turning food into the maximum production at a minimum of cost.

**HOW TO GET BETTER COWS.**—Good cows are most economically secured through careful selection and breeding to animals of known milking capacity. When we refer to cows of known breeding we usually refer to thoroughbred cows, which means that their ancestry is known for many generations and that they carry in their veins the results of generations of breeding for the special purpose of usefulness in the dairy, and that in this breeding there is a prepotency imparted which enables the cow to transmit dairy capacity to its descendants that was derived from its ancestors by it. When a dairyman seeks to improve his cows he secures thoroughbreds of some special breed. That California dairymen are doing little along this line appears from the fact that out of 28,912 cows owned by 598 dairymen, only 318 are thoroughbreds, from the data secured. But it is not necessary that a dairyman should, in order to breed up his herd in usefulness, invest in thoroughbred cows. He can accomplish this more slowly, but just as safely, by breeding to thoroughbred males, and in a few generations eliminate almost entirely from his herd the inferior, indiscriminately bred cows and have in their place cows in whose veins run the blood and prepotency that are the results of careful breeding for the single purpose of the greatest usefulness in the dairy.

The investment in a breeding male whose power and prepotency in a certain line are almost a certainty, is the first manifestation of intelligence on the part of the dairyman. But this spirit of enterprise seems to be sadly lacking among California dairymen. The data at hand shows that the 28,912 cows referred to above are bred to males with apparently no purpose on the part of their owners to improve their offspring. The mating of the male and the female seems to be only a matter of renewing the lactation period of the latter, for which any kind of a male will

serve the purpose. The 28,912 cows are bred to 928 males, or one male to 31 cows. Of these 928 males only 171 are thoroughbreds, the remaining 757 being animals mostly of promiscuous and unknown breeding. In other words, we may say that less than twenty per cent of the 598 dairymen, from the data at hand, pay any attention to the question of improving their herds through breeding.

**WORK OF THE DAIRY BUREAU.**—When I accepted the invitation of the Executive Committee to attempt a discussion of this subject of Dairy Statistics, I had hoped that it would be possible for me to make a statement of our recent efforts to secure a statement of the production of butter and cheese during the statistical year ending September 30th of this year. This I find impossible, as we are again confronted with the tardiness of a number of producers to make their reports. This year we are compelled to rely upon the voluntary statements which we are asking producers to send in, instead of being able to have our inspectors make a personal canvass among them, as was the case last year.

I wish to make use of this opportunity to make a personal appeal to those present who are identified with the production of dairy products, to take more seriously the importance and value of dairy statistics and co-operate with the Bureau in its efforts to secure them promptly and to make them of the utmost reliability and accuracy. We must depend upon each and every producer and just in proportion as these respond to our efforts can these statistics be made accurate and reliable. The figures that are compiled annually by the State Dairy Bureau are copied throughout the State and nation and are made the basis of important business considerations. The State owes it to the Dairy Bureau and the Dairy Bureau owes it to the public that what it puts forth as statistics must be correct, and I do not know but that it would be in place for this organization to take some action that will pledge its co-operation and that of its members toward assisting this important work.

What the State Dairy Bureau has been trying to do is not only to determine the extent and progress of the dairy industry of California, but it has also tried to find out lines along which improvement is most needed. It has tried to ascertain what is being accomplished by the many people who own cows in the State and to find out what it is possible for them to do and to hold up to the dairyman who is not doing what he should, the success of others as an example.

I may say in closing, that so far as returns have been received from producers as showing the output of butter and cheese for the last statistical year, that indications point to an increased production, which is somewhat at variance with the general belief during the height of the season. Many observers had at that time concluded that in a number of districts in California dairying had retrograded somewhat on account of the lack of labor. I myself believed at one time that this was the case. Since then returns have been coming in and we have been checking them against last year's production. I am led to believe that we were misled largely by the complaint of the larger dairymen about the scarcity of labor, without taking into consideration the great expansion of the business through the fact that many smaller farmers have taken more generally to cow-keeping, especially in the interior valleys. The returns also conspicuously show that all along the coast, from San Diego to Del Norte, the past season has been more favorable to production than the previous season.

## Horticulture.

### Some New Apples in Humboldt County.

To the Editor: I am mailing you samples of apples that I think will be of interest and worthy of further attention from California orchardists. One of these is the "Keeper," a Kansas seedling, I believe, and of the Bellflower type. The tree bears well and the fruit is of uniform size and greenish yellow now, but probably will be yellow when fully matured. It is rather tender in flesh but firm and juicy and of excellent flavor. The point in its makeup that will be of more than passing interest to California apple growers is its late maturing habits, it being about the latest in ripening of any variety I have fruited here so far. The fruit hangs well here until the 1st of December, fully three months later than Bellflower in general maturity.

"Indian" is the label on another fine late golden yellow apple. It is of large size and very smooth, very firm and rather juicy, and its texture and brisk acidity make it one of the finest kitchen apples I am acquainted with. The tree has all the appearance of one that will be productive. I am not certain the label is right, as the description I have of the Indian does not quite tally with this.

One of your subscribers wishes to know of the Bismark apple. I have not seen much of it yet, but from what I now know of it I prefer "Kirkbridge" or

*Continued on Page 15.*



**THE BEST LINIMENT**

OR PAIN KILLER FOR THE HUMAN BODY

**Gombault's  
Caustic Balsam**

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises, Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. GOMBULT'S CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A  
Perfectly Safe  
and  
Reliable Remedy  
for  
**Sore Throat  
Chest Cold  
Backache  
Neuralgia  
Sprains  
Strains  
Lumbago  
Diphtheria  
Sore Lungs  
Rheumatism  
and  
all Stiff Joints**

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Gombault's Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."

OTTO A. BEYER.  
Price \$1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.  
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

**The Poultry Yard.****How to Get Good Eggs For Hatching.**

This is a timely question, for the hatching season is on, and whether one follows fall hatching or spring hatching, or both, he is now about in the middle of the California hatching season. Mrs. S. Swaysgood gives the Petaluma Poultry Journal an outline of work for securing good eggs and handling them in preparation for hatching. The following is her advice:

It is about time to think of mating the fowls that are to be used for breeding, if it is not already attended to. If trap nests are used a faithful record of each individual hen should be kept. The fowls should be closely watched for individual peculiarities, and same noted for future references.

It is no more trouble to mate up the perfect fowls of the flock than the imperfect, if you know where the difference lies.

Every farmer who sells either eggs or fowls should have the 'Standard of Perfection;' not only have it for reference, but study it until he becomes acquainted with the requirements of the breed he is interested in. A good bird need not be sacrificed for some slight defect of plumage or comb; but if one has the Standard it helps in selecting those that will produce better birds. Very often good, vigorous constitutions and good laying qualities can be combined with Standard requirements when we know what is required. Plumage is largely a matter of feed and can be controlled, but other defects are hard to eradicate except by proper breeding.

It does not pay to be in a hurry after the pens are mated. Let the fowls have time to get acquainted with each other and with their new surroundings. If a male has been moved from one yard to another and his flock are strange to him he will probably be quite cross for a few days; at least this is so with most large breeds. To remove a male that is moulting will also make him cross, and it takes them a little while to settle down and get agreeable. I would not attempt to use eggs under a month after mating hens to a strange male. So in this climate, where we expect hatching to be in full swing after the holidays, they should be mated by this, yet for one reason or another many will delay until the last.

After mating it is easier to detect individual peculiarities, and time should be taken for that purpose. When you are sure your fowls are well mated it is time to turn your attention to their needs. They have been mated for a

purpose. That purpose is not merely to get eggs; you could have gotten the eggs without mating. The real purpose of mating was to secure not only eggs, but fertile eggs of the kind of fowls you wish to raise. A great many eggs are called fertile that just send out a few rich streaks as a seed sends out rootlets, after which they give up the ghost and retire. But you have not mated for that purpose. Your object is to get fertile eggs that with proper care on your part will hatch out strong, well-developed, vigorous chicks. No other kind are worth having or experimenting with.

To get this kind of eggs conditions must be favorable. The fowls must be healthy and vigorous; there must be ample opportunity for exercise; not necessarily free range for walking contests, but exercise that calls into play every internal organ of the fowl. Scratching is the one exercise that answers that purpose. It takes the place of muscular exercise for men, improves circulation and aids digestion. The better the digestion of the parent fowls, the stronger will be the germ in the egg and the more chances for it to produce a healthy chick. It is easy to induce fowls to scratch, provided we give them something to scratch for, and furnished the material to scratch in. For the latter there is not anything better than leaves or short cut straw, but it must be kept dry or the fowls cannot utilize it. Scratching feed may be a little of everything in the shape of small seeds. Split peas, hemp seed, broom corn, millet seed, and pinhead oatmeal furnish a variety that is greatly relished and eagerly sought for by a diligent hen. Oats in any form are good feed for breeders and should be fed once a day at least. If mashes are fed, scalded oats are a good grain to put in, and boiled potatoes are also good to mix with the mash, but mashes should be fed rather sparingly, with a scant supply of green feed. If yarded, fowls will have to be fed some meat in the form of beef scraps. Instead of green feed serve alfalfa hay and let them pick the leaves themselves. A small bale of alfalfa hay sprinkled with hot water in which a handful of salt has been dissolved is a fine relish for all yarded stock. The greediness with which they eat it is a proof that it is really relished, and it is cheaper than grain, which is quite an item. Feeding for strong fertile eggs is easy enough if cupidity does not get the best of us. We must be content to get quality without forcing the quantity by unnatural methods. Breeding stock, to do their best, must be kept and fed as natural as possible; no condiments or drugs, no cramming with by-products of the slaughter shop or horse flesh, but just plain food of good quality in liberal quantities fed as cleanly as possible and diversified sufficiently to keep the fowls with a keen appetite. They should be always ready to come at the call, but not so hungry that they will trample each other to get it. The hopper system may do for young stock or even laying hens, but it does not appeal to me as being good for breeders. The appetite will stall and they will not get variety enough or eat sufficient to keep them healthy and full of vim. That is just what they should be all the time—full of life and vim, ready to pick a quarrel with their feeder or any one that intrudes on their territory.

If we have taken pains to mate and feed for the right kind of eggs, the next thing is to take pains with saving them. The nests should be kept clean and free from all vermin and supplied with a liberal cushion of soft straw or hay, unless something else is used as a substitute. At any rate there should be something soft to receive the egg when it is laid. This may appear too small an item to mention, but I have seen a good many eggs broken at the small end through being dropped into empty nest boxes. A jar that will break an egg will surely injure the delicate germ upon which we depend for a chick. There is nothing lost by taking a little extra pains to provide a good cushion for the eggs to fall on. The transfer

**BEEF SCRAPS**

Guaranteed 65 per cent Protein

**RAW BONE**

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

**POULTRY FOODS**

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means **HEALTHY ANIMAL FOODS** for your poultry.

**Western Meat Company**

South San Francisco, San Mateo County

**IT'S FREE****FERTILIZE FOR PROFIT**

It's the RESULTS that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY.

Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in **quantity** of products and **profits**. Our fertilizers have the largest sale west of the Rockies because they make **sure** and **good** crops. Lack of fertility means **starved soil**. Our fertilizers **feed the soil** and make it produce abundant harvest. Write us and let us tell you about it.

**California Fertilizer Works,** Cor. 11th and Market Sts.

SAN FRANCISCO, CAL.

Branch Office: Room 216 Grosse Building, Los Angeles, Cal.

268 MARKET STREET  
San Francisco

MANUFACTURERS OF

**Special Fertilizers for all Crops**

Our New Catalogue

"The  
Farmer's  
Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.

**WHEAT GROWERS!****SPEND \$1.00 PER ACRE**

for the unsurpassed cereal phosphoric acid fertilizer, **SUPERPHOSPHATE**, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvelous results as applications of superphosphate."

GET PARTICULARS FROM

**The Mountain Copper Co., Ltd.**

150 PINE ST., SAN FRANCISCO.

**GREENBANK**

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

from nest to bucket or basket they are collected in must be done quite as carefully. There should be plenty of straw, excelsior, or a similar substitute to lay the eggs on, and they should not be piled on each other as we pile up eggs for market. One layer is sufficient in a basket, and pack away immediately, small end down, in a dark, cool place. If dirty, wipe with a damp cloth or scrape with a knife, but never wash eggs that are to be used for hatching. As for turning eggs, there are different opinions as to its value. For

myself, I don't believe eggs should be kept so long for hatching that they will be injured by staying in one position. Yet I have turned them and I have kept them without turning and have never noticed any difference. I always pack small end down in clean fillers and keep in a nice clean case where it is cool and never have any trouble.

**Only One "BROMO QUININE"**

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.



## The Home Circle.

### The Builders.

The Jester built a house one day  
Of cards, with many a color gay;  
And bit his thumbs and twirled his hair,  
As piece by piece, and layer by layer,  
He built his pasteboard palace up,  
Till his deft fingers reached the top.  
And as the final card he laid  
And smiled upon the house he made,  
Alas! an errant wind blew by,  
Scattering all his cards on high,  
But Motley laughed and laughed, and then,  
He skipped away, nor built again.

Sir Wisdom built a castle fair  
Not out of cards, but out of air;  
Adorned with every rainbow shade,  
With turret, dome and bastion made;  
Ah, never yet in Fairy Land  
Did such a wonder palace stand;  
But as his spendthrift fancy built  
With radiant hopes and dreams of gilt,

The castles vanished in the air,  
Though not a wisp was there,  
And Wisdom wept and wept and then—  
A house of Shadows built again.  
—Wm. F. McCormack, in N. Y. Sun.

### To a Golden Singer.

Sphinx like thou dreamest, yet I know  
Thou art a minstrel holding flute,  
That deep breathed thou hast learned to blow,  
And in thy silver songs' pursuit  
Hast wakened echoes high and low  
That else were mute.

I only know with splendid might  
Thy golden notes melodious fall,  
Flaming their way with liquid light,  
From out thy heart, to hearts of all,  
And that thou canst on music's height  
The world enthral.

—C. E. Whiton-Stone.

### Mistaken Premises.

"You'll meet me at the club at eight o'clock, then?" Sidney Tremont said, dropping off the electric car at his corner.

"Yes; eight sharp," replied Jack King, who stood on the platform ready to alight at the next crossing.

The men were partners in a real estate business, young, married, and comfortably well off. They meant to talk over a business deal that night, and with this in view Mr. Tremont entered the club at seven fifty-five, expecting that his partner, who was always prompt, would be waiting.

Mr. King was not there, and at eight thirty had not arrived. Sidney Tremont was about to telephone Mrs. King when the club was called by that lady, and asked if Jack was there.

"No," was the reply; "Mr. King

hasn't been here this evening. His partner is here;" and Sidney was called to the telephone. An anxious voice inquired, "Do you know where Jack is?"

"Why, no," said the bewildered Mr. Tremont; "he was to meet me here at eight o'clock, and I've been waiting ever since."

"Did you leave him at the office? He hasn't been home."

"Hasn't been home! He came out on the same car that I did, at six thirty."

"Oh, dear!"—there was a sob in the voice—"I am so worried, I know something dreadful has happened. What can I do?"

"Nothing," decidedly. "I'll hunt him up. Don't worry; I'll telephone you again in an hour," and Sidney rang off.

Mr. Tremont's cheerful words belied his looks when he rushed into the nearest police station. Evidently something had happened to Jack between the corner where he left the car and his home. Probably he had been mistaken for a certain millionaire whom he closely resembled, and kidnapped for a ransom. Mr. Tremont told this to the police officers, who looked wise, and went out on the trail.

Sidney telephoned Mrs. King, as promised, but there was no news, and at midnight, having looked for Jack in every place where he might possibly be, Mr. Tremont called on Mrs. King, having taken the precaution to bring Mrs. Tremont along, in case of hysterics.

Mrs. King was a sensible woman, and decided that she could better watch the course of events if that exercise were postponed to a more convenient season, besides, she was a trifle jealous, and a dark suspicion lingered in her mind that there might be a "woman in the case." This notion acted as a tonic, and Mr. Tremont being ignorant of Mrs. King's thoughts, congratulated himself because his partner's wife was such a cool-headed woman, and returned to the police station.

The Kings live at 1015 Ashton avenue; 1007 on the same street was occupied by Mr. and Mrs. Stanley Hamilton, their grown daughter, and two servant girls.

It was about two in the morning when Mr. Tremont again reached the police station, and just at that hour there was a disturbance in the Hamilton residence. This commotion was inaugurated by most unseemly pounding, apparently on the cellar stairs, accompanied by pithy remarks as to the stupidity and incompetency of every one on earth in general, and the dwellers in that house in particular. This noise was no sooner well established when its volume was augmented by screams from the two servants who slept in the rear of the house and so were awakened first. Their shrieks speedily brought Mr. and Mrs. Hamilton and Miss Hamilton from their

rooms in undress uniform, with seared faces and cries of "Oh, what is it?" on the part of the ladies, and "What an infernal row!" on the part of the man, who carried a revolver in one hand and a night lamp in the other. "Shut up!" he called to the servants. "Marie," to his daughter, "for heaven's sake light the gas," which the young lady proceeded to do profusely.

Meanwhile, vigorous hammering and emphatic profanity continued to roll up the rear stairway, which was directly over the cellarway.

Mr. Hamilton, followed by his wife and daughter, the servants, whose curiosity had partly overcome their terror, bringing up the rear, filed down the back stairs to the kitchen, where more gas was turned on the scene.

"It isn't a burglar," Mr. Hamilton declared; "a burglar wouldn't make such a racket, it's probably a lunatic." Whereat the women fell over each other in their haste to retreat.

"Help! Help!! Help!!!" in wild crescendo came up the cellar stairs.

"Will you ever get me out of this?" Mr. Hamilton, revolver in hand, gingerly opened the cellar door an inch. "Who are you and what do you want?" he demanded.

"I'm John King of 1015 Ashton avenue. I fell through the coal hole in your confounded sidewalk and broke my leg, and I'll sue you for a million dollars. Oh—by George!" in deference to the ladies, as a violent pain shot through his injured leg.

With shocked exclamations of sympathy, Mr. Hamilton, assisted by as many women as were available, carried Mr. King up the stairway and laid him on a couch in the library, where Jack promptly fainted.

Active use of the telephone speedily brought doctors, and Mrs. King, who came with a heart full of remorse because she thought of what might have happened.

"Jack! Jack!" she sobbed, "the police are looking for you; we thought you were kidnapped."

"Somebody better 'phone the department," one physician said. And so it happened that Mr. Tremont learned that his partner had been found with a broken leg in the cellar at 1007 Ashton avenue.

After the bones were set and a bad cut in his head dressed the patient was carefully taken home. During the weeks that followed, Mrs. King was cured of her budding jealousy; in fact, husband and wife became better acquainted than at any time during their three years of married life.

In time it was learned that when Jack reached Mr. Hamilton's house a load of coal had just been dumped in the cellar. The driver went to the back door to get a receipt, carelessly leaving the coal hole uncovered. It was dusk, and King, his mind full of the business on hand, walked into the trap, which, the driver, returning two minutes later, closed. Besides breaking his leg, Jack was stunned by striking his head on the coal bin. When consciousness returned, his cries were not heard by the servants, the family being away, until after midnight. Between lapses of consciousness, Jack dragged himself, inch by inch, to where the cellar stairs were likely to be, being lucky enough to find them in the darkness. He did not sue for a million, but Mr. Hamilton insisted upon paying a large doctor's bill.—E. A. Dyer.

"What did you think of my remarks on Government ownership?" asked the politician.

"I couldn't tell whether you favored it or not."

"Then the speech was a success. That is what I was trying to keep people from finding out."—Ex.

"Did you ever make a mistake in a diagnosis?" "Only once. I was called to attend a sick man whom I said had indigestion, and less than a week later I discovered that he was rich enough for appendicitis."

## The Neglected Profession of Motherhood.

What are the mothers of the growing generation of American boys and girls thinking about?

Most of them are looking for 'careers,' I know, and wishing they had a wider sphere of influence—at least so they write to me by the score.

Meanwhile they are neglecting that vast field of limitless influence—the training and guiding of the little minds they have in their care.

Every day I see young American boys—the future men of the nation, the possible presidents, millionaires, college professors, statesmen, artists—indulging in habits that are an offense to good taste, and which will be a serious reflection upon our national manners when these boys become men.

Mothers, I pray you, instead of sighing to be 'famous,' teach your boys a few important items.

Teach them to stand aside and let 'ladies' or charwoman or tired colored servants enter a public vehicle or pass through a door before them, and to offer a seat to anyone in woman's attire or to an elderly man.

Every day I see women pushed aside by Young America in such situations.

Teach your boys that it is inexcusably vulgar to attend to any portion of their toilet in the presence of anyone.

Nails should not be trimmed or otherwise treated, teeth should not be touched in public places. Train your boys to go to their rooms or into retirement for such duties.

Teach them not to lounge or tip back in their chairs in the presence of women or girls or to enter a room with covered heads.

Make them realize the courtesy of touching their hats to women and older people, and of uncovering their heads in an elevator when a woman enters.

All these simple acts render the world a more pleasing place for the abode of our fellow men.

Teach them not to lie with their elbows on the table while at meals, and not to take their food audibly or voraciously, nor to sit in shirt sleeves and suspenders in the presence of the gentler sex, nor to talk loud in public places.

Then turn to your girls.

Day after day we are shocked by the manners of many young girls whom we encounter. Little girls coming from school, well dressed and fair, give vent to loud shrieks of laughter after passing some older person. If the person happens to be fashionably attired such expressions as "Oh, dear, don't she feel smart?" or "Isn't she trying to be somebody?" often greet her ear. If she is noticeably poor or shabby ridicule often falls from the lips of the future wives and mothers of America.

Teach your little girls, dear madame, that kindness and modesty of behavior are the first two important factors in the education of woman. If she possesses every talent and the apparel of the Queen of Sheba she can never be a 'lady' if she is cruel, thoughtless or rude.

Teach your girls to avoid the use of slang, not to chew gum in public, not to talk loud, not to criticize others, and to show consideration and courtesy.

I saw three young school misses convulsed with amusement while they watched a lady trying to collect her scattered purchases which had broken out of a parcel on the street.

The mothers of these girls were in fault for not bringing them up to be helpful and polite to anyone in embarrassment or trouble.

They would have proved themselves refined little ladies had they gone to the assistance of the woman.

Scarcely a day passes that we do not see young girls whispering behind their hands in street cars, and giggling while they look at some one opposite.

This is the height of vulgarity. Think less about a career, madame, and more about the manners of your children. It requires close companionship and tender confidence between parents and children to have precept and example leave their influence, and once telling a

## IN STARTING A BUSINESS CAREER LOOK BEYOND YOUR TIME IN SCHOOL INTO THE GREAT FUTURE

Careful consideration of the great future will certainly bring you to the San Francisco Business College to take your course.

This school not only gives you the most thorough and practical education possible, but it is in close touch with the great business opportunities offered in the rapidly rebuilding city. We could place five times as many men as we have with good firms, where fair wages are paid at the beginning, and every opportunity offered to advance.

We have standing calls from three of San Francisco's great business enterprises for competent young men who are capable of being advanced to high positions.

We can furnish excellent board and comfortable room for \$22.50 per month.

Write for full particulars regarding our school.

ALBERT S. WEAVER, President.

**San Francisco Business College,** 733 FILLMORE STREET, SAN FRANCISCO, CAL.



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

## PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

child what to do or what not to do can hardly be expected to suffice any more than one reading lesson suffices.

Make motherhood a profession. It seems to be a new and untried field at present.—Ex.

### Femininities.

Years ago the West knew thousands of women engaged in helping their husbands or brothers to get a start. They did much work in riding the range, branding cattle and similar duties. Most of them prospered so that their riding days are but a memory, but Mrs. Harrison Newell of Spring Hill, Wyo., still steadily rides the range, although 68 years of age. A few days ago, on her birthday, her horse threw her and she was painfully injured.

Because his mother-in-law would not share her home with himself and bride and chop all the wood, Red Shirt, a Sioux warrior, who resided on the Rosebud reservation, committed suicide by shooting. It is one of the few cases on record of a Sioux Indian ending his own life.

A remarkable court decision in a bigamy case has been handed down at Perugia, Italy, where Charles Balliori, a tailor, was acquitted on the charge of having two wives because he has two hearts. Four physicians testified that Balliori had two hearts, and the court at once decided that this was ample reason for him to marry two women.

The best and easiest way to clean the overalls and shirts worn by men on the farm is to soak the garments in a little lye water, then wash them through the last suds. Pull them over the washboard and scrub them with a stiff brush having a handle, but rub soap over the most soiled spots first. It is easier than rubbing on the board, and every bit of dirt comes out. When a garment seems clean after the scrubbing, lift it out of the suds without wringing into the rinse water, then into clean water and hang it over the line dripping wet. When the garments are dry, fold smoothly and put them away without ironing. When cleaned in this way the fabric will be saved as well as time and strength.

A young lady having asked a surgeon why woman was made from the rib of a man in preference to another bone, he gave the following gallant answer: "She was not taken from the head lest she should rule over him, nor from his feet lest he should trample upon her; but she was taken from his side that she might be his equal, from under his arm that he might protect her; from near his heart that he might cherish and love her."

We believe there is less discontent among farmers' daughters than is apparent among girls of the towns and cities. A farm girl is brought up to respect the dignity of honest work and takes pride in being able to do the duties of the household well and to be as competent as her girl companions in the neighborhood. To be able to cook and sew and do her full share of the work for which her mother is responsible is an accomplishment in her eyes. She does not shirk or lie in bed while her mother does the work, as do many city girls. She does not spend her time idling through the shops of the town spending more money on dress than her parents can afford, nor is she given to the silly theater habit.

### Undressing.

Sometimes, when father's out of town,  
At bedtime mother brings my gown,  
And says to me:  
"The fireplace is warm and bright,  
You may undress down here tonight,  
Where I can see."

So then I sit upon the floor,  
And mother closes every door,  
Then in her chair  
She rocks and watches me undress,  
And I go just as slow. I guess  
She doesn't care.

And then I stand up in my gown,  
And watch the flames go up and down  
As tall as me!  
But soon I climb on mother's lap,  
And listen to the fire snap,  
So comfort'ly.

Then mother rocks and cuddles me  
Close in her arms, where I can see  
The coals shine red.  
I don't feel sleepy, but some way,  
When I wake up, then it's next day,  
And I'm in bed!

—May Kelly, in the Century.

### Pith, Point, and Pathos.

His Satanic Majesty loves a cheerful grafter.

It's easier to fall in love than it is to fall out again.

Because he acts like a jay a man isn't necessarily a bird.

Beware of the man who is forever harping on his honesty.

It is just as well to forget most of the promises people make to you.

Most of the world's heroes dwell between the covers of dime novels.

Money is the grease paint that makes many a bad actor look good.

The girl who takes the cake is the one who can bake good bread.

A woman speaks volumes with her eyes and whole libraries with her tongue.

Weigh some men and you will find them wanting in everything but weight.

After marriage has opened a blind lover's eyes he is entitled to sympathy.

A man without a collar button is almost as helpless as a woman without a hairpin.

It's easy for a man with money to be popular as long as he is willing to give up.

If a man is honest at heart his honesty isn't due to the theory that honesty is the best policy.

This world may owe you a living, but it isn't to blame if you are too lazy to collect your dues.

When a man takes himself too seriously he seldom takes other people seriously enough.

It doesn't matter much what you think if you are able to keep your thoughts to yourself.

Occasionally a married man goes around half dressed because it takes so much to dress his better half.

As a rule, the girl who is able to weep on the slightest provocation imagines she was cut out for an emotional actress.

When it rains too much to suit us some one is always there with the remark that it will be a blessing to the farmers.

THE term 'frog' is rather wide, extending to 250 species, common to most parts of the world, except Ireland. The distinction between frogs and toads is often lost sight of. The frogs have webbed toes, the toads have not. Many of the toads and some frogs have the toes dilated. Pollywog means a small frog or toad.

English Girl—"You American girls have not such healthy complexions as we have. I cannot understand why our noblemen take a fancy to your white faces."

American Girl—"It isn't our white faces that attract them, my dear; it's our greenbacks."

### Speed of Animals.

How fast do animals go? What is the greatest speed of each of the animals, from the horse to the camel, from the ant to the flea? This is the problem which has busied the brains of more than one investigator, and the results of their work have been gathered together by Prof. John Ohlshausen in a most interesting shape.

A riding horse covers forty inches each second while walking; at a jog trot it covers eleven feet a second, while the two-minute horse covers forty-four feet a second. This is quite a contrast to the leisurely ox, which moves only two feet a second when hitched to a wagon, and about twenty inches a second when hitched to a plow.

The elephant, while pulling more than six horses, walks over four and a half feet of ground each second, and running as fast as it can covers only eighteen feet a second. The dromedary can cover ninety-three miles in sixteen hours, which represents its day's march, and can do this two or three days together, traveling at the constant rate of eight feet per second. The dromaderies of the Sultan have, however, covered 116 miles in 12 hours, or at the rate of 9½ miles an hour.

Sheep dogs and hunting dogs run at a speed of from thirty-three to forty-five feet a second, but the fastest hunting dogs cover eighty feet a second, almost as much as that of the running horse, which covers ninety feet to a second for a short distance. An English foxhound will cover sixty feet a second in captivity. A lion is said to be able to run faster than the best hunting horses while at large.

The mole passes rapidly through its subterranean diggings, extending from one hundred to 150 feet, moving at the rate of 6½ feet a second, and on the surface of the earth travels at a speed of ten feet a second.

Authorities differ as to the speed of the hare, some stating that it can cover sixty feet a second, while others state that it can only go one-third as fast.

The deer of various species are all speedy, but when pursued by hounds or roebuck has been known to cover seventy-four feet a second. The wonderful little antelope covers from twenty to thirty feet at a leap, springing ten feet in the air, and the swiftest dogs can catch it only when tired out.

The long-legged giraffe moves over the earth at a speed of fifty feet per second, while the kangaroo leaps over eleven feet a second.

Swifter than all the animals is that monster bird, the ostrich, which has been known to travel at the tremendous rate of 160 feet a second or a mile in thirty-three seconds, faster than any horse can do.

This is in striking contrast with the tortoise, which if five inches long covers a half inch a second, and if ten inches long 2½ inches a second. A toad hops eight inches a second, though it is only two inches long; a frog six inches long hops but three inches a second, but swims 4½ inches a second. A large frog may, however, jump thirteen inches a second.

The chameleon is not much more rapid than a tortoise when walking, covering nine-sixteenths inches a second, and running only three inches a second.

A rattlesnake moves in a curved line four inches a second, and when after its prey may travel twenty or forty inches a second.—Minneapolis Tribune.

No monarch in Europe works harder than the Sultan of Turkey, writes a Constantinople correspondent, for he rises at four in the morning, winter and summer, and goes to his white tiled bathroom for his bath, after which he sips a cup of coffee brewed by the cafedjibachi, or chief coffee maker, and then, with a cigarette between his lips, he sits down to work at his desk. He works until midday, when he adjourns for prayers; then more coffee and an entree, an hour's siesta and work again until dinner, which is served at four in the afternoon.

### Domestic Recipes.

EGG AND CHEESE RELISH.—Poach three eggs in a half pint of cream; remove eggs and place in buttered toast. Add one dessertspoonful of Canadian or American cheese, a pinch of salt, and little cayenne pepper to the cream. Let this simmer until cheese is dissolved and pour over eggs and toast. Serve immediately.

PUDDING SAUCE.—One tablespoonful each of flour and butter, one-half cup of sugar, one egg and one pint of water. Mix the flour, butter, sugar, and yolk of egg together, beating well, and then pour the boiling water over it. Cook till thick and add the white of the egg, beaten stiff. Flavor to taste.

BEANS.—One cup each of cold boiled peas and stringed beans. Season to taste and then stir into them a little mayonnaise dressing. Place a large spoonful of the mixture on a lettuce leaf and arrange the leaves on a platter and cover with the mayonnaise.

SWEET APPLE PIE.—Cut apples in half, removing the cores, and boil in as little water as possible. When tender set at back of stove to simmer slowly till water has evaporated and then press through a sieve and make exactly as you would pumpkin pie.

ORANGE LOAF CAKE.—One-half cup of butter, two cups sugar, three cups flour, one cup water, two teaspoons baking powder, whites of two eggs and yolks of four, juice, pulp, and grated rind of one orange. This is excellent.

COTTAGE PUDDING.—One tablespoonful of butter, one cup sugar, one-half cup of milk, one egg, one heaping teaspoon baking powder and one and a half cups of flour. Bake in a moderate oven.

MOCK MINCE PIE.—One cup each of rolled crackers, sugar, molasses, water, vinegar, and seedless raisins, three tablespoons butter, one teaspoon cinnamon, nutmeg and salt. Mix in the order given and bake between two crusts.

LEMON PIE.—Mix a rounding teaspoon of corn starch with one cup of sugar and add to one and one-quarter cups of boiling water. Cook three minutes, add one rounding tablespoon of butter, beat and cool partly. Add one beaten egg and the juice and grated rind of one lemon. Use for small patties or for a pie without a top crust.

### When Knighthood Was in Flower.

As Pat O'Hoolihan was walking down Broadway he was accosted by a distinguished looking stranger, who wished to know the quickest way to the city hall. Pat told him, and then inquired cheerfully, "And who might ye be?"

"I," said the stranger, drawing himself up proudly, "am the Hon. John Kenneth Edgerton of London, Knight of the Garter, Knight of the Bath, Knight of Malta, Knight of the Golden Fleece, Knight of St. John, Knight of the Royal Legion and of the Iron Cross. And whom have I the honor of addressing?"

Pat was staggered for a moment. Then he in turn raised his head proudly and replied, "Ye have the honor of addressing Patrick O'Hoolihan of Hoboken tonight, lasht night, night before lasht, night before dasht, tomorrow night and ivery other dom night in the wake." —Woman's Home Companion.

At Grossalmerode, a town near Cassel, Germany, a factory has recently been established for the manufacture of glass telegraph and telephone poles. The glass mass of which the poles are made is strengthened by interlacing and intertwining with strong wire threads. One of the principal advantages of these poles, it is said, would be their use in tropical countries, where wooden poles are soon destroyed by the ravages of insects and where climatical influences are ruinous to wood. The Imperial Post Department, which has control of the telegraph and telephone lines in Germany, has ordered the use of these glass poles on one of its tracts.



## AGRICULTURAL REVIEW.

### BUTTE.

**MORE VINEYARDS.**—J. F. Krull, whose farm is about six miles south of this place, is preparing to plant about twenty-five acres of Thompson's seedless grape vines. He will prepare the land at once. Other farmers are about to plant many acres of Muscats and Thompson's seedless.

### COLUSA.

**MONEY IN EGGS.**—Sun: A Colusa lady has kept an account of a small poultry yard on her premises. For the past several years she did not know what it was worth, but for the past year she has the figures. She has had about 20 chickens on hand at a time, sometimes two or three more. From these she has had in 12 months 2,900 eggs as counted, has used in the family 67 eating chickens, and the cost of raising them, outside of table scraps, has been \$20 a year. Her eggs have supplied her family abundantly. She made the sale of them on the basis of 20 cents a dozen, which came to \$32 a year. Now we all know that this year 20 cents may be reasonably doubled, which would reach \$64. Now these are the figures for a small poultry yard, and they are low in estimate.

### ELDORADO.

**ELDORADO BEEF.**—Eldorado county supplies large numbers of beef cattle for the Sacramento and San Francisco markets. During the past few weeks one firm purchased over 450 head of beef stock at Shingle Springs and Clarksville in this county, and many more just over the line in Sacramento county. The mountains of Eldorado county afford the finest wild ranges in the world for stock during the summer months; but the cattle, horses and sheep are driven into the foothills or to the valley for the winter.

### FRESNO.

**COTTON.**—Merced Sun: Cotton has been successfully grown just south of Selma, thus showing that this valuable crop may be raised in that section. William Randolph is the man who has successfully raised cotton and he has taken a fine specimen to Selma which he has placed on exhibition. The cotton is seemingly as good as any grown in the South.

### GLENN.

**ALFALFA AND BARLEY.**—Since the recent rains much activity has been going on in the line of plowing and planting grain in this county. Many farmers are planting portions of their land to alfalfa this season. Barley is

also taking a jump with the farmers, and from present outlook will be larger in acreage than the wheat crop.

**MULE'S DAY ENDS.**—Sacramento Bee: The passing of the mule is decreed in the transformation of the wheat farms into orchards, vineyards, and alfalfa fields, and his mantle seems to have fallen on the draft horse. About a year ago the Gridley Draft Horse Co. secured a big Belgian stallion, but the animal died a few weeks since. The owners have replaced the animal with another, and a second organization has just been formed for the purpose of improving the breed of the farm horses of the country. The new company is known as the Gridley Belgian Horse Association, and it has brought in a stallion that weighs something over a ton.

### LOS ANGELES.

**CHILDREN GROW VEGETABLES.**—The Venice Chamber of Commerce has authorized the Ocean Park Board of Education to offer suitable prizes to the school children cultivating garden plots in the Kinney School gardens for the best pumpkins, onions, carrots and all other kinds of vegetables. The plan is to have the children of Ocean Park provide all the vegetables to be used by the Chamber of Commerce at the annual dinner on Thanksgiving day, 1908.

### SAN JOAQUIN.

**GOOD PRICE FOR HOGS.**—George V. Beckman, a well-known farmer residing several miles west of Lodi, recently shipped five head of blue-blooded Poland-China hogs to Porto Rico. A wealthy official and land owner of the Porto Rican Government was the purchaser, and the price paid for the porkers was \$100 per head. Beckman also received orders for all he could raise at that price.

**LATE BERRIES.**—On one of the coldest days of this month, an Italian gardener plucked some luscious strawberries from his patch southeast of Lodi that weighed an even pound. Frequently blackberries have been picked off vines as late as January.

### SANTA CLARA.

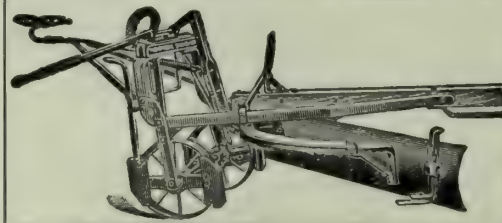
**HERD OF COWS ARRESTED.**—Herald: J. Rossi and his head of 95 cattle were arrested for disturbing the peace, at 1:30 A. M.—that is, Rossi was taken into custody because the steers were bellowing along Santa Clara street, disturbing the slumbers of the residents along the main thoroughfare. The vaquero was told to drive the cattle toward the police station, the officer discreetly marching 100 yards in the rear. Rossi protested that the herd would become disbanded if he was compelled to leave them; but the officer haled him before Captain Campbell, who allowed him to go after depos-

## THE ONE-MAN ROAD MACHINE

Easy to guide; strong, compact and easily adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture; when lowered they guide the machine straight ahead. The moldboard is six feet long. Has adjustable shoes shown at ends of moldboard to gage depth to which moldboard should cut. It's a very desirable machine for road-building in city or village. It makes good roads and keeps them so. Although made of steel and malleable iron, still it weighs only 600 pounds. The

## 20th CENTURY GRADER

saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for Road-grading, Ditching, Land-leveling, Foundation-digging,



**FOR IRRIGATION, CANAL BUILDING, Etc.**  
The price is lower than most such machines. We send it on free trial. Write us for our handsome booklet, "Delightful Roads." It's free and tells you all about the 20th Century.

**The White City Grader Co.**  
Box 24 White City, Kansas  
J. GORDON, Sales Agent,  
P. O. Box 167, Sacramento, Cal.



**This Incubator**  
**120-EGG SIZE \$14**

We pay railroad freight.  
Send today for free trial offer, guarantee and prices.

**FREE**

**124 Page Book.**

**E. E. McCLANAHAN,**  
711 South Main Street, Los Angeles, Cal.

iting \$10 bail. While Rossi was in the station, the cattle browsed contentedly in the City Hall park. He explained that he was driving the herd from grazing grounds near Palo Alto to a corral in Coyote.

### SANTA CRUZ.

**RATTLESNAKE CROP.**—While clearing land for grape planting, near Boulder Creek, a couple of Italians struck their axes in the soft sandy soil and broke into a small cavern, says a Santa Cruz dispatch. The sharp frost that covered the ground and the chilly air doubtless saved their lives. Paying no attention to the small hole they had accidentally opened up, they worked on until the rising sun began to warm the atmosphere, when suddenly it seemed as though all the rattlesnakes in the State had assembled in convention. Grabbing their axes, they killed all in sight, and then, taking a stand over the hole, as the snakes crawled out they speedily dispatched 137 rattlers.

### STANISLAUS.

**ORANGE CROP.**—Herald: The Stanislaus orange crop is especially heavy this year and the fruit is of large size, good color, and excellent flavor. The orange industry around Modesto is attracting more attention every year. A. Monotti has shipped over 200 boxes of Washington navel oranges to San Francisco from his orchard just north of town. The oranges are neatly wrapped

and boxed, the boxes bearing an attractive label.

### TEHAMA.

**PEANUTS.**—The Tung Sang Co., truck gardeners near Tehama, made a test of peanut raising by planting three acres last season and feel highly pleased with the success of the venture. The crop has just been harvested and amounts to 900 sacks which average 40 lb. each, making a total of 36,000 lb. of peanuts from three acres. They sold the crop at 6c per lb., making an income of about \$700 per acre.

### YOLO.

**A SAMPLE PRUNE CROP.**—Sacramento Bee: Roy Coil has finished shipping his prune crop. From 65 acres of trees he dried 276 tons of fruit that averaged 50 prunes to the pound. He sold his crop early in the season for something more than \$21,000. If he had waited a few weeks he could have sold for over \$35,000. His expense was less than \$5,000.

### YUBA.

**WILL USE SHEEP.**—The E. Clements Horst Co. of Wheatland has decided to turn 2000 head of sheep into their hop fields for the purpose of eating away the under leaves on the vines and the other growth that interferes with the pickers in the summer. The sheep are also given credit for fertilizing the land to a great extent.

# FREE

## 1908 CATALOG SEEDS

**LARGER, HANDSOMER,  
MORE COMPLETE  
THAN EVER BEFORE**

SEND FOR IT TODAY

## C. C. MORSE & COMPANY

52 JACKSON STREET

Successors to Cox Seed Co.

SAN FRANCISCO



SEEDS, PLANTS, Etc.

**WANTED**  
Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306,  
Riparia x Rupestris 3309, Riparia x Rupestris  
106-8 and Mourvedre x Rupestris 1202. Address  
**FANCHER CREEK NURSERIES**  
Fresno, California.

**Pacific Nurseries**  
San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting  
a full line of  
**Ornamental Trees and Shrubs, Evergreen and  
Deciduous, Conifers, Palms, Rhododendrons,  
Camellias, Ericas, Azaleas, Roses, Eucalyptus,  
Cypress, Pine, Monterey and Maritima Pittospor-  
um transplanted into plats.**

Send for Catalogue  
**F. LUDEMANN, 3041 Baker Street**  
SAN FRANCISCO

**FOR SALE**  
200,000 Berry Plants, including Phenom-  
enals, Mammoths, Blackberries, Himalaya  
Glants, Lucretia Dewberries and Raspberries.  
Send for Catalogue to  
**R. J. HUNTER, OAK VIEW BERRY FARM**  
Gridley, Cal.

**Orange Seed Bed Stock.**  
SWEET AND SOUR  
Orders Booked Now for Delivery  
Spring of 1908.  
**SOUTHLAND NURSERIES,**  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.

**WALNUT TREES**  
Grown from carefully selected seed  
Postal for prices.  
**A. A. MILLS, Anaheim, Cal.**

**BARTLETT PEARS.**  
I have a large stock of Bartlett Pears that can-  
not be excelled for size and quality grown on  
whole roots one year old. Prices reasonable.  
Those desiring in any quantity, address,  
**R. P. EACHUS, LAKEPORT, CAL.**

**NOW READY**  
**THE BOOK OF**  
**ALFALFA**

History, Cultivation and Merits. Its Uses as a  
Forage and Fertilizer. By F. D. COBURN,  
Secretary Kansas Department of Agriculture.  
The appearance of F. D. Coburn's little book on  
Alfalfa, a few years since, has been a complete  
revelation to thousands of farmers throughout the  
country and the increasing demand for still more  
information on the subject has induced the author  
to prepare the present volume, which is, by far, the  
most authoritative, complete and valuable work on  
this forage crop ever published.  
One of the most important movements which has  
occurred in American agriculture is the general in-  
troduction of alfalfa as a hay and pasture crop.  
While formerly it was considered that alfalfa could  
be grown profitably only in the irrigated sections  
of the country, the acreage devoted to this crop is  
rapidly increasing everywhere. Recent experiments  
have shown that alfalfa has a much wider useful-  
ness than has hitherto been supposed, and good  
crops are now grown in almost every state. No  
forage plant has ever been introduced and suc-  
cessfully cultivated in the United States possessed  
of the general excellence of alfalfa.  
The plant although known in the Old World  
hundreds of years before Christ, was intro-  
duced into North America only during the last  
century, yet it is probably receiving more attention  
than any other crop. When once well established  
it continues to produce good crops for an almost  
indefinite number of years. The author thoroughly  
believes in alfalfa, he believes in it for the big  
farmer as a profit bringer in the form of hay, or  
condensed into beef, pork, mutton, or products of  
the cow; but he has a still more abiding faith in  
it as a mainstay of the small farmer, for feed for  
all his live stock and for maintaining the fertility  
of the soil.  
The treatment of the whole subject is in the  
author's usual clear and admirable style, as will be  
seen from the following condensed table of contents:  
History, Description, Varieties and Habits, Uni-  
versality of Alfalfa, Yields, and Comparisons with  
Other Crops, Seed and Seed Selection, Soil and  
Seedling, Cultivation, Harvesting, Storing, Pastur-  
ing and Soiling, Alfalfa as a Feed Stuff, Alfalfa  
in Beef-Making, Alfalfa and the Dairy, Alfalfa for  
Swine, Alfalfa for Horses and Mules, Alfalfa for  
Sheep-Raising, Alfalfa for Bees, Alfalfa for Poul-  
try, Alfalfa for Food Preparation, Alfalfa for Town  
and City, Alfalfa for Crop Rotation, Nitro-Culture,  
Alfalfa as a Commercial Factor, The Enemies of  
Alfalfa, Difficulties and Discouragements, Alfalfa  
in the Orchard, Practical Experiences with Alfalfa.  
Illustrated. 6 1-2 x 9 inches. 336 pages.  
Cloth. Price \$2.00.  
**PACIFIC RURAL PRESS**

**The Crocker Bartlett Pear**  
**DOES NOT BLIGHT**

If proven different, purchase price of trees  
bought from us in 1907 will be refunded. Fruit  
highly recommended by Luther Burbank.  
Sample of pears sent on receipt of 25 cents.  
See U. S. Year Book of 1905.  
**Peach Trees, 15c**—all leading varieties.  
**Cherry Trees, 20c**—all leading varieties.

**GOLDEN RULE NURSERY**  
Loomis, Placer County, Cal.

High In Quality Low in Price

**OUR SEEDS GROW**  
**Vegetable, Flower  
and Farm Seed**  
**J. SEULBERGER,**  
414 Fourteenth Street, Oakland, Cal.  
Send for Illustrated Catalogue.

**GREGORY'S SEEDS**  
have earned a world-wide reputation. Thou-  
sands of farmers and gardeners rely upon  
them absolutely because they are sure grow-  
ers. If you have never planted them, just  
try them this year. Our new catalogue helps  
solve all the problems of planting—will be  
likely to set you right when in doubt.  
IT'S FREE. Write for a copy.  
**J. J. H. GREGORY & SON**  
MARLBOROUGH, MASS.

**ALMONDS**  
Lewelling, Texas Prolific, Drake, Three sure  
bearers.  
**PEACHES**  
Muir, Elberta, Lowell, Orange and Tuscan  
Cling, etc.  
**CHERRIES**  
Chapman (earliest), Royal Ann, Bing, Tartarian,  
etc.  
**WALNUTS AND PECANS**  
Grafted and Seedlings.  
**ELLWOOD WALNUT**  
**EUCALYPTUS**—Twenty varieties, in 10,000 or  
50,000 lots.  
**Leonard Coates Nursery Co., Inc.**  
Morganhill, Santa Clara Co., Cal.

**TREES**  
Franquette **WALNUTS** Grafted on  
Santa Rosa Calif. Black  
Finest **CHESTNUTS** Grafted  
Varieties  
Burbank's **Opulent Peach** Finest  
Best Quality  
Burbank's **Rhubarb** Also other  
Crimson Winter stock  
**Grown at Sebastopol**  
**T. J. TRUE,**  
Rural Route 1. **MODESTO**

**Trees** French Prunes and Apri-  
cots; Muirs and Tuscan  
Clings, and many other  
varieties of Peach Trees,  
all fine budded stock. Large stock of all the  
leading varieties of Apples, grafted on whole  
roots and free from all pests. Also a fine stock  
of Cherries, Pears, Plums, etc.  
Send for price list.  
**A. F. SCHEIDECKER, Sebastopol, Cal.**  
Proprietor Pleasant View Nursery.

**Crimson Winter Rhubarb**  
\$1.50 per Doz. \$6 per 100. \$40 per 1000.  
Now is good time to plant. Pedigreed Stock.  
500 Valencia, one year, extra fine, \$60 per 100.  
J. B. WAGNER, the Rhubarb Specialist, Pas-  
adena, Cal.  
**BROOM CORN AND BROOMS.**—A treatise on  
raising broom corn and making brooms on a  
small or large scale. Illustrated. 59 pages  
5 by 7 inches. Cloth.....\$0.50

**Trees that Grow and Bear Fruit**  
**SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY  
DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.**

Our trees are carefully and well grown. Buy direct from the grower and  
save the middleman's profit. Special attention given to orders from large  
planters. We have a general assortment of deciduous, citrus and ornamental  
trees. Also an extensive line of ornamental and flowering plants, including a  
large assortment of roses. Write for price list—it is free.

**Orange County Nursery & Land Company**  
FULLERTON, CAL.

**Fruit Trees and Grape Vines**  
We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines.  
We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots,  
Cherries. Wine, Table and Raisin Grapes.**  
We grow only Standard Commercial Varieties—Money Makers. Life is too short  
to experiment with so-called Novelties which have been untied. We have been  
pleasing our customers for 18 years. We refer to any bank or business house in  
Fresno as to our standing and reliability. Write us for prices. Large Catalogue  
and Souvenir Picture showing Largest Tree in the world mailed Free. Address  
**THE FRESNO NURSERY**  
**F. H. WILSON, Proprietor.** Box R. R. 42. **Fresno, California**

**Ask us  
about  
Walnuts**  
The kind  
for  
Commer. i l  
P. a ting.  
**Large,  
Rich and  
Prolific**  
Costs nothing to investigate.  
Ask for our Walnut Booklet.  
**OREGON NURSERY COMPANY**  
**SALEM, OREGON.**  
Salesmen Wanted.

The Sower Has  
No Second Chance  
Good sense says make the most  
of the first.  
**FERRY'S SEEDS**  
have made and kept Ferry's Seed Busi-  
ness the largest in the world—merit tells.  
**Ferry's Seed Annual for 1908**  
tells the whole Seed Story—sent FREE for  
the asking. Don't sow seeds till you get it.  
**D. M. FERRY & CO., DETROIT, MICH.**

**Strawberry Plants**  
Brandywine, Excelstor, Texas, Arizona, Al,  
Lady Thompson and Midnight, Pedigree Plants.

**Blackberry Plants**  
Mammoth Blacks, Early Crandal,  
Giant Himalaya.

**Raspberry Plants**  
Surprise (earliest known), Millers, Cuthbert.

**Dewberry, Loganberry,  
Phenomenal Berry Plants.**  
Mention this paper and get catalog of prices  
and cultural directions.  
**G. H. HOPKINS, Burbank, Cal.**

**SUGAR GUM AND RED GUM TREES**  
In large or small numbers.  
**HENRY SHAW, RIVERSIDE NURSERY**  
320 River St. Santa Cruz, Cal.

**TREES**  
**Best Stock on the Coast  
Every Tree True to Name**  
**CITRUS**  
Any quantity in all of the leading Stand-  
ard Varieties. All grown at Exeter, where  
they develop perfectly.  
**DECIDUOUS**  
The best of everything in all sorts, strong  
and healthy, with well developed roots.  
Properly packed and shipped promptly or  
when desired. Place your orders now.

**BURBANK'S NEW CREATIONS**  
We are sole propagators and disseminators  
**Santa Rosa Plum**  
**Rutland Plumcot, Gaviota Plum**  
**Formosa Plum, Vesuvius Plum**  
**Royal and Paradox Walnuts**  
Send 10c. for our valuable booklet, beauti-  
fully illustrated in colors, which tells all  
about these wonderful new creations.

**GRAPEVINES**  
On their own roots and grafted on  
Phylloxera Resistant Roots.  
**Calimyrna Figs, Ornamental  
Trees, Roses, Palms, Plants.**  
Our large new catalogue sent free.

**PAID-UP CAPITAL \$ 200,000.00**  
**FANCHER CREEK NURSERIES**  
INC.  
**Geo. C. Roeding Pres. & Mgr.**  
Box 18 Fresno, California, U.S.A.



### Clean Skimming Means Good Living

The hog trough is no place to put butter. Wide awake farmers want the cream separator that skims the cleanest. It means more profit—better living. That separator is the Sharples Dairy Tubular—the separator that's different. Sharples Dairy Tubulars have twice the skimming force of any other



separators—skim twice as clean. Prof. J. L. Thomas, instructor in dairying at the agricultural college of one of the greatest states in the Union, says: "I have just completed a test of your separator. The skimming is the closest I have ever seen—just a trace of fat. I believe the loss to be no greater than one thousandth of one per cent."

That is one reason why you should insist upon having the Tubular. Tubulars are different, in every way, from other separators, and every difference is to your advantage. Write for catalog S-131 and valuable free book, "Business Dairying."

**The Sharples Separator Co.,**  
West Chester, Pa.  
Toronto, Can. Chicago, Ill.

## Florist and Gardener.

### Beautiful Vines for California Gardens.

Georgina S. Townsend, whose home is evidently in southern California, though much that she says is also applicable to valleys and foothills in other parts of the State, has written for Floral Life an account of the garden vines which she has the fullest affection for and states the reasons for it.

"In laying out your grounds, have arbors wherever they will look artistic, and enclose the barnyards and chicken corrals with high trellis fences. Have a lath house for young plants, and a summer house or two, and you will find plenty of places for vines." Of course it is only a few who can make places for vines in this fashion, but every one has porches and fences and sheds which, when covered with vines, are a constant joy and which beautify marvelously.

The Bourgainvillea, while its color is very strong and will not harmonize with anything, is a very handsome vine when grown by itself. It is a strong, vigorous vine, and is in bloom fully eight months of the year. Its leaves are glossy and dark green and the bracts are brilliant in their peculiar shade. I know of one arrangement which is very effective. An old reservoir which was unsightly in the front of an estate was covered with a bamboo wickup, and the Bourgainvillea was planted at each pole. The whole is now covered with the dense foliage and profuse bloom, and is a sight worth going out of one's way to admire. When the vine is in full bloom late in summer the leaves are hidden by the mass of bloom.

In arranging vines, one must know the color scheme and the time of blooming. Another vine of discordant color, yet especially handsome by itself, is Bignonia Venusta. It blooms in the spring and is an orange yellow. It starts growth slowly, but when once well established it makes a splendid growth, covering everything it can reach, both up and across. Its blooming season is not long, but while it lasts it is brilliantly gorgeous. These two vines are, I believe, the only ones which

must have a place to themselves on account of their peculiar colors. But it is worth while to be governed by their eccentricities because the result is so satisfactory.

The finest scarlet vine is the Tasconia. It might be mistaken at first sight by a newcomer for one of the passion vines, but it is a family by itself. An arbor covered with one in bloom is a remarkable sight. One can see the scarlet flowers as far as the eye can reach. It is a particular favorite of mine and should be more generally planted. It is not as well known as it should be.

The wistarias—blue, purple and white, and the double white—are spring beauties and do exceedingly well. Many Eastern newcomers having been familiar with the wistaria in their old homes, do not think of planting it in this warmer climate, but it does even better here than in the colder climate. It grows so large and strong that care must be taken not to let it get wound about posts or trees or anything that it can injure in its tight clutch. Its blooming period is not long, but its growth in the summer months is luxuriant. It is deciduous and for that reason many people do not like it, but for my part I enjoy seeing vines and trees drop their leaves and come out in the early spring with tender new growth.

The Solanum grandiflorum is one of the most popular of our vines. Its growth is coarse and luxuriant, but its profuse panicles of lavender-blue bloom are very showy and handsome. It is rather more tender than some other vines, as a cold snap will chill it and make it drop its leaves, but as it recovers easily and sends out new leaves and buds at once, it is always a delight. Its blooming season lasts for months. In very warm weather the flowers will fade out to an almost white. It and the pale blue Plumbago are the light shades of blue in the vineland.

The Plumbago is the most exquisite blue that I know of in the floral kingdom, and is a profuse bloomer. I have it extensively beside the pale pink Tecoma whose trumpet-shaped flowers, in great clusters make it, in my opinion, the handsomest flowering vine we have. The moonflowers are all beautiful, the white and the deep blue which remains open half the day, and the shell pink offering a fine assortment of colors. The white Plumbago is not so beautiful as the blue, and there are many other white flowering vines which are more desirable—for instance, Constance Elliott Passiflora, which blooms in the early summer and fruits in orange-colored egg-shaped pears. They are very ornamental all summer, if one does not care to eat them. The purple Passiflora is also handsome. The yellow and white Jasmines offer fragrance, but are not striking for their appearance. But to the garden they are indispensable because of their odor.

The Bignonia Tweediana has a clear yellow trumpet flower without a hint of orange and blossoms at the same time as the blue Plumbago, and they present a harmonious combination when planted near each other. The fragrant honeysuckle is the true delight of the southern garden. Everyone knows the honeysuckle. The Dolichos is a splendid vine for dry places as it makes a good growth with very little water. The trumpet flower, as it is called in the East—one of the orange-red bignonias—is seldom seen, but when it is grown it is worth while. In fact all the bignonias are desirable vines.

Our choicest vines are the clematis. The royal purple Jackmanii is certainly a gorgeous sight when in full bloom, but it is a delicate and difficult vine to successfully grow. I have had at least six different roots and have never raised one, but I have seen it where it would completely cover a porch. The enormous white blossoms of Henryii make one stare in amazement.

### Ask for SNOW'S GRAFTING WAX

In use all over the State  
For sale by all the large grocers, or  
D. A. SNOW, Lincoln Avenue, San Jose, Cal.



## A True Plane

When you buy an ordinary plane you have to find out by actual use whether it is true or not.

You know a Keen Kutter Plane, or any Keen Kutter tool, is true before you buy it, because it is stamped with the trademark which guarantees it.

You know it will be perfect in hang, balance, temper, finish and adjustment, because all Keen Kutter Tools are tested and inspected and found worthy to uphold their well-earned reputation as Tools of Service before the name and trademark are stamped upon them. This mark is your safeguard in buying tools. It costs you nothing, but means if anything goes wrong you shall not be the loser. To be sure of lasting, accurate, and practical tools, ask for

# KEEN KUTTER

## Tools and Cutlery

The name Keen Kutter covers Saws, Chisels, Bits, Drills, Gimlets, Awls, Planes, Hammers, Hatchets, Axes, Drawing-knives, Screw-drivers, Files, Pliers, Glass-cutters, Ice-picks, and a full line of Farm and Garden Tools—Forks, Hoes, Scythes, Trowels, Manure-hooks, Lawn-mowers, Grass-shears, Rakes, etc. Also a full line of Scissors and Shears, Pocket-knives and Table Cutlery.

Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

*"The Recollection of Quality Remains Long After the Price is Forgotten."*—E. C. Simmons.

If not at your dealer's, write us.

**SIMMONS HARDWARE COMPANY (Inc.),**  
St. Louis and New York, U. S. A.



## A DE LAVAL SEPARATOR

will enable you to get the greatest results from your cows.

A 20th CENTURY BABCOCK TESTER and an IDEAL MILK SCALE will indicate just what each cow is doing, and inform you what returns you should receive from the creamery. Some cows are profitable, others are not. Get rid of the poor ones and buy good ones. Ask for catalogues A and B.

**De Laval Dairy Supply Co.**

GENERAL OFFICES:  
Drumm and Sacramento Sts., S. F.  
107 First St., 125 N Main St.  
Portland Los Angeles  
1017 Post St., Seattle

## HOYT'S TREE SUPPORT

PATENTED NOV. 26, 1901.  
PATENTED SEPT. 22, 1903.



Hoyt's Tree Support on the Tree.

## Over Three Million Sold Since Introduction in 1903

After your trees have broken down, overloaded with fruit, don't howl about your hard luck. The preventive is CHEAP, EFFECTIVE, PERMANENT.

For Full Particulars and Descriptive Booklet write

# MacDONALD & SONS

WATSONVILLE, CALIFORNIA  
General Agents for the HOYT TREE SUPPORT COMPANY.



## The Stable.

### Mule Raising in Washington.

Mr. A. H. Hotchkiss of Walla Walla, Washington, writes for the Pacific Homestead his ideas on mule raising, which will be reviewed with interest by California growers of this indispensable product.

How to breed and raise good mules is one of the questions which is perplexing to a number of our farmers, as a great many prefer raising mules to horses, but, it seems, they know more about the horses and how to attend to them to get the best results, while they have had very little experience with raising mules.

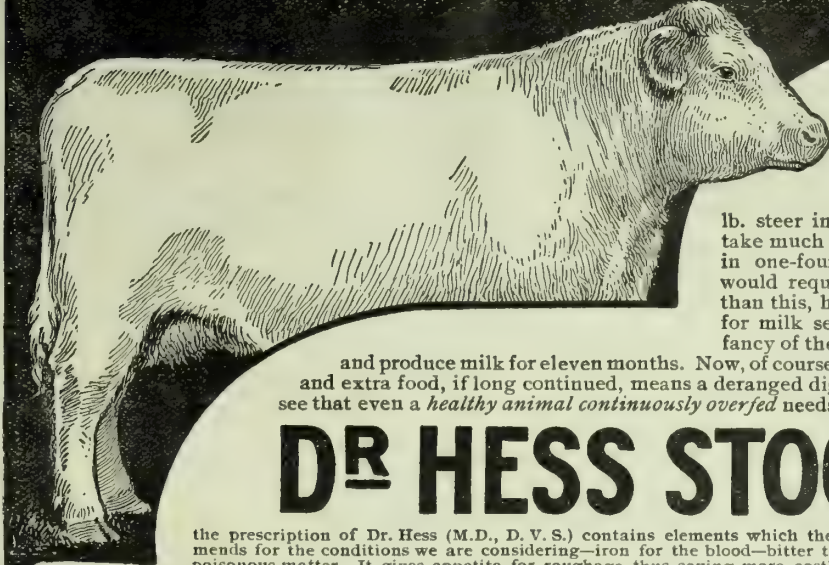
In the first place, to obtain the best success in raising good mules, a man should select mares that have a strain of good blood and of fair size. "The best sized mares are from 1100 to 1300 lb." With a good sire this grade of mares is best for the following reasons: The mare generally has good life, which has a tendency to produce a mule with his head up, and this sized mares have proven to produce mules that weigh from 1100 to 1500 lb., with lots of style, which command the best prices in the market. Bigger mares produce well, but if the mare is large she is nearly always lubberly. No one wants clumsy, lazy mules. The upheadedness is not as a rule obtained from the jack; however, in selecting a jack a man doesn't at any time want a dead head. The jack should be black with white points, of good size, with a good disposition. The disposition should be taken largely into consideration.

The best time to breed your mares is May, June, or July; this brings the colt when the grass is green and the sun is warm. The mare needs grass to suckle her colt. She gives lots of milk on this feed, which strengthens the colt and makes him stretch in the sun and exercise lots. As soon as he begins to eat, which is generally at three or four months old, give him a little chopped feed and fix a trough in his pasture where he can get it at any time. Keep him away from the mare during the day after he is four months old, and when you come to wean him he will eat, thrive, and continue to grow. He should be weaned at six months old, and if he has learned to eat well the thing from this time on is to give him a good pasture with plenty of good water and chopped feed in his trough all the time.

The secret of mule raising is to keep them growing and feed, exercise and sunshine will make them mature. Here is an instance which happened the past summer. One man had a mare weighing 1040 pounds which foaled a mule colt the last of April. This colt was allowed to run in pasture with its mother every night and was given all it could eat. The owner sold this colt for \$135 when the colt was six months old. Another man owned two mule colts, both foaled in May, from mares weighing 1100 and 1200 pounds each. These mares were kept on dry feed all the time they were suckling these colts and he sold the mules for \$65 in October.

The care has very much to do with the outcome of your colts. During the

## Do Healthy Animals Need A Tonic?



Probably not, if always permitted at liberty to secure such diet as Nature intended. We must remember, however, that the animal domesticated is subject to unnatural conditions. The feeder is striving to make a 1000

lb. steer in a year's time, when Nature would take much longer. He is making a 200 lb. hog in one-fourth the period unassisted growth would require for the same operation. More than this, he is asking the cow, whose capacity for milk secretion was limited to the brief infancy of the calf, to do violence to Nature's plan

and produce milk for eleven months. Now, of course, extra production means extra food, and extra food, if long continued, means a deranged digestive system. Hence it is easy to see that even a healthy animal continuously overfed needs the assistance of a corrective tonic.

## DR HESS STOCK FOOD

the prescription of Dr. Hess (M.D., D.V.S.) contains elements which the most advanced medical science recommends for the conditions we are considering—iron for the blood—bitter tonics for digestion and nitrates to expel poisonous matter. It gives appetite for roughage, thus saving more costly foods, and by increasing assimilation saves nutriment that would otherwise enrich the manure heap. Dr. Hess Stock Food makes more milk, hastens the fattening of a steer or hog and is the best known tonic preparation for horses. Sold on a written guarantee.

**100 lbs. \$7.00; 25 lb. pail \$2.00** Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound and this paper is back of the guarantee. Free from the 1st to the 10th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

**DR. HESS & CLARK, Ashland, Ohio.**

Also Manufacturers of Dr. Hess Poultry Pan-a-c-e-a and Instant Louse Killer.

Instant Louse Killer Kills Lice.

**THE PETALUMA INCUBATOR CO., Petaluma, Cal., Pacific Coast Distributors.**

breeding season care should be taken to see that the mare is returned and tried on the 18th to 21st day after she is bred and should she prove not to be in season try her again on the 27th day from service and you will find it will add to your stock of colts the next spring.

Persistence is the secret of success. A good way for a man to try his mare is to require a few dollars deposit at the time of the first service, then, if he forgets he has a mare, he will wonder what has become of that five or ten-dollar gold piece that he has hoarded away in his pocket, and when he remembers that he has a mare he will get busy and take the mare to get tried. I have tried this system, and it is surprising how well they remember and the result is that my jacks have 85 per cent of mares with foal.

No man can have good success in breeding an animal, "no matter how good care he gives that animal," unless the mare owner takes care of her also, and the person who takes good care of his mares has the most to gain. Should she go over a season without a colt her owner has lost \$50 to \$100 and the country is no better off because he owned a mare.

### Patrons of Husbandry.

#### Tulare Grange Meeting.

To the Editor: Tulare Grange met in regular session on the 21st and conferred the 3rd and 4th degrees on a class of two.

The special committee to prepare a program for the Farmers' Institute to be held in Tulare on the 13th and 14th of next month reported and the report was adopted.

The sessions will be held in the forenoon, afternoon and evening of each day, two lectures and question box each session, with music afternoon and evening, all lectures on subjects of special interest to the leading industries of this locality. The first evening will be devoted to a lecture by Brother Miot, Secretary of the County Board of Trade, on the products and possibilities of the county, with stereopticon views.

Brother Hunsaker who, with Brother Henry, represented Tulare Grange at the

Promotion Committee meeting in Fresno, made an interesting and a good report of that meeting.

Officers elected for the ensuing year will be installed at the first meeting in January, Brother F. H. Styles, the retiring Worthy Master, installing.

The committee having in charge the preparation of a program of subjects for consideration at each meeting of the Grange for the next six months reported the subject to be considered at each meeting and the Brother or Sister who will open the discussion.

Under the head of 'Good of the Order,' the subject of a State mutual fire insurance for members of the Order was fully discussed. The reports of proceedings of the National Grange show that such Patrons' fire insurance associations are now maintained in 14 States with manifest advantage in reduced rates and in safety of insurance to the insured and with an increased and more stable membership to the Order. There is no valid reason why the insurance laws of California should not provide for a fraternal fire insurance. Its desirability or its safety cannot be questioned. This is shown by its working results in 14 of our States. Every State having a fraternal organization such as ours to control and promote it should have one. Governor Gillett has appointed a commission to revise the insurance laws of this State—a work sadly needed; this is deemed an opportune time to enact a State fraternal fire insurance law. We have State fraternal life insurance, which, desirable as it is and safeguarded as they are, can never be made as safe as a fraternal fire insurance on farm property only.

The following resolutions were passed:

Resolved, By Tulare Grange, Patrons of Husbandry of California, the 'Good of the Order' requires we should have the insurance laws of this State revised so as to provide for fraternal mutual fire insurance. Other States have it; the Order needs it; we need it.

Resolved, The Worthy Master and Executive Committee of the State Grange are hereby requested to make every effort to have the insurance laws of California revised and amended so that fraternal associations may be able to protect their members against fire.

Resolved, A copy of these resolutions be forwarded to the Worthy Master of the State Grange, a copy to his Excellency Governor Gillett and a copy to the Commission for the Revision of the Insurance Laws of California.

Tulare, Cal.

J. T.

## Glenn Ranch

GLENN COUNTY, CALIFORNIA

### For Sale in Subdivisions

This famous and wellknown farm, the home of the late Dr. Glenn, "The Wheat King," as been surveyed and subdivided. It is offered for sale in any sized Government subdivision at remarkably low prices, and in no case, it is believed, exceeding what is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for fifteen miles. It is located in a region that has never lacked an ample rainfall and no irrigation is required.

The river is navigable at all seasons of the year and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, Cal.

## HEALD'S

Business College and School of Engineering

THE LEADING COMMERCIAL AND ENGINEERING SCHOOL IN THE WEST

HAS BRANCHES AT OAKLAND, STOCKTON, FRESNO, AND SANTA CRUZ

ESTABLISHED OVER 40 YEARS

80 Teachers; nearly 100 Typewriting Machines; 20,000 Graduates; 1,000 annual enrollment; 500 average daily attendance; 600 calls annually for graduates of the college. Mining, Electrical and Civil Engineering departments. All departments open the entire year. Both sexes. Individual instruction. Catalogue free.

**HEALD'S BUSINESS COLLEGE**  
425 McAllister Street, San Francisco, Cal.

**HENRY B. LISTER,**

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.

## Blake, Moffitt & Towne

Dealers in **1400 FOURTH ST., SAN FRANCISCO**  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

**COUPON**

**FREE Book on Poultry Profits**

Cut Out, Sign and Mail This, and by return mail you will receive our great Free Book, telling How 140,000 Men and Women are Making Money with the Famous Sure Hatch. Book is full of valuable help to beginners and professional poultry raisers. Tells why the Sure Hatch excels all other incubators. We ship Sure Hatches on Unlimited Trial direct to you from Los Angeles or Salt Lake City. Don't delay—fill out and mail coupon NOW.

**SURE HATCH INCUBATOR CO.**

Box 151, Fremont, Neb., or Dept. 151, Indianapolis, Ind.

Send book to (write plainly)

Name \_\_\_\_\_

Address \_\_\_\_\_



## THE MARKETS.

SAN FRANCISCO, Dec. 30, 1907.

## WHEAT.

The tendency of the Chicago wheat market has been strongly upward during the last few days. In this market, as usual during the holidays, very little has been done. There is a strong demand for choice milling grades, and the millers would take large quantities, but there is very little offering in California and holders in the northern States are unwilling to ship the best grades to this market at present. There are moderate offerings of lower grades, but there is no great interest taken in them and the market shows little feature. There is no change in spot prices.

California White Australian..	1.75 @ 1.82½
California Club.....	1.67½ @ 1.72½
California Milling.....	Nominal
California lower grades.....	1.60 @ 1.65
Northern Club.....	1.65 @ 1.72½
Northern Bluestem.....	1.75 @ 1.77½
Northern Red.....	1.62½ @ 1.70

## BARLEY.

Trading has been rather active in May options, which declined slightly last week. The cash market has been very dull all week, owing to the holidays, and receipts have been liberal. The only article which has not changed in price during the week is chevalier, which is practically nominal, everything else showing a further decline. All lines on which there has been any trading have fallen off about 2½ cents. The shipping demand is unusually quiet, business being little over half the volume of last year.

Brewing.....	\$1.60 @ 1.65
Chevalier.....	1.75 @ 1.85
Good to Choice Feed, per ctl..	1.50 @ 1.55
Common to Fair.....	1.47½ @ 1.48½
Shipping.....	1.57½ @ 1.60

## OATS.

There has been no further changes in prices on oats, and trading on the exchange has been of a holiday character, with few transactions reported. There is no pressure to sell on the part of holders, however, as stocks have been diminishing rapidly for some weeks. Arrivals have been much smaller than last month, and the market shows a firmer tone, with an expectation of more activity after the first of the year.

Clean Black for seed.....	\$2.50 @ 3.00
Choice Red, per ctl.....	1.85 @ 1.90
Gray.....	1.55 @ 1.70
White.....	1.55 @ 1.70
Choice Red, for seed.....	1.90 @ 2.10

## CORN.

Little California corn is offering, and the few samples shown attract little attention. Arrivals from the Western States have been unusually large for this season, 1200 cents arriving in one day, but trading is still of small proportions. California large yellow is lower.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.65 @ —
White.....	Nominal
Western State sacked Yellow, old.....	1.62½ @ 1.65
White, in bulk.....	1.55 @ —
Mixed, in bulk.....	1.52 @ —
Brown Egyptian.....	1.40 @ —
White Egyptian.....	1.35 @ —
New Yellow.....	1.47 @ —

## RYE.

Conditions in rye show very little change. There is practically no demand, and offerings are small, with prices on all lines being held at figures which have been current for some time.

California.....	\$1.45 @ —
Utah.....	1.40 @ 1.45
Oregon.....	1.45 @ —

## BEANS.

The bean market is quiet, with prices steadily held on most lines. There is little demand at present from any direction, and local dealers are limiting their activities during the holiday season, though a better movement is looked for in a few weeks. Pinks and whites, especially large whites, are a little firmer, but limas have fallen a little.

Bayos, per ctl.....	\$3.15 @ 3.25
Blackeyes.....	3.75 @ 4.00
Butter.....	4.50 @ 5.00
Cranberry Beans.....	2.75 @ 3.25
Garvanzos.....	3.75 @ 4.00

Horse Beans.....	3.00 @ 3.25
Small White.....	3.50 @ —
Large White.....	3.35 @ 3.45
Limas.....	4.85 @ 5.00
Pea.....	3.50 @ 3.75
Pink.....	3.15 @ 3.25
Red.....	3.40 @ 3.50
Red Kidneys.....	3.40 @ 3.50

## SEEDS.

Seed prices are very firmly held at former quotations, though during the present week there is little demand, and business is quiet. The prospect for the remaining winter months is excellent, and active buying is expected within the next few weeks.

Turkestan alfalfa.....	18 @ —
Alfalfa.....	17½ @ 18 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3½ c
Canary.....	4½ @ 4½ c
Flaxseed.....	2½ @ —
Hemp.....	4½ @ 4½ c
Millet.....	3 @ 3½ c
Timothy.....	nominal.
Yellow Mustard.....	5 @ 5½ c

## FLOUR.

As usual at this time of year, the flour market is rather quiet, with no great amount of buying going on. Prices are firmly held at current figures. More activity is expected after the first of the year, when there is likely to be some buying to replenish jobbing stocks.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.75 @ 5.25

## HAY.

Receipts of hay at San Francisco have been comparatively light this week but more than sufficient to supply the demands of the local trade. As was the case last week, buyers have been deferring their purchases until after the first of the year and probably buying will not be very free until after the first of next week. One encouraging feature of the situation is a good demand that has sprung up at some interior points and this promises to do much toward relieving the San Francisco market. Prices are practically the same as before, in some instances being quoted a little higher, but the market favors buyers and it is probable that concessions from quotations could be had to effect large sales.

Choice Wheat, per ton.....	\$15.50 @ 17.50
Other Grades Wheat.....	11.00 @ 15.00
Wheat and Oat.....	12.00 @ 15.00
Tame Oat.....	11.00 @ 16.00
Wild Oat.....	10.00 @ 13.50
Alfalfa.....	9.00 @ 14.00
Stock.....	8.00 @ 10.00
Straw, per bale.....	45 @ 85c

## MILLSTUFFS.

Though feedstuffs are quiet as compared to a few weeks ago, there is still considerable activity. Prices on all varieties are very firmly held on all descriptions at figures previously quoted. Most of the receipts, which are moderate, are sold prior to arrival, and there is no great accumulation.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	28.00 @ 29.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00 @ —
Jobbing.....	26.00 @ —
Corn Meal.....	37.00 @ —
Cracked Corn.....	38.00 @ —
Mealalfa.....	21.50 @ —
Jobbing.....	22.50 @ —
Middlings.....	31.00 @ 32.00
Mixed Feeds.....	22.00 @ 24.00
Oil Cake Meal, per ton.....	38.50 @ 39.50
Rolled Barley.....	35.00 @ 36.00
Shorts.....	28.50 @ 30.00

## POULTRY.

Arrivals of turkeys were unusually light last week and supplies ran short just before Christmas, sending prices up with a jump, but little was realized from the advance, as most of the stock had already been disposed of. Regular prices were 22 to 27 cents for dressed stock, but the last lots sold up to 30 cents. There was practically no market on any line of poultry at the end of the week, though prices were sustained, with an advance on Saturday. Dressed turkeys are now selling at 24 to 27 cents, with a fair demand. Other varieties of poultry are in fair request, with the market moderately supplied. Most lines have advanced.

Broilers.....	\$4.50 @ 5.00
Small Broilers.....	3.00 @ 3.50
Ducks.....	4.10 @ 7.00
Fryers, large.....	5.00 @ 6.00
Geese.....	2.50 @ 3.00
Hens, extra.....	7.00 @ 3.00
Hens, per doz.....	6.00 @ 7.00
Small Hens.....	4.50 @ 5.00
Old Roosters.....	4.00 @ 5.00
Young Roosters.....	6.50 @ 9.00
Pigeons.....	1.00 @ 1.25
Squabs.....	2.50 @ 3.50
Hen Turkeys, per lb.....	— @ —
Gobblers, live, per lb.....	22 @ 24 c
Turkeys, dressed.....	24 @ 27 c

## BUTTER.

Last week's firmness in butter was of short duration, and fresh extras fell back immediately after Christmas to about former quotations. The decline still continues, the best price now being 33 cents. At that price, however, it is described as firm, with no further decline immediately expected, and arrivals continue very light. Stocks are fairly well cleaned out. Firsts are correspondingly lower, and a decline of 3 cents is noted on both California and Eastern storage goods.

Cal. (extras) per lb.....	33 c
Firsts.....	31 c
Seconds.....	25 c
Thirds.....	24 c
Fresh Eastern, extras.....	—
Fresh Ladies, extras.....	—
Fresh Ladies, firsts.....	—
Storage, Cal., extras.....	24½ c
Storage, Cal., firsts.....	23½ c
Storage Eastern, extras.....	24½ c
Storage Ladies, extras.....	20 c

## EGGS.

Under heavy receipts, there was a sharp decline on fresh eggs just before Christmas, and dealers were anxious to clean up before the holidays. A further break took place on Thursday, with no jobbing demand, the price of extras standing at 40 cents. This price is still quoted, but there is a more active feeling, with buyers ready to take all that offers on the exchange at that figure. Firsts are slightly lower, but there is no change in storage goods, which are in about average demand.

California (extra) per doz.....	40 c
Firsts.....	38 c
Seconds.....	30 c
Thirds.....	Nominal
Storage, Cal., extras.....	28 c
Storage, Eastern, extras.....	22 c

## CHEESE.

With accumulating arrivals and a very quiet market at the close of last week, the price of fancy fresh California cheese fell back to 15 cents, though firsts have advanced to 14 cents. New Young Americas and fancy Oregon, storage have both declined slightly. Trading on all lines has been comparatively quiet since Christmas.

Fancy California Flats, per lb.....	15 c
Firsts.....	14 c
New Young Americas, Fancy.....	16 c
Storage, do.....	15½ c
Eastern, New.....	18½ c
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	15 c
Oregon, Fancy.....	15 c

## POTATOES.

The market on potatoes has remained very dull and weak, though there is no appreciable change in quoted prices. Retailers have apparently laid in sufficient stocks to last them through the present week, and are now taking no interest in the market. While fresh arrivals have not been so great as last week, stocks are still heavy, as there has not been enough market to make much impression on them. Sweet potatoes are still quoted at last week's high figures, but larger arrivals have caused an easier feeling.

Oregon Burbanks.....	\$1.00 @ 1.25
Burbanks, Salinas, ctl.....	1.25 @ 1.50
Burbanks, River.....	75 @ 1.00
Sweet Potatoes, per ctl.....	2.00 @ 2.50

## VEGETABLES.

Little attention is paid to onions this week. Stocks are large, and move very slowly at reduced prices. Receipts of miscellaneous vegetables from the south are light, and clean up easily, with firm prices on all lines of attractive stock. String beans are especially firm, with an advance of nearly 10c per pound. Tomatoes are also in good demand. Celery, though plentiful, is higher under a strong demand, and green peppers are in the same position.

Garlic, per lb, new.....	5 @ 7c
Green Peas, per lb.....	3 @ 6c

# LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best for the West—all other sorts being discarded. Why experiment, why take chances? You can absolutely depend on **LILLY'S** seeds. Our catalogue for 1908, consisting of 112 pages, 16 colored pages made from actual photographs, with full cultural directions, is yours for the asking. You'll also find that **LILLY'S** seeds are **SOLD BY DEALERS**  
The Chas. H. Lilly Co.  
Seattle, Portland, San Francisco.

Green Peppers, per lb.....	5 @ 7c
Cabbage, per ctl.....	75 @ —
Onions, per ctl.....	1.85 @ 2.00
String beans, per lb.....	12½ @ 17½ c
Tomatoes, large box.....	1.00 @ 1.75
Marrowfat Squash, per ton.....	10.00 @ 20.00
Carrots, sack.....	75 @ —
Hubbard Squash, ton.....	10.00 @ 20.00
Summer Squash, ¾ box.....	1.25 @ 1.35
Celery, crate, small.....	75 @ 1.00
Egg Plant, lb.....	5 @ 12½ c

## FRESH FRUITS.

There are few varieties now offering in the way of deciduous fruits, and what there is moves rather slowly on account of the rain. A few strawberries came in, but were not as well received as was expected, selling off at \$2 a crate. Cranberries are scarce, and some have sold at an advance. Apples and pears are rather quiet, and the few grapes offering bring poor prices.

Christmas Apples.....	1.00 @ 2.50
Apples, fancy.....	2.00 @ 2.50
Apples, common to choice.....	60 @ 1.00
Coos Bay Cranberries, box.....	3.50 @ 4.00
Cape Cod Cranberries, per bbl.....	11.00 @ 12.00
Grapes, half crate.....	50 @ 75c
Pears—	
Winter Nelis.....	2.00 @ 2.25

## CITRUS FRUITS.

A livelier market was expected on oranges, but so far little interest is taken in them, and nearly all lines of citrus fruits move slowly at lower prices. Though arrivals since Christmas have not been especially large, supplies on hand are more than enough to fill the demand, and everything is inclined to weakness.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.50 @ 3.00
Standard.....	75 @ 1.25
Limes.....	3.50 @ 4.00
Oranges—	
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.75
Tangerines, large box.....	1.00 @ 1.25
Grape Fruit.....	2.25 @ 3.00

## DRIED FRUITS.

There is some demand for California prunes in the East, though no large amount of business is reported. Jobbing prices on dried fruits are generally weaker, though there is no change in prices to growers, according to the local packers, and the feeling through the country is improving. Considerable quantities of raisins are being taken on by the seeders, and prices are strongly held.

Evaporated Apples.....	8½ @ 10 c
Figs, black.....	3½ @ —
do white.....	4½ @ —
New Apricots, per lb.....	19 @ 22 c
Fancy Apricots.....	23 @ —
Peaches.....	10 @ 13 c
Prunes, 4-size basis, 1907 crop.....	4 @ 4½ c
Pitted plums.....	12½ @ 15 c
Pears.....	11 @ 14 c

## RAISINS.

2 Crown.....	5 @ —
3 Crown.....	5½ @ —
4 Crown.....	5½ @ —
Seeded, per lb.....	6½ @ 8½ c
Seedless Sultanas.....	6 @ 8 c
London Layers, per box.....	\$1.40 @ 1.50
London Layers, cluster.....	2.00 @ 3.00



# LILLY'S BEST HOLLY CHICK FEED

A nourishing, wholesome and complete food for young chicks. A mixture of eleven different grains proportioned to supply the food needs of growing chicks and to fully nourish them.

These letters verify our claims.

"I have about 600 chicks and find the Holly Chick Feed superior to any chick feed on the market." O. A. AHRENS, Gilroy, Cal.

"We used your Holly Chick Feed and like it quite well." A. H. CANTRELL, Meadowdale, Wash.

"Holly Chick Feed is all right and if my chicks do not grow I will look elsewhere for the reason." D. O. BRUNNER, Spokane, Wash.

**Sold by Dealers**

Made by

The Chas. H. Lilly Co., Seattle

## NUTS.

There has been a considerable decline in jobbing prices on nuts since the holiday demand was filled, and stocks held by growers are said to be moving at previous prices, though the market is very quiet.

Almonds, Nonpareils	16½c
I X L	16c
Ne Plus Ultra	15½c
Drakes	13½c
Languedoc	12½c
Hardshell	9c
Walnuts, Softshell No. 1	15c
Softshell, No. 2	12c
Italian Chestnuts	10@12½c

## WOOL.

The extreme dullness in wool continues, and the market is in a bad condition for holders, considerable reductions being quoted on all grades in this market.

Humboldt and Mendocino, year's staple	22 @ 23½c
Fall clip: Northern free, mountain	8 @ 11c
do. defective	6 @ 8c
San Joaquin and Southern	5 @ 8c
Fall Lambs, Northern	9 @ 11c
Fall Lambs, Southern	7 @ 9½c
Nevada	12 @ 16c

## HOPS.

Hops are quiet in all markets, the activity being over for the time in the North. Prices on 1907 crop are lower, 9c being the highest, while the poorer grades sell down to 3½ cents.

1906 crop	2 @ 3c
1907 crop	3½ @ 8c

## MEAT.

The meat market shows very little feature this week, being quiet and inclined to easiness, with supplies fairly plentiful. There are no notable changes in quotations.

Beef: Steers, per lb.	7 @ 7½c
Cows	6 @ 6½c
Heifers	6 @ 6½c
Veal: Large	7 @ 9c
Small	9 @ 10c
Mutton: Wethers	10 @ 11c
Ewes	9 @ 10c
Lamb	11 @ 12c
Hogs, dressed	10 @ 11c

## LIVESTOCK.

Steers, No. 1	8 @ 8½c
No. 2	7 @ 7½c
No. 3	6 @ 6½c
Cows and Heifers, No. 1	6½ @ 7c
No. 2	5½ @ 6c
Bulls and Stags	3½ @ 4c
Calves, Light	5 @ —
Medium	4½ @ —
Heavy	3½ @ 4c
Sheep, Wethers	5 @ 5½c
Ewes	4½ @ 5c
Lambs	6 @ 6½c
Hogs, 100 to 200 lbs	6 @ 6½c
200 to 300 lbs.	5 @ 5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED

Address

Fancher Creek Nurseries, Fresno, California.

## SAN FRANCISCO SAVINGS UNION

N. W. Cor. California and Montgomery Streets.

For the half year ending December 31st, 1907, a dividend has been declared at the rates per annum of Four and one-tenth (4½%) per cent on term deposits and Three and three-fourths (3¾%) per cent on ordinary deposits, free of taxes, payable on and after Thursday, January 2nd, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from January 1st.

LOVELL WHITE, Cashier.

## DIVIDEND NOTICE.

## The German Savings and Loan Society

526 California Street.

For the half year ending December 31, 1907, a dividend has been declared at the rate of three and eight-tenths (3¾%) per cent per annum on all deposits, free of taxes, payable on and after Thursday, January 2, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from January 1, 1908.

GEORGE TOURNY, Secretary.

## DIVIDEND NOTICE

THE SAVINGS AND LOAN SOCIETY  
101 Montgomery St., Cor. Sutter,

has declared a dividend for the term ending December 31, 1907, at the rate of three and eight-tenths (3¾%) per cent per annum on all deposits, free of taxes, and payable on and after Thursday, January 2, 1908. Dividends not called for are added to and bear the same rate of interest as principal. EDWIN BONNELL, Cashier.

## FOR RENT

### POULTRY FARM

Established, thoroughly equipped, comprising 10 acres land, with good 4-room house, barn, incubator house with 4 incubators, hot and cool brooder houses, breeding pens and yards of all descriptions. One thousand fowls on place at present; 2½ miles from railroad station. Open for rental with this if desired—50 acres bearing apple orchard and choice farming land.

Address

LILIENCRANTZ & SON

APTOS, SANTA CRUZ COUNTY, CAL.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

WRIGHT BROTHERS,  
Riverside, Cal.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE.

OAKLAND, CALIFORNIA

Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

## Some New Apples in Humboldt County.

(Continued from Page 6.)

"Kirkbridge White" as sometimes listed, to it for a kitchen apple. Their season is almost the same here, Oct. 1st, and to my taste both are somewhat too tart for a good dessert apple.

As for the "Champion," of which I also enclose a specimen, I have little commendation to offer. The Ben Davis is a fine apple beside it. The tree grows well and bears well, and the fruit looks well, but it is a very poor cooker and little better to eat from hand. It is one of the apples that would go to glut the market with poor fruit.

The much advertised "Missing Link" is another specimen I send you. The tree is a great grower and will bear well I think, but it is not going to be a very late keeper as grown here, not as good as Rome Beauty. In quality I would consider it as in the class with sweet apples, but it has a rather more pleasant flavor than most sweet apples.

The specimen of Lawver enclosed is for a standard to compare the others, being chosen because it is so well known.

ALBERT F. ETTER.

Ettersburg, Humboldt county,  
December 15.

[Mr. Etter's comments are well borne out by the specimens he sends and which we are very glad to see. Apple growers of the northern coast districts will find his descriptions helpful.—ED.]

## PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

### HOWARD CATTLE COMPANY.

BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### POULTRY.

BROWN LEGHORNS AND BARRED Plymouth Rocks. A fine lot of young cockerels for sale—good, strong, well-matured birds. WALTER CURRY, R. D. No. 21, San Jose, Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls

Stock for Sale Dept. 51, 361 McAllister St., S. F.

## ATTENTION, DAIRYMEN!

We would like to furnish you with a young registered **Holstein Bull**, from 12 to 27 months old, grandly bred at the low price of \$100. Write us and tell us what you want. Do it to-day. We will send you pedigrees and markings and records of ancestors.

PIERCE LAND & STOCK CO.,

Phone Main 1597.

Stockton, Cal.

## FOR SALE

A few thoroughbred registered Poland China service boars.

Registered Holstein Friesian service bulls and bull calves from Advanced Registry Stock.

STANFORD RANCH, : Vina, Cal.

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Bean Spray Pump Co.	16
Beckman, Geo. V.	15
Bird & Co., J. A. & W.	—
Blake, Moffitt & Towne	13
Bosanko Medicine Co., Dr.	16
Breeders' Directory	15
California Fertilizer Works	7
Coates Nursery Co., Leonard	11
Croley, George H.	15
Curry, Walter	15
Cutter Analytical Laboratory	15
De Laval Supply Co.	12
Dewey, Strong & Co.	16
Disbrow, F. H.	11
Driver, E. S.	15
Eachus, R. P.	11
El Dorado Oil Works	—
Fancher Creek Nurseries	11, 15
Ferry & Co., D. M.	11
Folding Sawing Machine Co.	—
Fresno Agricultural Works	—
Fresno Nursery	11
German Savings and Loan Society	15
Glenn, Estate of H. G.	13
Golden Rule Nursery	11
Gregory & Son, J. J. H.	11
Hart, Ed.	15
Heald's Business College	13
Hess & Clark, Dr.	13
Hopkins, G. H.	11
Howard Cattle Co.	15
Hoyt's Tree Support Co.	12
Hunter, R. J.	11
Jackson & Co., T. W.	7
Lawrence-Williams Co.	7
Liliencrantz & Son	15
Lilly Co., Chas. H.	11, 15
Lister, Henry B.	13
Ludemann, F.	11
Lynch, John	15
McClanahan, E. E.	10
Meacham, Frank A.	—
Mills, A. A.	11
Morse & Co., C. C.	10
Mountain Copper Co.	7
National Wood Pipe Co.	16
Oakland Poultry Yards	15
Orange County Nursery & Land Co.	11
Oregon Nursery Co.	11
Pacific Coast Business College	9
Pacific Guano & Fertilizer Co.	7
Pear Blight Remedy Co.	16
Pierce Land & Stock Co.	15
Rex Company, The	—
Rhodes Mfg. Co.	—
Roeding, Geo. C.	15
San Francisco Business College	8
San Francisco Savings Union	15
Savings & Loan Society	15
Scheidecker, A. F.	11
Seeds and Plants	10, 11, 16
Seulberger, J.	11
Shaw, Henry	11
Sharples Separator Co.	12
Silva & Bergholdt Co.	16
Simmons Hardware Co.	12
Smith, Francis	—
Snow, D. A.	12
Stanford Ranch	15
Stowe, C. A.	15
Stratton, W. A. T.	—
Sullivan, W.	15
Sure Hatch Incubator Co.	13
Teague, R. M.	—
Temple Pump Co.	—
True, T. J.	11
Tuttle's Elixir Co.	—
Van Der Naillen, A.	15
Vermont Farm Machine Co.	—
Wagner, J. B.	11
Waite, Thos.	15
Western Meat Co.	7
White City Grader Co.	10
Wright Brothers	15

## BUFF ORPINGTONS

Largest clean legged bird in the list, lay the year around, and bring a dollar each and more when turned to market. Postal will bring you prices and our show record.

W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
State V. P. Nat. S. C. B. O. Club.

## FOR SALE

One six years and one two years old Jacks. If interested, address

P. O. Box 345, Vacaville, Cal.



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

**OUR STOCK**

Comprises all profitable commercial sorts of

PEACHES,	CHERRIES,
PLUMS,	ALMONDS
PEARS,	APRICOTS
APPLES,	and GRAPES.

Send for Catalogue and Price List

**Contract now the trees you want**

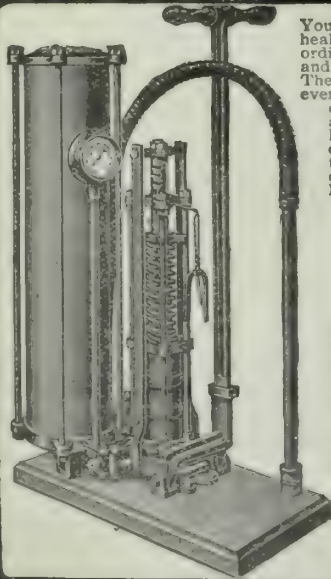
**WRITE US**

**PLACER NURSERIES**

**SILVA & BERGTHOLDT CO.**

**NEWCASTLE, CAL.**

## MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a **Bean Magic Spray Pump**. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

### Bean Magic Spray Pumps

are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name **BEAN** on a spray pump or appliance is a guarantee that it is the best that money and brains can produce. The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you can not afford to be without a Bean Magic Spray Pump. Write for our special offer, also free illustrated catalog.

**BEAN SPRAY PUMP CO.,**  
163 W. Santa Clara St., San Jose, Cal.

## PEAR-BLIGHT

**We can CURE IT**

Our Work has Extended  
Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR BLIGHT REMEDY COMPANY**

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Pipe. Bored Wood Pipe.

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

268 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00

593 pages Well Illustrated.

\$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## BEST FILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail Write Dr. Bosanko Co., Philada., Pa. Sample Free. **ONLY ONE FOR A DOSE**



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 2.

SAN FRANCISCO, SATURDAY, JANUARY 11, 1908.

Thirty-eighth Year.

## "Journeys of Observation."

California is certainly emerging from provincialism when one of our leading publishing firms produces a grand volume about other parts of the world than our own. California authors deal with world subjects in the various departments of literature, it is true, and win wide honors therein; but, if we mistake not, all their great works find publishers in other centers of literary activity, and the good things which California publishers have brought out have been in the main, at least, for California exaltation in some form or other. We count it then an indication of advancement that a widely traveled Californian should choose a California publisher for a work of unique character and ample dignity in which no California consideration whatever intrudes. We are evidently growing into the world and our mature life therein promises great publishing enterprise and industry in world literature. Our authors are there already, as we have suggested; our publishers will catch up to them.

"Journeys of Observation," by Mr. T. A. Rickard, editor of the Mining and Scientific Press, is a noble book, from the bookmaker's point of view: a royal octavo of nearly 450 pages with about 100 unpaginated plates and 25 text drawings of exceptional excellence. It is printed upon 'Old Cloister' paper with deckle edges in large handsome type. The Dewey Publishing Company has therefore undertaken a work of notable dignity according to printers' standards, and the publisher's designs have been beautifully carried out by the Stanley-Taylor Company of San Francisco.

We hope the author will forgive us for thus completely inverting the accepted standards in reviewing and speaking first of things which usually follow an attempt at literary judgment. Our first thought, on sight of the work, was of it as a material California product, creditable in style, expressive of advanced industrial art, significant of the progress of the State; and such it unquestionably is. But we do not intend to emphasize these features unduly. The fact that we think so much of them proves that we ourselves are drunken with the provincialism which the book itself

draws us away from and yet there may be some claim for a degree of sobriety based upon the admission that we are intoxicated.

"Journeys of Observation" is the work of a man cultured by many institutions and experiences and broadened by many travels who carried the point of view of a technical profession, in which he has made very creditable achievement, with him as he wandered. By this we do not mean at all that he saw everything from the point of view of his profession; that is exactly what he did not do. The travel was given definite aim and purpose by seeking opportuni-

ties of research and observation as a mining engineer, but the seeing and thinking, as the way led amid the beauties of nature, the charms of historical associations or, the variations of human life and occupation, were those of a man of the world endowed with taste, scholarly perceptions and appreciation of the real truth and significance of things. All these qualities of the writer are clearly discernible in the writing and they give the composition a picturesqueness, a charm and attractiveness which bring the reader into the very scenes described as only the best literature of travels can do. We have seldom seen sketches which

more make one feel that he really knows the scenes and the people as Mr. Rickard's chapters do. And as he passes along through various experiences, looking upon natural grandeur or beauty and mingling with many peoples, recalling their histories and traditions and almost living their lives with them, he comes now and then upon the mining industries which give them livelihood, and then the professional point of view arises and descriptions of the closest technical accuracy and detail fully occupy the writer. Although perhaps to the general reader these technical features of the book may not fully appeal, the accounts are replete with facts of history and evolution of methods which nearly everyone, with industrial sense in any line, will enjoy and appreciate. But the author does not restrict his industrial references to mining: he writes carefully and intelligently of the agriculture, manufacture and trade of the important sections he traverses and shows us the people at work and at play, at their political and social diversions, and in a word gives us living pictures of the varied populations with which he comes in contact.



View on East River, New York, With a Sky-Scraper Background.



Collective View of New York's Tall Buildings as Seen From the Harbor.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.

PUBLISHERS

E. J. WICKSON

Editor

EDGAR RICKARD

Business Manager

## The Week.

More rains have come in the central and northern regions of the State and all kinds of farm work is advancing under very favorable conditions, as the distribution of water has been such that work has been facilitated and not delayed. In some parts of the State the total precipitation is a little short of the average, but probably up to the average in effectiveness, because of the way it came. The outlook then is for a good year and for a notable contribution from California toward the restoration of confidence and the banishment of financial grouch, if any of it should remain until another harvest is gathered. It is, of course, a presidential-election year, and this may be expected to tie down the timorous to what they consider industrial-rock-bottoms, and thus curb the spirit of enterprise and investment somewhat; but neither grouch nor politics can engender depression while production rolls up great surpluses for sale to the world at large and full prices for them. Therefore we say: Shake off the whole group of discontents and get busy and prosperous.

Several readers are writing us interesting communications on the labor supply and we expect to find room for all these earnest expressions in coming issues. We of course sympathize fully with the claim that we should have more white people and should treat them as white people, or any other people, for that matter, should be treated. But, as we have said before, we are getting more white people all the time, and they like to work for themselves and to hire others, not to work for others; so they build up the State, but they do not help those who now need help to handle enterprises in which large investments have already been made. It does not seem possible to get any adequate supply of desirable Europeans, and that is why we have asked a fair show for the best of the Asiatics. This effort to get good Europeans is succeeding nowhere, although it is being tried in different parts of the country. In a recent issue the Breeders' Gazette says: "It does not appear that State effort to promote the immigration of Europeans into the South to take part in agricultural labor has so far enjoyed any great measure of success. A press cablegram a few days ago brought the information that the imperial Austrian government had issued a statement warning its subjects that they would better stay away from the State of Mississippi for the reason that others who had located in that commonwealth had not been treated well there." This may be true, but as the Austrian government perhaps does not want to lose war-timber, it is not likely to make many efforts to promote such immigration as the United States need. The Gazette continues: "Immigrants imported by the shipload into Maryland would not stay on the farms, but hied to the cities whenever they got a chance. In Mississippi the planters and lumber companies have, if all the stories are correct, seen to it that no such chance was afforded. Altogether the statements do not appear to warrant any prediction of success for immigration promoted by State officials." The conclusion seems to be that if assisted immigrants have their own way they crowd into the cities; if they are prevented from doing this they complain of peonage, etc. So the enterprise does not work as expected either one way or another, and does not meet the demand for laborers who will stay with their jobs, do what they promise, and be content with what the industries can pay. A certain adequate supply of labor is essential to our undertakings, and efforts to secure it are not a menace to continued settlement and development by people who have good heads and

the ambition to become good and prosperous American citizens. There is just as much room for them as ever and the faster they multiply the sharper the demand will be for the kind of labor which we are now seeking to secure.

With the dense population which the decades are to bring to California, it is well that provision is being made for recreation grounds and breathing places. The national forest reserves will be viewed as great endowments as their rational use becomes better understood and present fiction smoothes away. The State parks like the Big Basin redwood forest should be multiplied and supplemented by private gifts of forest land for public uses. We have always had hopes that something of this kind would be realized with the Armstrong Forest in western Sonoma county. The very interesting announcement is now made that Mr. William Kent of Marin county has made a gift to the United States of Redwood Canyon and its giant trees that shadow the base of Tamalpais, and the tract of 295 acres has been accepted by the Department of the Interior to be a public park forever. It seems that a local water company had filed a suit in condemnation proceedings to compel Kent to sell it the canyon and its trees. There appeared to be no way out of it, and under the law of eminent domain the tall redwoods were as good as condemned to execution. It was suggested that Mr. Kent might escape the attack of the water company by giving the land outright to the government, because a law had been enacted on January 8, 1906, under the terms of which the president was empowered to receive donations of land valued for scenic beauty or scientific resources. So Mr. Kent wrote his deed giving the redwoods to the Government, and asked Mr. Gifford Pinchot, the head of the forestry department, to exert his influence to procure the prompt acceptance of the gift. Last week Mr. Kent received a telegram from Pinchot in Washington, telling him that Redwood Canyon had been accepted by the Government and Mr. Kent is placed in charge as deputy fire warden. He will save the trees all right.

Many Californians will be interested in the present prominence of the old Shorthorn breed, although their own stock may be rather remote from the blue blood. The Shorthorn has done more for the elevation of California cattle than any other breed. It came first of the improved breeds and it has always remained first, though others have become more or less prominent. The provocation to this generalization is found in this remark in the Breeders' Gazette: "One of the most important features of the lately held International Live Stock Exposition was the superlative exhibit of Shorthorns. They came before the judges by hundreds far transcending any other breed in this respect, and they carried off the grand championship of the show in the section for fat bullocks. It was veritably a Shorthorn year at the big exhibition at the Chicago stock yards." There is another point which has been strongly contended for in California and that the chief value of the Shorthorn was not in being red. This point is also made at the Chicago show, for the Gazette continues: "There were fewer straight reds than usual on show in the classes for bulls and not many more among the females. Most of the entries forward were roans, and at times it looked as though the whites outnumbered the reds, though this condition is not borne out by a tabulation of the colors given in the catalogue. In the official list the color is not given in many instances. Of the animals the colors of which are mentioned 123 were roan, 63 red, 25 white, and 17 red-and-white. The color scheme was therefore greatly different to what it was a few years ago." Thus surely we advance in real value rather than fancy points. Finally the Gazette says: "The Shorthorn show at the International holds out bright promise that creed and dogma are to be finally laid to rest and the energies of the interest bent toward the production of cattle that can and will hold their own in the markets of the world."

The next theme does not please us as much. It looks as though we were advancing in cattle and retrograding in mankind. One of the "special leased

wires" of one of the great dailies brings this abomination: "Five hundred brilliant, beautiful butterflies gathered in Peru, Brazil, and even India were turned loose to-night over the heads of the wonderfully dressed women at the ball given" by a Philadelphian who has millions of money, a pin head, and a rocky heart. The account continues: "The gorgeous insects fluttered about helplessly, rested upon the bare shoulders of the women, perched on the flowers and incidentally fell into the plates." Poor dying butterflies in the soups and salads! and yet "this was the star feature of an affair that has been looked forward to as the one real thing of the season," the exalted scribe remarks. We are also told that "collectors spent months getting the butterflies, many of which died on their way to this country. Scores dropped to the floor during the dancing and were crushed under the dancers' feet. The cost of the ball is said conservatively to have been \$100,000." Well, perhaps after all we are advancing. Battered Babylon does not have record of such cruelty. Never before, perhaps, has a dancing floor been glossed by the juices of crushed butterflies. The whole affair has to us the aspect of most startling and advanced degeneration.

Mr. Arthur R. Briggs, president of the State Board of Trade, has issued a timely call for a meeting of those interested in the fruit industries of California to be held at the rooms of the Board, Ferry Building, San Francisco, on January 16, at 11 A. M. Mr. Briggs says: "According to present advices from the several sources to which we have to look for information, the situation is pregnant with danger to this important industry in which a large number of fruit growers in various sections of the State have embarked their capital. Hesitancy and delay will surely bring disaster widespread and irremediable. Full discussion of the various phases of the question should be had at once by those primarily interested and prompt action agreed upon and taken before it is too late to bear results for the protection of growers during the coming season." According to what we know of the affair, it seems to us that Mr. Briggs is justified in sounding the above note of alarm. Pacific Coast people should certainly come together on the subject without delay.

## Queries and Replies.

### If There Is no Walnut Blight.

To the Editor: I very much desire information as to the best variety of walnuts to propagate by grafting, to be planted out in this locality. We are about 26 miles from the ocean and have an altitude of about 950 feet. There are no high hills between the ocean and our locality, and we get the sea breeze unstinted during the season. I have about 7000 seedlings of the California, black walnut, and soft-shell English varieties, and intend having three to four thousand grafted this winter. I have been advised to graft from the Placencia Perfection, but one of the persons I have written to for scions informs me he would not advise propagating from this variety as it seems more affected by the blight than other varieties. I have an orchard of 10 acres of walnuts, in bearing ten years, from seedlings. There are some good trees, but I do not think I could get enough scions for my use from trees I could now pick out that are reliable. Thus far my trees have not been irrigated. The walnut blight has not put in an appearance in this valley as yet. I want to know what variety of walnut you would advise planting here and where scions can be had of the variety recommended, from a reliable grower; also I would like your opinion as to the relative merits of the California black and English varieties for stock for this locality.—GROWER, Ventura county.

The points in your letter are so close to the unknown that we do not feel like advising you with any confidence. We had not heard that the Placencia Perfection was particularly subject to blight, but know that it has been, and is being, largely grafted into seedling walnuts, and in fact, most of the grafts put in in the south, until very recently, at least, are of this variety, although some growers are now taking scions from their own trees, which seem to be particularly prolific in spite of the blight, and this is a rational practice. We are not sure that any of the introduced French varieties have made a record for blight resistance; the varieties, however, which are chiefly used in this part



of the State for grafting are the Franquette and Mayette. As you have a situation free from blight and some distance from other orchards, it would seem to be wise to take scions from your own best trees, supposing there are some of notable excellence, rather than take the chance of introducing the blight by using wood from other localities. You cannot test them for blight, of course, but you will get a uniformly good crop. Suppose you did not have scions enough for all your stock, you could work the English walnut roots and let the California blacks go another year, or more, or plant them out in orchard and graft when they get to available size. This works very well and is becoming quite a popular practice in the central part of the State. This advice is somewhat vague, but until we get clear information of the existence of trustworthy blight-resistant varieties, or until further progress is made with the rational scheme of selecting resistant varieties from trees now in bearing, one cannot be very definite or satisfactory as a counsellor.

### The Bearing of Olives.

To the Editor: We have some olive trees about 18 years old. We had some very heavy crops when the trees were small, and came first into bearing. Of late they just simply failed to bloom, except on the outside and most exposed places. On some sandy blocks the trees bear blooms but fail to set. I observed on the trees standing in light soil a greater amount of bloom than on those in heavier soil. At rare intervals I find trees that set their blooms and now bear abundantly. The fruit, after once setting, grows to excellent size and, with almost no exception, does not shrink. Would it be a good plan to prune heavily, especially cutting the top back to produce a more lateral growth? Would it be a good plan to cut the trees of every other row completely back and let them grow new tops, as they are up to 25 and more feet high at present, and keep them after they are pruned back, never letting them grow too big, in order to preserve the strength that now is taken up by the many branches? Or would it be still better to graft them over to new varieties? We have begun to remove alternate rows diagonally to give them more air and soil space.—GROWER, Los Angeles county.

You certainly plan to carry out some very interesting experiments in your treatment of your olive trees and, so far as we can judge from your descriptions, your experiments are exceedingly well planned and should furnish information of great value in your future operations. The olive tree must have air and light enough and yet not be too much open to the sun. It must have strength enough to make new wood each year for the following year's bearing, and yet not be induced to run to too strong a growth of wood, which is inimical to fruit bearing. The balance of these opposing conditions constitutes wisdom in olive growing and it is pretty difficult to describe definitely what must be learned by observation and afterward followed according to the dictates of individual judgment. We make this cautious reply because we know of plantations which have been treated to all culture conditions which can be thought of and yet have failed to bear profitably. In other cases better light, food, and drink for the trees have been repaid by ample bearing. The olive tree in many cases merits the refrain:

"If she will she will; you may depend on't.  
If she won't she won't; that's the end on't."

The next generation will know more about the olive in California than we do.

### Eucalyptus in the Fog Belt.

To the Editor: Will you kindly tell me which variety of eucalyptus is best for this extremely damp, foggy corner of California? The sawmill is clearing the pine, etc., off fast, and I wish to try eucalyptus. What about the camphor tree in this climate? Do you think it would be a success? Is eucalyptus good for fence posts—that is, durable in so damp a climate?—READER, Eel River Valley, Humboldt county.

The eucalyptus species does not object to fog and moisture; most of them are, however, sensitive to freezing, so that it is unsafe to plant eucalyptus where the temperature goes to about 15° above zero, and some species, like the common blue gum, are likely to be injured at 18° or 20° above zero. Eucalyptus rostrata is one of the most hardy, and you can get trees or seed from seedsmen and nurserymen advertising in our columns. The camphor tree should succeed

in your locality, as it grows freely in Japan and is somewhat harder than the eucalyptus. No eucalyptus yet largely grown in California can be counted good for fence posts. The posts rot very quickly unless they can be protected by the modern method of creosoting which is now being experimentally used by the railroad companies for the treatment of railroad ties, etc., and which has been tested by the forestry service for eucalyptus, as we hope soon to find space to describe.

### Mottled Leaves on Orange Trees.

To the Editor: Will you please give me some information as to the cause and cure of the yellow leaves or what some call mottled leaves on orange trees. They seem to turn yellow at the age of 4 to 8 years and the trees become stunted. I would like to know what kind of soil is best adapted for table olives, what kind to plant, and where, in your estimation, is the best location in this State for olive culture.—ENQUIRER, Oakland.

If the soil is well drained and moisture sufficient, yellowing of the leaves of orange trees may be due to the lack of nitrogen in the soil, and in such case the free use of stable manure, applied this time of the year so that the rains will leach the soluble contents into the soil, will bring the trees into good color again. If, however, the soil is shallow and irrigation water is held stagnant by the occurrence of hardpan or clay, the roots get into bad condition and the foliage becomes sickly. In such case the remedy is under-drainage to remove surplus water. From what you say of the behavior of the trees, we apprehend that the soil is too shallow, or too poor, or moisture conditions are not right. There may be too much or too little water. There is another and specific cause of yellowing of orange leaves, and that is the occurrence of excess of lime in the soil, but in that case there is a whitish layer of marl, which is recognized by its peculiar appearance, and is only manifested in certain localities of the State. It is now being specially studied by Professors Hilgard and Loughridge of the University Experiment Station.

The olive tree will succeed in all fertile California soils, from heavy to light. The most satisfactory results are now being attained by olive trees in the interior valley where the soils are deep and growing conditions favorable for the production of large fruit. The districts where the largest and best olives are now produced are in the San Joaquin Valley and Sacramento Valley. Of course there may be other situations just as good because similar conditions prevail.

### Not a Place for Inter-Cropping.

To the Editor: I have an assorted peach orchard planted on a sidehill. It has not a very good record. I would like some advice. One question: Will the mangel or feed beet produce the best results if planted on the sidehill between the peach trees? It will be impossible to irrigate, and the summers are hot and dry. I wish also to raise small fruits, such as strawberries, loganberries, blackberries, raspberries, gooseberries, and currants.—BEGINNER, Placer county.

We would not for a moment think of growing any crop between peach trees on such soil as you describe unless you have ample irrigation facilities. They will take out all the moisture that belongs to the trees. It is probable that peaches themselves failed to make a good record, for lack of water. None of the small fruits you mention will do anything worth while on dry uplands in the foothills without irrigation. You are up against it!

### Seedless Citrus Fruits.

To the Editor: Please answer me a few questions in regard to seedless citrus fruits: Is Bahia the only seedless orange? What is the cause of the seedlessness of Bahia? Are there besides oranges other citrus fruits known to be seedless? Is there a book which gives the biology of citrus flowers in general, and that of Bahia in particular and in detail?—STUDENT, Pullman, Wash.

The Washington Navel orange, which came to California from Bahia, is practically seedless, although occasionally seeds do appear. It is seedless because it is a monstrosity, in which the seed bearing parts are displaced and aborted. Why such a monstrosity occurred no one knows, but such things are frequent in the citrus family. No other citrus fruit is so nearly

seedless as the Navel orange; some pomelos are proximately so, and some lemons have very few seeds. There is no book fully treating the biology of citrus flowers so far as we know, but results of examinations have been published in various journals showing that the blossom of the Washington Navel is defective in its reproductive function, and that its seedlessness is not caused by lack of pollination, but by organic rather than functional derangement.

### Grape and Plum Troubles.

To the Editor: I have Zinfandel grapes grafted on Rupestris St. George. The vines are four years from the graft (field grafts). In my best ground (heavy sandy loam) my grapes do not set. There are a couple of berries left on the bunches or none. I pruned them two buds to an arm and left between 10 or 12 arms on a stem. I believe there is something wrong with my pruning.

I have a few hundred plum trees—Kelsey, Wickson and Hale. When the green shoots come out in the spring they are alive with a kind of plant louse. The lice stay about the green shoots and the stem of the fruit. The lice seem to have many enemies, like the ladybug, the yellow wasp, and the blue bottle fly; but still they get the best of some of the trees. Many people around here told me what to do, and I have tried different things, but it seems to me they know about as much as I do.—PUZZLED READER, Lathrop.

Your Zinfandel grapes do not bear better because of lack of pollination, and is called 'coulture.' We suppose you are on the lookout for mildew. Sometimes grapes set better after early sulphuring, but just what the particular trouble is in your case we do not know. The pruning is probably not connected with it.

You will have to spray your plum trees with kerosene emulsion just as soon as you see the first indication of the appearance of the lice. Some of the insects which you describe as eating the lice are beneficial, but unfortunately are not often numerous enough to prevent the spread of the lice. Therefore, get in early while the lice are very scarce with a thorough treatment of the kerosene emulsion with such a nozzle that will enable you to reach the under surfaces of the leaves. If you do this you will cut off the multiplication of the lice, which is the seat of the trouble.

### The Manna Gum.

To the Editor: I send you a box containing a small eucalyptus limb and seed pods. Will you kindly tell me the name of it and its uses? They are quick growers and will stand lots of frost. We wish to put out a grove of several acres, if they are used for anything but wood. They make fine wood.—GROWER, Modesto.

The tree is the manna gum (*Eucalyptus viminalis*). It is one of the most rapidly growing eucalypts, probably being exceeded only by the common blue gum; and it is very resistant to both low and high temperatures. This is about all, however, that can be said in its favor, for it makes very inferior lumber and is not considered so good for fuel as most species. It is, however, a beautiful tree and is valuable for shade and windbreaks, etc., where other species will not grow, but for general purposes the red gum (*Eucalyptus rostrata*), or even the blue gum, are to be preferred, where the frosts are not too sharp for the latter.

It is an interesting fact that thirty years or more ago, the *viminalis* was widely planted as the red gum (*rostrata*) because early importations of seed of *rostrata* were not true to name or because pioneer growers of tree were not all as conscientious as they should have been.

### Iron in Weed Killing.

To the Editor: An important matter, it seems to the Sentinel, that the PACIFIC RURAL PRESS has omitted in its answer to questions about weed-killing with copperas is whether or not the solution will injure the productiveness of the soil.—SENTINEL, Lodi.

There is no danger whatever to the soil from spraying with copperas solution—in some cases the copperas thus applied might pay for itself as a fertilizer or plant stimulant. In most instances, however, California soils have all the iron the plants have any use for, but a little more would not be injurious.



## The Field.

### University Distribution of Seeds for Trial.

By E. J. WICKSON, Director of Agricultural Experiment Station, University of California.

The University distribution of seeds and plants which began in a small way in 1880 has been continued annually since that date and last year reached over 1000 applicants, through 325 postoffices situated in 51 counties of California. This distribution is not for the purpose of supplying seeds of well-tested varieties which are offered by seedsmen; in fact, it is intended to avoid whatever is in the trade, though for some special reason such may be occasionally included. The purpose is to distribute things which have not been widely tried, and they are not commended for planting on a commercial scale, but merely for trial to determine whether they merit wider planting and to enter the lists of the seed growers and dealers.

The weak point in the distribution is that too many recipients forget the obligation they assume, viz: to report the results of their trials of the plants which we introduce to them. We desire to know of both successes and failures, of both value and worthlessness found in the plants, in order that their behavior in the hands of our co-operating experimenters may be clearly made out.

A free distribution is not undertaken. We require the applicant to pay a small amount for each article, partly to bear the cost of collection and distribution, but chiefly as a guaranty that he has not merely an idle desire for what can be had for nothing, but intends to make trial for a definite end and will report results to us.

**THE CAMPHOR TREE.**—This beautiful light-green, evergreen tree is very hardy from a California point of view. The seed which we offer this year was taken from an old tree growing at our branch station near Tulare, where the minimum temperature record during the life of the tree is 18° Fahr. The frost killed some of the lower leaves and small laterals, but the upper parts of the tree were untouched. This observation constitutes the camphor hardier than the olive, the orange, the blue gum (*Eucalyptus globulus*) and others of the less hardy eucalyptus. At Tulare also the camphor tree demonstrates its resistance to a small amount of alkali.

Although the camphor tree on the east coast of Asia is the basis of important industries in the production of camphor gum and camphor wood, it has thus far been grown in California only as an ornamental. It is of handsome form and commanding size: in its habitat it attains a height of 100 feet and a trunk upwards of 3 feet in diameter. California trees have attained about half those dimensions in about 30 years. It is satisfactory as a single door yard tree, or in clumps or as a street tree where an evergreen is desired. The seed sprouts readily when sown in plant beds or boxes of light loam with some fibrous material, kept moist but not wet and partially shaded as heat comes on. The tree transplants readily at the usual season for evergreens. Seed in packets, 5c postpaid.

**EUCALYPTUS TREES.**—The interest in eucalyptus planting which is now keener and wider than in any previous year since this important genus was introduced from Australia over fifty years ago. This interest is inciting commercial propagators and our nurseries are therefore offering large collections of well grown trees at prices which encourage forest and wood lot planting, and these are the species which should be planted on a large scale. Aside from species thus available we have several growing at the University Forestry Station at Santa Monica from which seed has been gathered for this distribution to those who desire to grow species which usually do not enter into large plantings, viz:

1. *Eucalyptus botryoides* ("Bastard mahogany"): An upright and spreading tree highly recommended by all Australian writers, as one of their best timber trees, if it is grown where there is plenty of water. The first fourteen months after the young grove was put on the Station Grounds at Santa Monica the average height was nearly thirteen feet. It will stand a small amount of frost.

2. *Eucalyptus citriodora* ("Lemon scented gum"): Very ornamental, having lavender and cream colored deciduous bark, the leaves are long and narrow, the branches are pendent, giving the trees a weeping effect. The wood is claimed by the Australians to be valuable for wagon work. The average growth of this species is about five feet a year for the first twelve, then the average is somewhat smaller. The leaves when crushed give off an aroma, from which the species is named.

3. *Eucalyptus cornuta* var. *lehmanni*: This variety is a dwarf, having very small, thick, dark green leaves. The buds are borne in large irregular masses and the deciduous calyx caps are four and five inches in length. The flowers are of a dark green

color and are in bloom during the late fall. The wood is a light brown in color, very hard and easily polished. This variety is a curiosity, capable of forming a good shade tree if properly trained.

4. *Eucalyptus decipiens*: Of a dwarf growth at Santa Monica Station, but it blooms profusely during the late fall and early winter; the bloom is worked by large numbers of bees.

5. *Eucalyptus diversicolor* ("Karri gum"): One of the tallest growing trees in Australia, producing a very valuable wood for wagon work. This tree will stand frost nearly as well as some of the better known and hardy species.

6. *Eucalyptus eugenioides*: This stringy bark produces a fairly durable timber and one that can be used in building, although it is of slow growth. Its range is not definitely known.

7. *Eucalyptus gunnii* ("Tasmanian cedar gum"): One of the hardest gums in Australia. It attains a fair size in this country and has a fairly large range.

8. *Eucalyptus leucoxylon* ("Ironbark gum"): An upright and rather rapid grower and the timber is very hard and durable. The trees are found growing in the southern part of the State. The white flowers are in bloom during the winter.

9. *Eucalyptus melliodora* ("Yellow box tree"): Produces a wood valuable for wagon work, etc. In contact with the soil it is very durable. This is one of the best bee trees among the eucalyptus and is in bloom all winter and early spring.

10. *Eucalyptus piperita* ("White stringy bark"): An upright and much spreading growth. The wood is valuable for shingles and other building purposes, while the leaves are rich in volatile oil.

11. *Eucalyptus punctata* ("Leather-jacket"): Produces a very hard, heavy and durable, dark brown wood. The flowers of this species are borne in great numbers during the fall months and are much sought by bees.

Eucalyptus seedlings are quite easily grown in boxes of light, sandy loam not disposed to bake or crack; cover the seed very lightly and then keep moist, but not wet, regulating the sunshine by a lath cover, or something of that sort, but do not exclude the air too much. Either sow very thinly, or sow thickly and then prick out seedlings at greater distances in other boxes when they are about 2 inches high. Such little seedlings placed about 2 or 3 inches each way will grow in the boxes until about a foot high, and can then be put out in place, cutting with an old carving-knife, so as to give each little tree a block of soil which the roots will hold together until set in its new place, or the roots may be dipped in soft mud to keep them from drying out. One soon gets the knack of growing these seedlings by experience, the main point being to have moisture enough and yet not too much, also to guard carefully against drying out while the seedling is very small.

Seed in small packets, 5c., postpaid, for each kind ordered.

**ACACIAS.**—Although California nurseries have good collections of acacias, we offer the following which are growing at the Santa Monica station as less available and yet deserving to be better known:

1. *Acacia baileyana* ("Coolamundra wattle"): This is the most beautiful species of all the acacias. The dense fernlike foliage, in whorls and of a silvery hue, is a most pleasing sight to the eye. The light yellow-colored flowers are borne in great profusion during the latter part of the winter and early spring.

2. *Acacia detrichiana*: Slow of growth, but upright and open. The foliage is scattering; the leaves are very narrow, more so than those of the *Acacia nerifolia*; the average length of the leaves is 4 inches. The trees are in bloom during the spring months.

3. *Acacia nerifolia*: A narrow-leaved acacia; the foliage is very dense and when properly trained it makes a good shade trade for lawns. The flowers are yellow in color and are borne during the summer months.

4. *Acacia longifolia* sophorae: Very low and spreading in growth; suitable for low wind-breaks. The trees are in bloom during the spring months.

Acacia seeds should be placed in very hot water and allowed to soak for 24 hours. Plants can be grown as already suggested for eucalypts. Seed in packets, 5c. for each kind, postpaid.

**PASPALUM DILATATUM.**—This grass was introduced to California by this station more than 20 years ago and the seed was first distributed by us in December, 1888. At that time its growth on the University grounds at Berkeley warranted expectation that it would be measurably drouth resistant. The plant has been grown for many years at our branch station near Tulare, where it has shown striking resistance to drouth and alkali and is readily eaten by stock. It seems to welcome high heat, and this may explain the limited estimate of its value which is received from the coast regions of the State. It shows indisposition to grow during the season of frost, and therefore commends itself particularly for trial in hot interior valleys and in situations where alkali discourages other tame grasses. J. T. Bearss made a special test which he describes as follows:

"On March 21, 1907, I took up two large plants, divided the roots and planted them in very heavy

alkali soil. A short time after planting, 1.40 inch of rain fell, which was all the water they have received this season. Not a plant died and all have made a fair growth and some produced seed in October. Had the soil been fairly good, there is no doubt but they would have made a much better growth. My observation of the older plants is they grow better in dry, hot weather than many other well known grasses. The plant with us does not get down to business until June and the first heavy frost checks all growth. About one-half of the old plants were irrigated the first of July, but made no better growth than the non-irrigated portion. Heavily impregnated alkali soil is cold and vegetation slow in starting. On ordinary soil I believe growth will commence much earlier and continue later, and the species will prove a valuable forage plant."

During the past two years *Paspalum dilatatum* has received wide attention in California through the publications inspired by an Australian seed grower who reports that large dairy values are based upon it in New South Wales. It may also prove of high grazing value in moist and alkaline lands in regions of high heat in California. It should be known, however, that under such conditions the grass is a prolific seeder and root grower and may be difficult to eradicate if such lands are desired for other purposes. In situations which please it, it may behave like Johnson grass, but it is a plant of much higher feeding value.

We can furnish seed at 5c per packet, postpaid, or roots at 25c per package, express paid by receiver.

**SHORT SEASON WHEATS.**—Two varieties are offered in this class:

**Canning Downs No. 5077.** From New South Wales. Ripens early and produces fair quality of grain. It has been grown for several years on strong alkali land at our Tulare sub-station with success, and its farther trial on such soil is suggested.

**Allora No. 5075.** From New South Wales. This is another early maturing variety. It is offered for trial particularly for San Joaquin valley in comparison with Sonora.

**DRUM OR MACARONI WHEATS.**—These wheats are highly commended for trial in the semi-arid sections of the State. They may be sown later than most wheats and generally mature earlier, thus escaping rust and drouth.

**Kubanka No. 2246.** This is one of the best drum wheats and is especially recommended for the San Joaquin valley and Southern California. It should be grown without irrigation.

**Black Don No. 8232.** A drum wheat and recommended for the same conditions as Kubanka.

**BARLEYS.**—The following deserve wide trial as hardy and prolific:

**Haunchen No. 10585.** A 2-rowed, early maturing variety which yielded at Tulare in 1907 at the rate of 50 bushels per acre under dry land culture.

**Kitzing No. 10583.** Very similar to the previous one. Yielded at Tulare, 1907, at the rate of 57 bushels per acre.

All wheats and barley are offered at 15c per lb. package, postpaid, for each variety desired.

**THE STUDENT PARSNIP.**—For some reason, the parsnip as a vegetable has received little or no recognition in California. This may be because we have such an abundance and variety of other vegetables fit for the table at the time when parsnips are at their best and which are held in greater esteem, or, it may be on account of the rather inferior type of root which has hitherto been grown here. Californians in some respects are almost epicurean in their tastes and nothing but the best will appeal to them and consumers have probably argued that there was no necessity to eat poor parsnips while high grade vegetables of other kinds were available. There is no question but that the parsnip can be well grown in this State, and with the idea of demonstrating that a root of high grade excellence can also be produced, if the right kind is used, we are this year offering seed of the variety known as the Student.

The Student is a hollow crown variety of recognized standing in the East and Europe, but for some years past it has been almost impossible to obtain the true stock. Two years ago we were fortunate enough to secure from Messrs. Suttons of England a strain which is the best we have seen. The strain is remarkable for the flavor and succulency of the roots, the two characteristics most desired in a parsnip. The seed offered was grown in Berkeley from selected roots and is of excellent quality.

**Culture.**—In growing parsnips, care should be taken to work the soil to a considerable depth, so that no impediment to the downward growth of the roots may be presented. The ground should be richly manured the previous season, but no manure should be applied during the same season as the sowing as this induces the roots to fork and become ill-shaped. In the coast region, where the roots will succeed best, the sowings should be made about the month of January. The drills should be about fourteen inches distant from each other and the plants in the drills thinned down to individual plants which should be about eight inches apart at the final thinning. Frequent weeding and cultivation will complete the care of the crop. Seed in small packets, 5c prepaid.



**TOMATOES.**—During the past season 100 varieties of tomatoes have been placed under trial at Berkeley and those kinds, seed of which is offered, have been chosen for being markedly superior to other varieties in some special particular.

Nos. 1, 2 and 3 are early trucking kinds; 4, 5, 6 and 7 are mid-season trucker's varieties; 8, 9, and 10 are those best for canning purposes, and 11 and 12 are suitable for making into preserves.

1. Sparks Earliana (Berkeley strain)—Two years ago we offered seed of a comparatively new tomato called Spark's Earliana. The variety is now in established use in the State as one of the best, if not the best, of all early tomatoes, but it proved somewhat unproductive. Some breeding work has been done during the past two seasons to remedy this fault and we are confident that the strain we offer is considerably more productive than that which we offered two years ago.

2. Early Hammond—Before the advent of Spark's Earliana, this variety was considered about the best for early use. With some growers it is still preferred owing to its very productive nature. As California seedsmen are not offering seed of this variety we give the public an opportunity of acquiring seed of a first-class strain.

3. Imperial—The best early purple variety. The plant is productive and the fruit handsome and of splendid flavor.

4. Matchless—This is a mid-season variety of splendid appearance. The fruit is almost ideal in shape, the coloring is of the brightest red and the texture firm and fleshy. The fruit carries well and is attractive in the extreme.

5. Combination—A variety little known in California, yet possessing distinct merit as a trucking kind. The fruits are large, handsome and produced in great abundance.

6. Beauty—Another mid-season variety but purple in color. The fruits are somewhat small but of most excellent flavor and this feature makes the variety a desirable one for the home garden.

7. Kinoo—This variety is now offered to the public for the first time. It has a perfectly smooth fruit of almost globular outline, purple in color and quite distinct in appearance from all other kinds upon the market. The variety's chief merit lies in its exceptional productiveness; one small plantation of about eight acres near to San Jose yielded over 18 tons to the acre and the yield would have been greater but for a somewhat early frost.

8. Trophy (Berkeley strain)—Since the Stone variety lost caste as a canning variety in this State, the Trophy has been considered by most canners to be the best suited for their purposes. For some years past, however, this variety has been steadily deteriorating in certain features, except where growers have taken considerable pains in selecting their seed stock. Two undesirable features in particular which have been developed, is the habit of ripening the apex of the fruit so long before the base, that the apical portion of the fruit becomes soft and overripe before the basal part is well colored. Another defect is the corrugated contour of the fruit so undesirable to the canner. The Trophy was once a fruit with a comparatively smooth, even contour and the seed which we offer has been taken from plants which have been bred to regain this characteristic and to ripen their fruit uniformly.

9. Ponderosa—Sometimes known as the Healdsburg variety, is a well known canning kind. While not so productive as the Trophy in the number of fruits produced, it yields a large tonnage of fruits to the acre owing to the weighty nature of its fruits. The variety is not esteemed so highly as the Trophy by the canners because the fruit lacks solidity of texture and is paler in coloring. Among growers in the northern part of the State, however, it enjoys a greater popularity than any other kind and for this reason seed from selected fruits is offered.

10. Livingstone's New Globe—This variety has a smooth, roundish fruit of good size and pink color and the plant is a good grower and fairly prolific in fruit bearing. It did not succeed so well at Berkeley as either Trophy or Ponderosa, but its Eastern reputation induces us to offer seed to enable experimental plantings to be made elsewhere.

11. Sutton's Golden Nugget—Judging from the number of enquiries which come to us, it appears that there is a decided demand by the people of this State for a yellow tomato suitable for making into a preserve. To meet this demand we are offering seed of Sutton's Golden Nugget which in our estimation is the best of the yellow preserving kinds. Quite a number of yellow varieties were placed under trial at Berkeley during the past season and although several had distinct merit, none had such a combination of the characters which go to make up an ideal preserving tomato as did Golden Nugget. The fruit is about one inch in diameter, perfectly globular in form, the brightest yellow in color and possesses a delicious flavor. The plant is a vigorous grower and extremely productive.

12. Sutton's Golden Perfection—Another good yellow variety, not so productive nor attractive as the above, but having a much larger fruit.

Applicants for tomato seed may select as many kinds as they desire at 5c each, postpaid, but only one packet of each kind.

**PROMPT ORDERS DESIRED.**—Application, with the amount specified for each variety ordered, should be made as soon as this announcement is received. We are unable to continue distribution throughout the year. Address: E. J. WICKSON, Agricultural Experiment Station, Berkeley, California.

## Horticulture.

### Walnut Grafting in Oregon.

Mr. Ferd. Groner, of Hillsboro, Or., gives the Oregon Agriculturist this account of his grafting experience: This year I planted five two-year-old trees grafted on California black at random in a row of 25, and they made a growth on an average of about 10 inches, and I planted 65 seedlings in the same field under the same conditions and they averaged 6 or 7 inches. Six hundred seedlings did not make any better growth last year in the same field.

I also planted this year 170 two and three-year-old grafted trees in another field, which received the same care, and they averaged from 10 to 12 inches.

Last spring Mr. George C. Payne of California and I root-grafted 11 trees in a field of seedlings above mentioned, and nine of them grew and made a growth of from four to six and one-half feet. This is considerably above the average growth of the field, and three of them made a greater growth than any seedling in the field of 600, and they were not on the best land in the field, either. On the two that failed I trained up a sprout, and they were ahead of the grafts in the fore part of the season, and now they are a little more than half as tall. We also grafted scions on about 70 trees of various ages, from 4 to 18 years, English and American black walnut trees, and the grafts made an average growth of from six to eight feet, some growing eleven feet and some reaching one and one-half inches in diameter. I attribute this remarkable growth to the superior quality of the scion wood.

# Rex Lime and Sulphur Solution

## NOT RESTING ON ITS LAURELS, BUT MOVING ON ITS MERITS.

One year ago through this medium, we told you spraying could be made easy, profitable, and perfect by using Rex Lime and Sulphur Solution. To emphasize this we called your attention to the fact it had been fully demonstrated by the use of several carloads that had been shipped and used in Oregon, Washington, Idaho and Colorado during the winters of 1905 and 1906. This must have been some evidence to your mind for it brought to us many inquiries from every fruit district in California; many of these inquiries developed into orders and the orders during season just past amounted to more than 3,000 50-gallon barrels, but this was not the sum of results, for already the orders placed for **Rex Lime and Sulphur Solution** to be used during fall and winter of 1907 and 1908 amount to more than 6,000 barrels. Now all this has not happened because **we said Rex Lime and Sulphur Solution** was perfectly made, better than home made, as cheap or cheaper than satisfactory home made, was uniformly made, consistently made, made and shipped in concentrated form that you might use every pint in a 50-gallon barrel. No waste. No sediment. No boiling. No tolling. No swearing. Always dependable, convenient, handy, ready to use, always the same.

Not because we said all this did **Rex** please the user, but because what we said was true and has been proven. **Rex** is what we said it was. A perfect spray for trees and vines made from lime, sulphur and water, the resultant product being a perfect calcium sulphide. We knew this before we asked you to buy it. We were sure of it because it had been analyzed by most all the agricultural experiment stations in the United States, particularly by those whose interests were closely associated with fruit growers, and in every instance the report was the same "We find in your prepared **Rex Lime and Sulphur Solution** a larger per cent of sulphur in sulphide form than any preparation of lime and sulphur known to us."

We knew we were going to please you for we had what you needed and wanted. You did not know it, in fact you doubted it. You told us you did not believe in commercial sprays for in your opinion they were made to sell only. You had been disappointed in your commercial sprays as you may be again unless you use **Rex**, and did know lime and sulphur could be made as we make it. You never will know how to make it perfectly for it is out of your line of business and you are not prepared for doing it—(like biscuit you know, power, full good this morning, mighty soggy tomorrow) same flour, same baking powder, same cook, don't know why, but it's so.

What's the use of arguing with yourself about lime and sulphur spray when you can buy one that has stood the most critical test (and the only one offered you that has been proven

by its work) for 2 cents per gallon. Just think how ridiculously cheap it is; why if it requires 4 or 5 gallons for a tree the actual cost is only 8 or 10 cents per tree. The question is not can I afford to use **Rex**, but can I afford not to use it. We could present testimonials from growers in California that used **Rex** last season and were not only pleased, but are buying it again this season to fill the columns of this paper. If you want to know whether **Rex** is a good lime and sulphur solution, and a safe one to use, ask this paper; they will not misguide you, and the information they have is not from us but from your neighbors and fruit growers all over the State.

We earnestly solicit the patronage of every reader of **PACIFIC RURAL PRESS**. We want your business; our business is to get your business. We have built in California to stay, we are identified with you, and are manufacturing a product your best authorities say is profitable for you to use. You must spray, you must use lime and sulphur, let it be **Rex**. We ask you to use the same good judgment and good sense in buying lime and sulphur spray you would use in buying trees to plant an orchard. You would never think of buying a tree because it was offered you a little cheaper than some other tree. You insist on knowing its pedigree; the statement that it is as good or better than some tried variety does not carry much weight, you feel the best is not too good, and when you can buy the best at a reasonable price insist on having it.

Sufficient evidence has come to us to make us feel justified in making bold the statement that we have in **Rex Lime and Sulphur Solution** the most economical, effectual and best spray for grape mildew and black knot ever used by vine growers. During past season **Rex** was given a very severe test as a treatment for these diseases and the results were marvelously successful, best results were shown where **Rex** was used on vines in dormant state, and followed by spraying with weak solution about 1 to 50.

Dealers offering **Rex Lime and Sulphur Solution** for sale in California are all the most reliable and representative ones. They will sell you a 50-gallon barrel for \$12; thus when diluted 11 gallons water with 1 gallon **Rex** will make 600 gallons diluted spray or 2 cents per gallon. To this price \$3 is added for each barrel; the \$3 will be refunded when barrel is returned in good order. Where we have no dealer **Rex** will be delivered prepaid to your station for \$15 per barrel and \$3 refunded when you return empty barrel. We pay return freight on empty barrels. Terms are C. O. D. unless cash is sent with the order. Inquiries or orders will have prompt attention.

# THE REX COMPANY

BENICIA, CALIFORNIA

Omaha, Nebraska

East Omaha, Nebraska

North Yakima, Washington

Toledo, Ohio



## The Garden.

### Kansas Ways With Gophers.

Although there is little in the following which up to date Californians do not already know, the new comers may derive some help from it. It is a statement just issued from the Kansas Experiment Station:

As a result of much experimentation during the past five years, poisoning has been found to be the best method of getting rid of the gopher, especially if the area to be treated is extensive, or if a smaller tract is badly infested. The little animals do not possess the shrewdness and sagacity of the common rat, and will readily accept many kinds of poisoned bait. A poisoned syrup, prepared by the Kansas station and sold to the farmers of that State at actual cost, is now very generally used. More than 1400 quart cans have been sent out, and the results as reported or investigated have been uniformly favorable. We, therefore, recommend this poisoned syrup as the best means known to us at present for the destruction of pocket-gophers. The syrup is intended to be used with soaked corn as a bait. A particular advantage in the employment of a poisoned syrup, instead of baits containing crystals of strychnine, lies in the fact that large quantities of the corn bait can be easily and quickly prepared by the former method. A quart can of the syrup sells for \$1.10, and should be shipped by express. It is not mailable. Full directions for its use are printed on the label of each can.

Small pieces of potato, sweet potato, or apple, about the size of the end of one's finger, poisoned with strychnine give excellent results. Make a slit in the bait with the point of a knife and insert a crystal or two of the poison; a bit of the latter as large as a grain of wheat is sufficient. Raisins or prunes treated in the same way are readily eaten by the gopher. In all these baits the intensely bitter taste of the strychnine is partially disguised until the fatal bite is taken.

No matter what kind of poisoned bait is used, the method of introducing it into the burrows is the same. Make an opening into the runway by means of a sharpened stick, and drop in a few kernels of the corn or an equal amount of any of the other baits. A broom-stick sharpened at the end, or, still better, a spade handle shod with an iron point, and having a foot bar bolted on about 15 inches from the end, will serve to make the opening. Do not close the opening after dropping in the bait. Prod for the runway at a point near where the earth of the mound seems to have been thrown out, or on a line between two adjacent hillocks. Use the poison only where fresh mounds are being thrown up, and after treating the field, level the hills of earth in some way so that the work of any survivors may be readily detected. Give these another dose.

Trapping gives good results if one has the time to attend to it properly. If there are but a few gophers on the premises, the trap is a sure remedy. Experiments involving over 700 settings of the common steel trap, and also of special gopher traps, have demonstrated that an average catch of about 25% may be expected—that is, at least one-fourth of the traps set will catch and hold the gopher. Sometimes we have made a 50 or 75% catch. The special gopher traps give rather better results than the steel traps, and have the added advantage of being more easily and quickly set. The box trap of the California type is the best of these.

With us, fumigation methods or the use of carbon bisulphide, either on saturated rags or when evaporated and the gas forced into the burrows by means of a bellows, have given very poor results. The gas is absorbed so readily by the loose soil, and the burrows are so long and intricate that in nine cases out of ten the gopher is unharmed. The

method also involves a maximum of expense in materials and labor.

Address all communications to J. T. Headlee, entomologist, Manhattan, Kansas. THEO. H. SCHEFFER, Assistant Zoologist.

We have always understood that some smart Californian sold to one of the central States a recipe, well known in this State, as a great secret. We expect then that this Kansas syrup is made by using ordinary molasses in the place of the eggs and honey in the following recipe:

Take strychnine, 1 ounce; cyanide of potassium, 1½ ounces; eggs, 1 dozen; honey, 1 pint; vinegar, 1½ pints; wheat or barley, 30 pounds. Dissolve strychnine in the vinegar; and you will have to pulverize it in the vinegar or it will gather into a lump. See that it is all dissolved. Dissolve the cyanide of potassium in a little water. Beat the eggs. Mix all the ingredients together thoroughly before adding to the barley. Let it stand 24 hours, mixing often. Spread to dry before using, as it will mold if put away wet.

In the central West corn is naturally used instead of wheat and barley.

### Squash Bugs and Race Suicide.

To the Editor: With more bugs than squash vines a number of years ago, they are so scarce now that I don't remember of seeing a squash bug for several years past, and the squash vines grow all right now. This is the way we circumvented the pest here at Ettersburg: Our goats are more than fond of man-root vines, the natural and only native food of the squash bug. The goats ate all the man-root vines as fast as they appeared, and the poor bugs sat around with a long hungry look, and between race suicide and old age they are no more. The nearest man-root patch is three-quarters of a mile away. I suppose there are bugs there, but if so they do not travel so far from home to hunt squash vines.

ALBERT F. ETTER.  
Ettersburg, Humboldt county.


This is decidedly interesting, and is, so far as we know, an original observation. Man-root plants are widely distributed on the coast and some of the interior valley regions, and so abundant in some sections that they constitute a bad weed in the vineyards and orchards. We hope our squash and melon growers in such districts will try to verify Mr. Etter's observation, although they will have to resort to the weed-cutting cultivator rather than the goat probably.

### A New Winter Muskmelon.

To the Editor: Last spring I wrote you concerning a new melon, and you kindly gave me the address of Johnson & Musser Seed Co., Los Angeles, the firm introducing 'the new winter muskmelon.' Later I procured some seed, paying 50 cents per packet. The seed was planted late in May, and while the squirrels and gophers destroyed a large per cent of the vines, we succeeded in maturing about 40 melons.

Several of these have ripened, and while many of them are not so inviting in appearance as I hoped, the melons were of excellent quality and delicious in flavor; in fact it far exceeds my expectations in this respect. There is a lusciousness and a spicy flavor found in no other melon. The delightful pleasant melting flavor defies description.

The new melon is so unlike any other, and has so many superior qualities that it deserves to be in a class by itself. It is a better keeper than the Casaba, and is superior to it in every respect. It is admirably adapted for shipping East for the winter market, and I believe it will carry any distance required and arrive in perfect condition, and I do not see



# POTASH

in the fertilizer in generous quantities makes heavy yields of clean and sound vegetables and fruits.

Strong and lusty plants resist the attacks of insects and germ pests.

Plenty of Potash in the fertilizer assures the best crops.

Our Book, "Potash in Agriculture," is free to farmers. May we send it to you? Address

GERMAN KALI WORKS, 93 Nassau Street, New York  
Atlanta: 1224 Candler Building Chicago: Monadnock Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## FERTILIZE WITH Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**  
50 Clay Street, San Francisco, Cal.



268 MARKET STREET  
San Francisco

## MANUFACTURERS OF Special Fertilizers for all Crops

Our New Catalogue

"The Farmer's Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.

## WHEAT GROWERS! SPEND \$1.00 PER ACRE

for the unsurpassed cereal phosphoric acid fertilizer, SUPERPHOSPHATE, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvelous results as applications of superphosphate."

GET PARTICULARS FROM

**The Mountain Copper Co., Ltd.**  
150 PINE ST., SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

any reason why a new industry might not be added to the list that has made sunny California famous. The near future may see thousands of cars of melons shipped East at remunerative prices, and a new delicacy added to the winter markets of the Eastern cities. I thank you for your kindness in the past, and I hope you have had opportunity to test this new delicious melon.

H. A. SCOTT.

Porterville, Tulare county, Cal.

We also believe strongly in the future of these winter cantaloupes. They are the real breakfast food, and ought to drive the miller's by-products to the wall. With cantaloupes from California from May to Christmas, and grape fruit the rest of the time, the

Eastern people ought to be a brighter lot, especially if other meals are duly supplied with the other fruits we can furnish them in any quantity they will buy, both fresh and cured.

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

## A MAN SAVED BY USING A FOLDING SAWING MACHINE.

One man can saw more wood with it than two in any other way and do it easier. 8 CORDS IN 10 HOURS. Saws any wood on any ground. Saws trees down. Catalog free. First order secure agency. Folding Sawing Mach. Co., 158 E. Harrison St., Chicago, Ill.



## Plants Like Horses Must Have the Proper Food.

Farm teams could not do good work on an hour's grazing at noontime. They merely need oats, cured hay, corn—something that makes muscle and energy.

The oats, corn, hay, on which they are fed, must also have the right kind of food—cannot grow in large stalk, in full and solid grain, with rich nourishing qualities, from the little plant food that is left in an old worn soil.

### Soil Loses Its Best Plant-Food First.

If the grocer allows customers to select fruits and vegetables from his open boxes, the first comers will take the finest. Nature compels plants to select the best food there is in the soil. *They are all greedy for*

#### Nitrate of Soda.

for they thrive best on that; and when there is little of it left they dwindle, simply because they are starving. There is only one thing to do when the nitrate is exhausted: the soil must be supplied with more.

### There Are Three Ways of Supplying the Soil With Nitrate.

I. *You can do it by putting in raw nitrogen.* You have the raw nitrogen in such common fertilizers as weeds, leaves, grasses, tankage, offal, dried blood, or fish, or any kind of organic matter.

There are disadvantages in this plan, however, which it is well to clearly understand. In the first place plants cannot eat raw nitrogen any more than horses can eat cord wood. The plants must wait until Nature puts her forces to work and changes the raw nitrogen into nitrate of soda. This work is done by a certain kind of bacteria. These bacteria propagate in sufficient numbers only when the weather is favorable. With continuous warmth and frequent light rains, i. e., with perfect weather, a part of the work will be done in a month or two; but a great deal of the raw nitrogen will not be converted into nitrate for a much longer time. Low grade fertilizers require a year or two.

You see that the plants will have but a small portion of the nitrate from raw nitrogen at the particular time when they need it. This fact will be referred to again. It is a vital fact.

It is also a fact that much of the nitrogen is lost in gases during this process of conversion into nitrate. That is clear loss.

Still another fact of special importance is that in the change, from raw nitrogen to nitrate, there is often an acid by-product thrown out which sours the soil and seriously injures the quality of the crop.

When these losses and hindrances are summed up, you will find that all organic fertilizers are needlessly expensive; and do not give you the crops you pay for putting in.

Nitrate of Soda instead of souring a sweet soil will sweeten a sour soil. When all its nitrogen is used up the residue of soda is wholesome, as you well know.

II. *Nitrate of soda can also be supplied to the soil in "combination."* Now let us candidly examine this plan and see whether it is any better than the raw nitrogen plan. This plan is to use what are called "Complete Fertilizers," which contain a certain per cent of soda.

Now, if the per cent were really certain—if it were not uncertain, both in amount and in quality—there would remain but one objection. That objection is very practical. The "complete fertilizer" costs a great deal too much.

# A Straight Talk With Farmers on the Question of Fertilizing.

### Figures That Are Interesting.

At the New Jersey Experiment Station 195 "complete fertilizers" were analyzed, and their prices tabulated, with the following results. The average price was \$34.23 per ton. They contained, on the average, about 16½ per cent of actual plant food. To get a ton of real plant food you must buy six tons of the "complete fertilizer," at an expense of \$205.38—for about 20 acres.

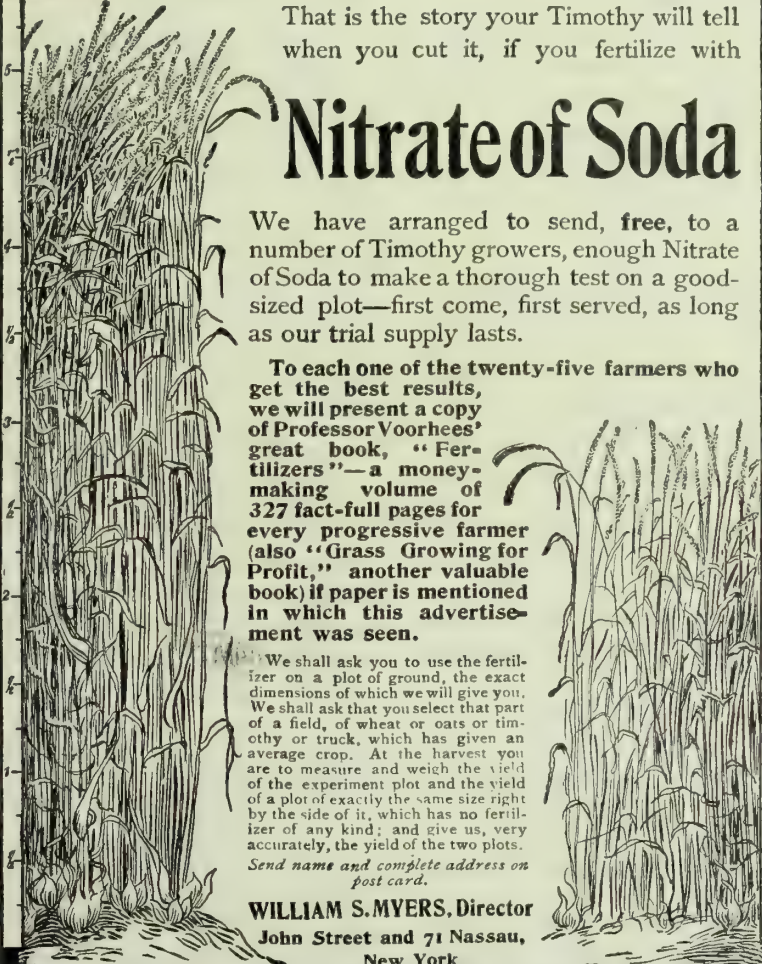
*Nitrate of soda, every ounce of which is the best possible plant-food, will cover your 20 acres with a bigger and*

cannot be made up.

*Nitrate of soda, all of it, as soon as you put it in the ground, is ready to be taken up by the tender rootlets, and assimilated into the fibre and fruit of the plant.*

With nitrate plants do not have to wait until Nature's little cooks, the bacteria, get a late dinner ready—with the cooks often on a strike because the weather is bad. Ages and ages ago the work was all done—the wasted gases all thrown off—and here is their pure and perfect food. These three plans—the use of Raw Nitrogen, the use of Complete Fertiliz-

MORE THAN TWICE      THREE OR FOUR TIMES  
**THE CROP — THE PROFIT**



That is the story your Timothy will tell when you cut it, if you fertilize with

## Nitrate of Soda

We have arranged to send, free, to a number of Timothy growers, enough Nitrate of Soda to make a thorough test on a good-sized plot—first come, first served, as long as our trial supply lasts.

To each one of the twenty-five farmers who get the best results, we will present a copy of Professor Voorhees' great book, "Fertilizers"—a money-making volume of 327 fact-full pages for every progressive farmer (also "Grass Growing for Profit," another valuable book) if paper is mentioned in which this advertisement was seen.

We shall ask you to use the fertilizer on a plot of ground, the exact dimensions of which we will give you. We shall ask that you select that part of a field, of wheat or oats or timothy or truck, which has given an average crop. At the harvest you are to measure and weigh the yield of the experiment plot and the yield of a plot of exactly the same size right by the side of it, which has no fertilizer of any kind; and give us, very accurately, the yield of the two plots. Send name and complete address on post card.

**WILLIAM S. MYERS, Director**  
John Street and 71 Nassau,  
New York

finer crop for much less than HALF the money.

III. *The right way to replenish a worn soil with nitrate of soda is to put in nitrate of soda—the pure stuff, as it comes direct, under Government inspection from the nitrate mines of Chili, where Nature completed her great chemical work ages ago.*

### Nitrate of Soda Gives Plants the Essential "Good Start in Life."

You know that pigs and calves and colts must have a good start. If they are not well nourished during the first few weeks they become stunted, and never can make a full and fine growth. You know this is especially true of grains—a backward, dwindling start never can be made up.

Plants require their richest nourishing when their fine spraying rootlets are new and tender. If they do not get it then the rootlets quickly harden to a small size, and will not expand or extend sufficiently for the plants to get full nourishment later on. The loss

ers, the use of *The Pure Product in Nature made Nitrate of Soda*—only need this plain statement of facts to show you which is the proper method.

### Nitrate of Soda May Be Used Alone or With Manures.

On naturally good soils, nitrate of soda alone is frequently sufficient. If the soil is badly worn, use 100 pounds to the acre. If but partly deteriorated 75 pounds will give splendid results.

### Results in Cash of Nitrate of Soda Alone.

A large number of experiments on Timothy have been made by farmers all over the country and reported to Professor Myers, at 71 Nassau Street, New York. These experiments show that the use of 100 pounds of nitrate of soda to the acre produced an

#### Average Increase

of 2,775 pounds of field-cured hay over the plot where nitrate was not used.

The nitrate of soda cost at the time the experiments were made \$2.75. You know what you can get for 2,775 pounds of the finest, cleanest, richest, field-cured Timothy. You make from 150% to 200% on your investment in three or four months.

### Potatoes, Beets, Cabbages, Carrots, Oats.

Similar experiments—by scores of farmers throughout the country, using 100 pounds of nitrate of soda (alone) to the acre—show average increase per acre of

Potatoes .....	3,600 lbs.
Beets .....	4,900 "
Cabbages .....	6,100 "
Carrots .....	7,800 "
Oats .....	400 "

Figure it up yourself and see what an enormous profit you have on the small outlay necessary for 100 pounds of nitrate of soda per acre.

### Nitrate of Soda is a Magic for All Early Crops.

Peas, beets, lettuce, onions, radishes, beans, sweet corn, all truck gardening that you want early, with a rapid and luscious growth, will get the proper nourishment from nitrate of soda, which is a perfect plant food ready for them on the instant.

### The Only Plant Food That Can Be Used Week by Week.

Blackberries, gooseberries, raspberries, currants, as every gardener knows, should not make a rush growth, but a steady and even growth, which means that they must be fed little and often.

A sprinkling of nitrate of soda every week or ten days will show surprisingly fine results.

Nitrate of soda is the only fertilizer that will feed them instantly whenever they require special nourishing.

### For Planting in Succession and Ripening of Garden Truck.

Nitrate of soda is the perfect fertilizer. It is always ready for assimilation. With a trifling outlay for 100 pounds to the acre you have fresh, rich, "early vegetables" in September—just as luscious as in June.

### The Need of Common Business Care in Farming.

If railroad men and manufacturers neglected their rolling stock and machinery as many farmers neglect their soils they would go bankrupt in a year. With ordinary care in keeping up the soil farming becomes a splendid business—the profits doubling and trebling.

### Free Literature on Nitrate of Soda.

To a limited number of farmers who will make experiments under our directions, we will send the bulletins containing results of Agricultural Station work, which give actual data of trial fertilizing with nitrate of soda. We will also send our handsomely illustrated book of 230 pages on "Food for Plants." It is brim full of such useful and money-making facts as every farmer ought to be familiar with.

We want your word that you will meet our proposition candidly, and conduct an experiment with nitrate of soda carefully and give us the exact results.

The offer, of course, is limited.

Try it for yourself, and learn how much money there is in just a little science properly applied to farming.

If you do not care to make the experiment, or if too many have applied ahead of you, and you still want a lot of general information on this matter of raising big crops, The Nitrate Propaganda, 71 Nassau Street, New York, will give this valuable free information.



## The Home Circle.

### Life—What Is It to You?

To the preacher life's a sermon,  
To the joker it's a jest;  
To the miser life is money,  
To the loafer it is rest.

To the lawyer life's a trial,  
To the poet life's a song;  
To the doctor life's a patient,  
That needs treatment right along.

To the soldier life's a battle,  
To the teacher life's a school,  
Life's a good thing to the grafter,  
It's a failure to the fool.

To the man upon the engine  
Life's a long and heavy grade;  
It's a gamble to the gambler,  
To the merchant life is trade.

Life's a picture to the artist,  
To the rascal life's a fraud;  
Life, perhaps, is but a burden  
To the man beneath the hod.

Life is lovely to the lover,  
To the player life's a play;  
Life may be a load of trouble  
To the man upon the dray.

Life is but a long vacation  
To the man who loves his work;  
Life's an everlasting effort  
To shun duty to the shirk.

To the heaven-blest romancer  
Life's a story ever new;  
Life is what we try to make it—  
Brother, what is life to you?

### A Slipper and Some Pajamas.

Gerald Turner had once been told by an editor that he could write better than he could talk. The editor was busy at the time, but the editor was right. Gerald was a passable writer, but whenever he attempted to think or speak on his legs he invariably made a woeful exhibition of himself. Nobody wondered, then, at the polite but firm refusal to take part in the private theatricals which were to be given by Mr. and Mrs. Mansell.

To their daughter, May, he was devotedly attached, but even her entreaties would not move him from his decision. He was perfectly content to write odes in her honor, which he had not the effrontery to send, but to exhibit his want of histrionic powers before her and a hundred or more people besides was more than he would bargain for. He was obdurate, so the rehearsals went on with another hero in his stead.

The night of the performance arrived and Gerald, of course invited, had promised to be present. Though he was not particularly jealous, still he thought it as well not to arrive too punctually. He was of opinion that he might probably come in time to witness his beloved in the arms of a rival, a denouement which he might or might not take with equanimity. Accordingly he rang the bell at the Mansell residence more than an hour behind the time set for the raising of the curtain.

No one was in the room into which he was ushered to take off his coat and hat, and on inquiry a servant told him the performance had commenced very punctually and was then nearly over. Being so late, he thought it as well not to disturb the audience, so he went into a small room off the main passage, taking with him a small cardboard box. Sitting down he slowly untied the string around the box, soliloquizing as he did so.

Gerald was in a quandary. His nerve, however, did not desert him.

"I'm late, but I don't suppose she will have missed me in the excitement of the performance. However, this will please her. She may get others, but—"

Here he put his hand in his pocket, and, drawing out a note, he placed it in the box.

"Every rose has its thorns. Sometimes you don't know you are touching

a rose until you get pricked. I wonder whether when she discovers this note she will feel hurt? I can't think so. She has received my attentions openly, and—well, one last look and a kiss—she's sure to kiss it, and—"

He opened the box, and, looking into it, started back with amazement.

"Why, what on earth? Well, that's a nice thing—"

So saying, he took a pair of pajamas out of the box and held them up.

"Oh, I remember! They came from the hosiery today at the same time the florist sent the bouquet. I must have mistaken one box for the other. Well, there's no help for it. I must go back home and get the flowers."

At this moment a slight movement outside made him hesitate as he rose to go. Throwing the box under the sofa, he inadvertently kept hold of the pajamas in his hand. The next moment May Mansell entered the room.

Putting the pajamas behind his back he bowed, and in doing so retreated until he reached the sofa. Once there he sat down as if by accident, and shoved the pajamas under the pillow on the right of the sofa. Then immediately rising he blurted out awkwardly.

"Good evening!"

"Why, how do you do, Mr. Turner?" said May. "I was waiting for you to congratulate me. The others have gone to the refreshment room, and so—but now I come to think of it, I don't believe you were in the audience. I certainly couldn't discover you."

"Oh, yes! I was there," commenced Gerald, and then aside, "the fates forgive me, but what am I to do?"

"You were? Then—"

May gave a sudden cry of pain.

"Why, what's the matter?" exclaimed Gerald. Have you hurt yourself?"

"Oh, no!" gasped Mary. "It's nothing. My foot has gone to sleep. That's all! I think I'll sit down."

She gave another gasp of pain, limped to the sofa, and sat down on the left hand side. Gerald took his seat on the right, condoling with her.

"Would you mind getting me a glass of water? The heat is unbearable."

Gerald rose at once, and hurried out of the room.

No sooner had he left the room than May put her foot up on the sofa, took off her slipper, and gave a sigh of relief.

"Thank goodness! That's the worst of wearing new things. They always hurt so."

Then she took up the slipper, and looked at it, shaking her finger.

"You heartless little tyrant! If you had not been squeezing my foot, he might have been squeezing my hand by this time!"

All at once she heard Gerald returning with the water. She tried to put the slipper on again, but it gave her so much pain that, as Gerald entered, she hid it under the left sofa pillow, and arranged her gown so that it would hide her unslipped foot.

Gerald was more than sympathetic. He inquired if she were really not ill, but she reiterated that there was nothing the matter.

"Won't you let me take you into the conservatory," asked Gerald. "Perhaps you would like the air?"

May declined, wishing in her heart that he would go away, for, thought she, "with two slippers on I might want him to stay, but now for once in my life I wish he would go!"

"Surely your foot is hurting you?" said Gerald. "Why don't you put it up here?"

So saying he rose, and reached for a chair. While his back was turned, May changed her position to the right of the sofa so that her foot might be the better concealed.

When Gerald came back, he saw that she had changed her position, and remembering the pajamas hesitated before relinquishing the chair. At last, however, he took his seat on the sofa on the left. There was a pause, and then Gerald sighed.

"Ah!" said he, abstractedly, "how I

wish I could sit on this sofa for ever!"

"I hope devoutly that he won't!" thought May. Then aloud, "What nonsense! You're getting romantic!"

"No!" continued Gerald, "this sofa contains something that I would give worlds to possess!"

"Indeed!" replied May. Then with a half frightened saucy air, "It holds something which at this moment is very dear to me, too!"

"Something, or somebody?"

"What do you mean?"

"Why, you?" burst out Gerald. "I worship the very ground you walk on!"

May squirmed.

"Why should there be any secrets between us?"

May started.

"Further concealment is useless!"

May gasped.

"I think I know all!"

May sat up straight, and made up her mind on the instant to deny anything and everything.

"Yes," he went on, fervently, "and I also live in the hopes of knowing what you are hiding—"

May half rose; and then remembering her unslipped foot resumed her seat.

"Hiding in that warm heart of yours!"

May sank back on the sofa with a sigh of relief.

"This is so sudden!" she gasped.

"Then I have discovered—"

"I hope not!" exclaimed May with a fresh terror.

"You hope not?"

"That is," said May, "you need hide nothing from me. I think I know all, too!"

Gerald's face fell. Could she have found the pajamas while he was out of the room?

"Tell me all," said May archly. Gerald hesitated.

"What is it?" she asked.

"It isn't it!" began Gerald with a determination to be honest, and tell the whole truth. "It's them!"

So saying he turned to May, while in surprise she faced him. The sudden simultaneous movement disarranged both the sofa pillows, so that they fell on the floor, disclosing the pajamas, and the slipper.

There was a pause. Then May took the pajamas in her hand, forgetting all about her unslipped foot, rose and held them up.

"So, Mr. Turner, this is 'them!'"

Gerald quickly bent down for the slipper.

"And this? Is this yours?"

"Mine? Oh, dear me, no! Some lady must have left it here!"

"Then," said Gerald, with a quiet smile, "I'll go and find her."

"No, no!" pleaded May.

"Why not? Don't you want me to seek my Cinderella?"

"Yes; but the lady may have gone home!"

"That's so," acquiesced Gerald meditatively. Then, with a sudden shout, he exclaimed:

"Look, Miss Mansell! There's a mouse!"

May gave a shriek, jumped on the sofa, and, alas! disclosed her unslipped foot.

Gerald made a low bow, and, dropping on one knee, presented the slipper to her.

"The Prince," said he, with his hand to his heart, "has found his Cinderella."—La Touche Hancock.

### An Immediate Response.

"My son," said the strict mother, at the end of a moral lecture, "I want you to be exceedingly careful about your conduct. Never, under any circumstances, do anything which you would be ashamed to have the whole world see you doing."

The small boy turned a handspring with a whoop of delight.

"What in the world is the matter with you? Are you crazy?" demanded the mother.

"No'm," was the answer. "I'm jes' so glad that you don't 'spec' me to take no baths never any more."

### A Happy New Year.

Said the child to the youthful year:  
"What hast thou in store for me?  
O, giver of beautiful gifts, what cheer,  
What joy dost thou bring with thee?"

A great many of us make the mistake of thinking that happiness depends on what the New Year will bring to us. But the right kind of happiness is just the other way round, and depends entirely on what we bring to the New Year.

People who are really happy are those who make up their minds to take cheerfully everything as it comes, and make the best of it; and to take the people who come, too, and make the best of them.

"I never get a chance to make nice friends," I heard a girl say the other day.

Of course, it is possible that this girl may have been peculiarly unfortunate in the people with whom she came in contact; but I think it is far more likely that in some way or other she has never learned the secret of making the best of people, and so they do not show their nicest side.

For, after all, there is a 'nice' side to everyone, if one can only come across it. "It is hard if out of a million people you cannot find half a dozen to your liking," William Hazlitt once said to a friend who had come to live in London. And surely it is equally hard if, out of all the people a woman has run across in the course of a life of twenty years, she has not found half a dozen who are 'nice.' It certainly suggests that the fault may be in her, rather than in the other people, doesn't it?

So let us all make up our minds to have a happy New Year as far as we can make it so; and that even if worries and troubles come, as come they must, we will meet them bravely, and try to find out if perhaps even these may not have a bright side.

Madame Guyon once wrote: "Ah, if you only knew the peace of an accepted sorrow!"

An accepted sorrow! Well, and how about an accepted worry? It is while we struggle and fight against things that they fret us so. When we accept and try to make the best of them the worst sting is gone.

And there is another side of the question, too, that ought to appeal to us in these beauty-loving days. There is no more wearing work than worrying and fretting. These things leave their ugly finger-marks even on the fairest face, taking away something from its beauty and serenity; for a week of fretful worrying and complaining will dig uglier wrinkles than months of life cheerfully and faithfully lived.

So let us start this New Year determined that however we may have wasted and misused former years we will try to do better and be better in this; that we will do our utmost not only to be happy ourselves, but to make other people happy, too.

And if we do? Well, when we stand on the further shore and look back at it, we shall be able to do so without regret, and we shall realize that it was in the truest sense a Happy Year.—McCall's Magazine.

### Couldn't Remember Names.

A writer in the London Tattler publishes the following quaint story from a reader who was apparently unperturbed by the recent earthquake: A lady in San Francisco engaged a Chinese cook. When the celestial came, among other things she asked him his name.

"My name," said the Chinaman, smiling, "is Wang Hank Ho."

"Oh, I can't remember all that," said the lady. "I will call you John."

John smiled all over, and asked:

"What is your name?"

"My name is Mrs. Melville Long-

don."

"Me no memble all dat," said John. "Chinaman he no savey Mrs. Membul London. I call you Tommy."



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

### PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

### Gleanings.

The eagle can withstand a 28-day fast. Out of 205 men one is over six feet high.

The pin was invented in England in 1543.

The title of Reverend was first used in England in 1657.

Leather trunks were used in Rome at the time of Cæsar.

Steel pens were made in Birmingham, Eng., first in 1805.

Great Britain's golfers use half a million balls each week.

Gloves were first seen in England during the reign of Edward II.

An ostrich may be stripped of its plumage every eight months.

A Paris insurance company refuses risks on men who dye their hair.

The average length of life of a tradesman is two-thirds that of a farmer.

Saddles were first used by men equestrians in France in the year 600 A. D.

A new invention provides for the delivery of milk through a hole in the door.

France is responsible for the game of billiards. Devigne invented it in 1572.

The Russian is not free of parental bondage until he has reached the age of 26.

Gold fish originally came from China and the first were sent to England in 1691.

As compared with a normal person, the brain of the idiot is deficient in phosphorus.

One couple out of a thousand live to celebrate their golden wedding anniversary.

Only one ounce of soap per head is annually used by the people of India.

Bass were put into the river near Norristown, Pa., 36 years ago, and only recently have fish been caught in the stream.

A man has been arrested in Paris for thefts from his employers during a course of 30 years. The firm gave him a salary of \$1000, and he contrived to "save" \$40,000 and to live at the rate of \$2000 a year.

The destruction of the bride's toys is quite an important part of the marriage ceremony in Japan. The bride lights a torch, which she hands to the bridegroom, who with it kindles the fire in which the toys are burned.

There is a dearth of theatrical "supers" in Paris owing to the extension of the cinematograph. There are cinematograph shows everywhere in Paris now, and the companies which run them need numbers of people as actors and actresses for their living pictures.

### Diplomacy.

"Before we were married," she complained, "you always engaged a cab when you took me anywhere. Now you think the street car is good enough for me."

"No, my darling. I don't think the street car is good enough for you. It's because I'm so proud of you. In a cab you would be seen by nobody, while I can show you off to so many people by taking you in a street car."

"You dear! Forgive me if I gave you pain in saying what I did.

### A False Step.

Sweet! thou hast trod on a heart;  
Pass! there's a world full of men,  
And women as fair as thou art  
Must do such things now and then.

Thou only has stepp'd unaware,  
(Malice not one can impute);  
And why should a heart have been there  
In the way of fair women's foot?

It was not a stone that could trip,  
Nor was it a thorn that could rend;  
Put up by thy proud under-lip!  
'Twas merely the heart of a friend.

And yet, peradventure, one day  
Thou, sitting alone at the glass  
Remarking the bloom gone away,  
Where the smile in its dimplement was,

And seeking around thee in vain,  
From hundreds who flatter'd before,  
Such a word as "O, not in the main  
Do I behold thee less precious, but  
more."

Thou wilt sigh very like, on thy part—  
"Of all I have known or can know,  
I wish I had only that Heart  
I trod upon ages ago!"

—Elizabeth Barrett Browning.

### Not the Simple Life.

The American linotype operator, seated before the keyboard of his machine and deftly turning out columns of type by the light touch of his fingers, may sometimes imagine that his task is a strenuous one, but if he compares his work with that of the Asiatic compositor he will find that he has something in the nature of a 'snap.' The old-timer who picked out his living from the little compartments in the case would grumble if obliged to leave his stool to get an odd letter or punctuation mark, but he never paused to congratulate himself on his forethought in selecting white instead of yellow-skinned parents.

The Chinese compositor is literally on the run from the minute he takes up his large stick until his daily duties are ended. He has 11,000 characters to draw from in setting up his copy, and they are banked up on inclined frames, sometimes 100 feet long. If his copy is from the pen of a flowery writer who prides himself upon the rarity and elegance of his phrasing, the author has either wittingly or unconsciously given the typesetter a message to get busy and chase himself.

'Chung Sai Yat Po,' which modestly designates itself the largest Chinese daily newspaper outside of the Chinese empire, is to return to San Francisco when its new quarters here are completed. In the days following the fire the editor, Ng Poon Chew, sought refuge across the bay. His plant had been destroyed, but he made a makeshift of painting his news on cardboard with a brush. This was photographed, zinc-etched, and printed from the plates. This method was continued until something like a ton of type was secured from China, and the regulation manner of printing resumed. As at present arranged this type is held in five 'eases,' each 10 feet long by 5 feet high, divided into partitioned squares for the separate characters. With this exception, and the absence of the linotype, the plant does not differ much from that of the average small American newspaper. All the latest appliances are noted, and electricity is the motive power. The paper goes everywhere on the continent. The editor's statement that 350 pounds of mail are sent out each day was substantiated by the presence of a dozen youths who were busy wrapping papers the other afternoon when I visited the place. Part of the mailing was done in the kitchen of the building. In a corner of that apartment one member of the outfit was preparing supper, and the appetizing odor of a big pan of frying fish was doubtless the whip that hurried the mailers on to a rapid conclusion of their work.

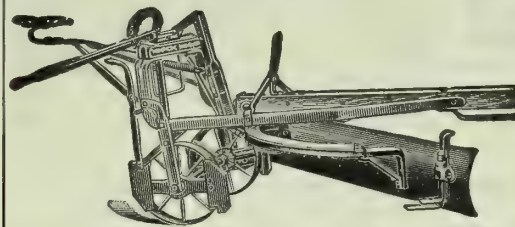
The Norwegians are the longest lived of European nations and the Spaniards the shortest.

## THE ONE-MAN ROAD MACHINE

Easy to guide; strong, compact and easily adaptable to every condition demanded. It needs but one man and two horses to operate it. Notice the "no skid" rudders on the wheels. They are raised in the picture, when lowered they guide the machine straight ahead. The moldboard is six feet long. Has adjustable shoes shown at ends of moldboard to gage depth to which moldboard should cut. It's a very desirable machine for road-building in city or village. It makes good roads and keeps them so. Although made of steel and malleable iron, still it weighs only 600 pounds. The

### 20th CENTURY GRADER

saves time of three men and two extra horses. It is easy on the horses. Has blade in front of wheels. Moldboard reversible. Machine turns in 6 ft. circle. Built for Road-grading, Ditching, Land-leveling, Foundation-digging,



### FOR IRRIGATION, CANAL BUILDING, Etc.

The price is lower than most such machines. We send it on free trial. Write us for our handsome booklet, "Delightful Roads." It's free and tells you all about the 20th Century.

The White City Grader Co.  
Box 24 White City, Kansas

J. GORDON, Sales Agent,  
P. O. Box 167, Sacramento, Cal.

### How to Drive a Hen.

When a woman has a hen to drive into the coop, she takes hold of her skirts with both hands, shakes them quietly at the delinquent and says: "Shoo, there!" The hen takes one look at the object to convince her that it is a woman, and then stalks majestically into the coop. A man doesn't do that way. He goes outdoors and says: "It is singular nobody can drive a hen but me," and, picking up a stick of wood, hurls it at the offending biped. "Get in there, you thief!" The hen then loses her reason and dashes to the other end of the yard. The man straightway dashes after her. She comes back with her head down, her wings out, and followed by an assortment of stove-wood, fruit cans and clinkers and a very mad man in the rear. Then she skims under the barn and over a fence or two, and around the house and back again to the coop, and all the time talking as only an excited hen can talk, and all the while followed by things convenient for handling and a man whose coat is on the sawbuck and whose hat is on the ground, and whose perspiration knows no limit.

By this time the other hens have come out to take a hand in the debate and help dodge missiles, and the man says every hen on the place shall be sold in the morning, and puts on his things and goes down the street, and the woman has every one of those hens housed and counted in two minutes.

### Reluctant Confession.

"Maybelle, has Harry ever kissed you?"

"Just once, Gladdy; but he begged so hard I couldn't refuse."

"When was it?"

"Last Thursday night."

"Where did he kiss you?"

"In this town, of course."

"That doesn't answer my question. Where did he kiss you?"

"At home."

"That isn't what I want to know. Where did he kiss you?"

"In the conservatory."

"That is another evasion. Where did he kiss you?"

"Er—in the dark."

"You may as well tell me the straight truth. Where did he kiss you?"

"On the back of my hand, if you think it's any of your business."

Mrs. Waldo (of Boston): "I have a letter from your Uncle James, Penelope, who wants me to spend the summer on his farm."

Penelope (dubiously): "Is there any society in the neighborhood?"

Mrs. Waldo: "I've heard him speak of the Holsteins and Guernseys. I presume they are pleasant people."

### Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.

## Glenn Ranch

GLENN COUNTY, CALIFORNIA

## For Sale in Subdivisions

This famous and wellknown farm, the home of the late Dr. Glenn, "The Wheat King," as been surveyed and subdivided. It is offered for sale in any sized Government subdivision at remarkably low prices, and in no case, it is believed, exceeding what is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for fifteen miles. It is located in a region that has never lacked an ample rainfall and no irrigation is required.

The river is navigable at all seasons of the year and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Eibe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, Cal.

## FOR RENT

### POULTRY FARM

Established, thoroughly equipped, comprising 10 acres land, with good 4-room house, barn, incubator house with 4 incubators, hot and cool brooder houses, breeding pens and yards of all descriptions. One thousand fowls on place at present; 2½ miles from railroad station. Open for rental with this if desired—50 acres bearing apple orchard and choice farming land.

Address

LILIENCRANTZ & SON

APTOS, SANTA CRUZ COUNTY, CAL.

### DIVIDEND NOTICE

THE SAVINGS and LOAN SOCIETY

101 Montgomery St., Cor. Sutter,

has declared a dividend for the term ending December 31, 1907, at the rate of three and eight-tenths (3½) per cent per annum on all deposits, free of taxes, and payable on and after Thursday, January 2, 1908. Dividends not called for are added to and bear the same rate of interest as principal. EDWIN BONNELL, Cashier.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA

Open all Year. A. VAN DER NAILLEN, Pres't Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

### HENRY B. LISTER,

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



**DANGEROUS**  
as well as painful

Backache    Neuralgia  
Lumbago    Rheumatism  
Stiff Joints    Sprains

**Combault's Caustic Balsam**  
WILL RELIEVE YOU.

It is penetrating, soothing and healing and for all  
Sore or Wounds, Felons, Exterior Cancers, Burns,  
Boils, Carbuncles and all Swellings where an outward  
application is required. CAUSTIC BALSAM HAS NO  
EQUAL. Removes the soreness—strengthens the muscles.  
Price \$1.50 per bottle. Sold by druggists or sent  
by express prepaid. Write for Booklet L.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

## Patrons of Husbandry.

### National Grange and Good Roads.

To the Editor: I enclose copy of resolutions adopted by this organization at its annual meeting held November 12-22, 1907, at Hartford, Conn., favoring the enactment by Congress of legislation making liberal appropriations for the improvement of the public highways of the country.

The National Grange, with nearly one million members, representing the agricultural interests of the nation, has undertaken to secure recognition of the urgent necessity for a broad, comprehensive policy of public road improvement. It believes that the time has arrived when the problem of the deplorable condition of our roads in general must be seriously considered by the various township, county and State authorities, and prompt action taken to remedy existing conditions; and that the National Government should lend its assistance to a movement having for its objective point the establishment of a complete system of properly constructed highways.

The farmers in all sections of the country are convinced that they are not receiving their share of the benefits from Federal expenditures, and that the improvement of the public roads is as equally deserving of a share in the annual appropriations as is the improvement of our rivers and harbors.

Many hundred millions of dollars, in the form of cash subsidies or land grants, have in the past been given to private railway companies to assist in the construction of railroads, and there is no good reason why a portion of the money taken by taxes from the people of the whole country should not now be appropriated in aid of better public roads.

The agricultural papers of the country can be of great assistance in the movement, by advising their readers as to its importance, and urging them to use their influence with their Senators and Representatives in Congress to secure the enactment of legislation for this purpose.

Concord, N. H.

N. J. BACHELDER,  
Master National Grange.

### Tulare Grange Meeting.

To the Editor: Tulare Grange held its semi-monthly meeting at its hall on Saturday, the 4th. After the reading and approval of the minutes the officers for the coming year were duly installed by the retiring Worthy Master F. H. Styles, Sister A. O. Swanson, Marshal; Worthy Master, Bro. J. T. Lawson; Overseer, C. A. Henry; Lecturer, John Tuohy; Steward, F. H. Styles; Assistant Steward, A. J. Woods; Chaplain, Sister Elsie Fay; Treasurer, George Watt; Secretary, Sister B. I. Morris; Gate Keeper, Henry Hunsaker; Pomona, Fannie Way, Flora, Ada Griffith; Ceres, Emma Lowman; Ladies' Assistant Steward, Sister E. B. Lawson; Organist, Sister F. H. Styles.

After all were installed the Master and officers made short addresses advising the maintenance of the Order, prompt attendance at meetings, careful, impressive work in conferring degrees, each one present doing or saying something useful and interesting. This was the spirit shown by all present—a desire to build up and promote the Order, that the Order collectively may do for themselves and the community what cannot be done by individual or casual exertion; and this co-operation is what the Order was organized for 35 years ago. This co-operation has never been lost sight of in Tulare Grange. Co-operative buying, selling, dairying, marketing, insurance and otherwise, have been encouraged and promoted always successfully in and by this Grange and is still further advocated. Surely every farmer owes it to himself to be associated with and help to promote the good work of the Grange.

It was agreed that diversified farming, for which Tulare county, by reason of its rich soil and salubrious climate, is eminently adapted, should be the rule of the farmer. One brother, a very old resident of Tulare, told his experience. He followed wheat growing many years until, seven years ago, it brought him, at the end of the season, in debt \$7000. He quit the one crop business, and has followed diversified farming since. He is an earnest Granger, and although he has length of years—he is now 86—he attends Grange meetings constantly. His experience counts for much at our meetings. He claims, and without contradiction, that the dairy and the chicken lot each bring to this State annually double the value of the gold dug therein. The Co-operative Dairy of Tulare last year handled \$269,000 worth of products. His cows average for him in cream \$10.31 per month; 100 chickens pay all the grocery bills of the ranch. In ten months his cows pay for themselves and in the same time the chickens pay double their cost.

For lack of time the program subject of the day was not discussed. It was late when the meeting adjourned, but all left pleased that they had been present.

J. T.

## AGRICULTURAL REVIEW.

### BUTTE.

ORANGE SHIPMENTS.—Oroville advices state that the citrus fruit pack in this district has been completed for the season. The Butte County Citrus association packed 115 carloads of oranges and the Citrus Union forty-six carloads, while W. P. Hammon's shipments will amount to probably 100 carloads. The season has been one of pretty fair profit for the growers in spite of the financial panic.

### CONTRA COSTA.

ASPARAGUS FARM.—Gazette: The Sand Mound district, a tract of some 3300 acres, which was submerged by the last flood, it is said will be able to cut 400 acres of asparagus in spite of the fact that the plants have been under water for over six months.

### LOS ANGELES.

THE ORANGE CROP.—Pomona Times: The Riverside Press and Redlands Citrograph agree that the present orange crop will be about as large as that of 1906-07. Manager Dreher of the San Antonio Fruit Exchange agrees with those authorities, but is quite sure that this valley, which includes Pomona, San Dimas, Lordsburg, La Verne and Claremont, will have from 15 to 20 per cent larger crop than that of 1906-07, which crop was short. There will be some loss from splits and spots, but despite this, with otherwise normal conditions, the crop of this valley, as before stated, will be from 15 to 20 per cent larger than the previous crop. The

## BEEF SCRAPS

Guaranteed 65 per cent Protein

## RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

## POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

South San Francisco, San Mateo County

☞ MORSE SEEDS SPROUT—YOU  
AND NATURE DO THE REST

## SEEDS PLANTS TREES

Pacific Coast Headquarters for:

Alfalfa Seeds  
Blue Grass Seeds  
Clover Seeds  
All Staple Field Seeds  
All Standard Garden Seeds  
Flower Seeds  
Seeds of Novelties  
Ornamental Plants and Trees  
Fruit Trees

☞ A full list with prices and illustrations can be found in our beautiful new catalogue for 1908.

☞ For your name and address we will send free of charge what we believe to be the handsomest Seed Catalogue ever issued on the Pacific Coast. ☞ Write for it.

## C. C. MORSE & CO.

Successors to  
COX SEED CO.

41 JACKSON ST.

SAN FRANCISCO

Thanksgiving oranges shipped from this section will net the growers \$1 a box, perhaps a little more.

### SAN DIEGO.

WILL PLANT VINES.—It is reported that a Fresno company will undertake extensive culture at Coachella. M. R. Nutting bought 200 acres adjoining Coachella, and promises a great and comparatively new industry here. The land is all to be set within three months and it is understood more is to be steadily acquired for the same purpose. The company will devote the first tract to Thompson Seedless and Malagas meantime experimenting with several rare varieties heretofore found hard to grow in this county, but which are expected to thrive in the valley climate and soil.

### SAN LUIS OBISPO.

GRAPES PROFITABLE.—Tribune: The season just closed has been one of the most profitable for many years past to the grape growers and wine makers of the county. A. York reported that his winery had a record of 45,000 gallons for the season. Mr. York told of one man in the grape growing section west of Templeton who sold \$900 worth of grapes from four acres.

### SOLANO.

ASPARAGUS ON MARSH LANDS.—Joseph Danielson, of Suisun valley, pro-

poses to experiment in growing asparagus on some of his salt marsh land near Denverton. He has already reclaimed about seventy acres, which he intends to sow in oats and barley this year. After harvesting the first crop he will proceed to plant asparagus. It is reported that E. L. Stewart of Denverton will do some experimenting on the same line.

### STANISLAUS.

OLIVE PLANTING.—Modesto News: Stanislaus county has proved to be an ideal place for the culture of olives, the fruit being large and of high grade, while the oil made from them is equal to any in the world. There is no doubt that more attention will be given to olive culture here in the future and it is reported that a number of groves are to be set out in the spring.

### SUTTER.

BARLEY AND POTATOES.—Bee: John Eldredge, superintendent of the E. Clements Horst Company hop farm at Bohemia, is making arrangements to plant 9,000 acres of the Chard ranch to barley. The method of farming the land adopted by the company is to sublet small tracts to the farmers of the vicinity, they to do the putting in of the grain, the company to furnish the seed and receive one-half of the crop. The fields have been almost taken by the thistles. They are now being plowed preparatory to seeding, and as the ground has been used for stock, the farmers anticipate an exceptionally large crop. The low lands along the river, which are subject to overflow, will be planted to potatoes in the spring.

## DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



# SEEDS, PLANTS, Etc.

## WANTED

Cuttings of the Following for Grafting Purposes:

Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

**FANCHER CREEK NURSERIES**  
Fresno, California.

## FOR SALE

**200,000 Berry Plants**, including Phenomenals, Mammoths, Blackberries, Himalaya Glants, Lucretia Dewberries and Raspberries. Send for Catalogue to

**R. J. HUNTER, OAK VIEW BERRY FARM**  
Gridley, Cal.

## Grafted Vines and Resistant Cuttings

Malaga, Muscat, Emperor on Rupestris St. Geo. Muscat on 3306. CUTTINGS of Rupestris St. Geo., 3306, 3309, 1202. Address

**MINNEWAWA VINEYARD, Fresno, Cal.**

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

**A. F. SCHEIDECKER, Sebastopol, Cal.**  
Proprietor Pleasant View Nursery.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## WALNUT TREES

Grown from carefully selected seed  
Postal for prices.

**A. A. MILLS, Anaheim, Cal.**

## BARTLETT PEARS.

I have a large stock of Bartlett Pears that cannot be excelled for size and quality grown on whole roots one year old. Prices reasonable. Those desiring in any quantity, address,

**R. P. EACHUS, LAKEPORT, CAL.**

## TREES

Franquette **WALNUTS** Grafted on  
Santa Rosa Calif. Black

Finest **CHESTNUTS** Grafted

Burbank's **Opulent Peach** Finest  
Best Quality

Burbank's **Rhubarb** Also other  
Crimson Winter stock

Grown at Sebastopol

**T. J. TRUE,**

Rural Route 1. **MODESTO**

High In Quality Low In Price

## OUR SEEDS GROW

**Vegetable, Flower  
and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from well known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50

**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth.....\$1.00

## GRAFTED VINES

FIELD GRAFTING  
BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

**JOHN L. AMES,**

Elk Grove, Cal.

### ALMONDS

Lewelling, Texas Prolife, Drake, Three sure bearers.

### PEACHES

Muir, Elberta, Lowell, Orange and Tuscan Cling, etc.

### CHERRIES

Chapman (earliest), Royal Ann, Bing, Tartarian, etc.

### WALNUTS AND PECANS

Grafted and Seedlings.

### ELLWOOD WALNUT

**EUCALYPTUS**—Twenty varieties, in 10,000 or 50,000 lots.

**Leonard Coates Nursery Co., Inc.**

Morganhill, Santa Clara Co., Cal.

## The Crocker Bartlett Pear

DOES NOT BLIGHT

If proven different, purchase price of trees bought from us in 1907 will be refunded. Fruit highly recommended by Luther Burbank. Sample of pears sent on receipt of 25 cents. See U. S. Year Book of 1905.

**Peach Trees, 15c**—all leading varieties.

**Cherry Trees, 20c**—all leading varieties.

**GOLDEN RULE NURSERY**

Loomis, Placer County, Cal.

## Gregory's SEEDS

Make your planting a success by sowing good seed. Our flower and vegetable seeds are guaranteed fresh and pure, and are sold at reasonable prices. We supply farmers who plant by the hundred acres, down to collections for the kitchen garden. We have a number of new varieties that every farmer needs. Our new potato, "Big Crop," produced this season on our own farms at the rate of 856 bushels per acre. Our new catalogue is an invaluable guide for all growers. It's free.

**J. J. H. GREGORY & SON, MARLBOROUGH, MASS.**

## FERRY'S SEEDS

For freshness, purity and reliability, **Ferry's Seeds** are in a class by themselves. Farmers have confidence in them because they know they can be relied upon. Don't experiment with cheap seeds—your sureties in buying seeds sent out by a conscientious and trustworthy house. **Ferry's Seed Annual for 1908 is FREE.** Address **O. M. FERRY & CO., DETROIT, MICH.**

## Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, A1, Lady Thompson and Midnight, Pedigree Plants.

## Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

## Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

**Dewberry, Loganberry, Phenomenal Berry Plants.**

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS, Burbank, Cal.**

## Trees that Grow and Bear Fruit

**SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.**

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

## Orange County Nursery & Land Company

FULLERTON, CAL.

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.**

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untried. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

**THE FRESNO NURSERY**

**F. H. WILSON, Proprietor.**

Box R. R. 42.

Fresno, California

## 200,000 Eucalyptus Trees

(IN VARIETY)

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit, 20,000. Our trees are up to our usual standard. Correspondence invited. Our booklet, telling when, how, and what to plant, free to our patrons only. Address

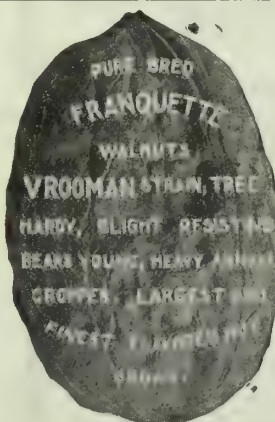
**W. A. T. STRATTON, Nurseryman**

PETALUMA, CALIFORNIA.

Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific



Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.

Salesmen Wanted.

## Pacific Nurseries

San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting a full line of

Ornamental Trees and Shrubs, Evergreen and Deciduous, Conifers, Palms, Rhododendrons, Camellias, Ericas, Azaleas, Roses, Eucalyptus, Cypress, Pine, Monterey and Maritima Pittosporum transplanted into flats.

Send for Catalogue

**F. LUDEMANN, 3041 Baker Street**  
SAN FRANCISCO

## SUGAR GUM AND RED GUM TREES

In large or small numbers.

**HENRY SHAW, RIVERSIDE NURSERY**  
320 River St. Santa Cruz, Cal.



## Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery  
Spring of 1908.

**SOUTHLAND NURSERIES,**  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.

Ask for **SNOW'S GRAFTING WAX**

In use all over the State  
For sale by all the large grocers, or  
**D. A. SNOW, Lincoln Avenue, San Jose, Cal.**



# You Can Cure



**Lameness, Curb, Splint, Spavin, Founder, Dis-temper, Cholic, Bony Growths, Sprains, Swellings, Shoe Boils.**

Are you content to be always at the mercy of the veterinary?

Why not be prepared to handle all the common ailments of your horses yourself?

A reward of \$100 is offered for a failure to cure any of the above, where cure is possible, by

## Tuttle's Elixir

**It Never Fails to Locate Lameness**

Fully described on circular around bottle.

Remedy for all blemishes. An unexcelled Leg Wash for race and work horses. Used by Veterinarians.

*Beware of all blisters; they offer only temporary relief, if any.*

### Tuttle's High-Class Specifics

**Tuttle's Family Elixir**, for ailments of the human family.

**Tuttle's White Star**, matchless liniment for healing and drying.

**Tuttle's American Condition Powders**, for purifying blood.

**Tuttle's American Worm Powders**, a positive worm expeller.

**Tuttle's Hoof and Healing Ointment**, for hard and cracked hoofs and hoof diseases.

### PRICES

**Family and Horse Elixir**, each \$4 per dozen bottles.

**Condition Powders**, \$2 per doz.

**Worm Powders**, \$2 per doz.

**Hoof Ointment**, \$4 per doz.

**White Star Liniment**, \$4 per doz. Bottle by mail, \$0.75.

### Free Veterinary Book

100 pages, fully illustrated, by our Dr. S. A. Tuttle, a veterinarian for many years. Gives symptoms and specific treatment for all ordinary diseases. Title of book, "Veterinary Experience." Write for copy. Postage 2c.

### TUTTLE'S ELIXIR CO.,

33 Beverly St., Boston, Mass.

Montreal, H. A. Tuttle, Mgr., 32 St. Gabriel St.  
So. Farmington, N. S., C. H. R. Crocker, Mgr.  
Chicago, C. F. Tuttle, Mgr., 311 East 63rd St.  
Los Angeles, W. A. Shaw, Mgr., 1921 New England Ave.



## The Dairy.

### Moisture in Butter.

A wider understanding of this vexed matter may be had from the following statement by Prof. G. L. McKay, of the Iowa Agricultural College:

The writer has received many letters from makers of this State and other States concerning the question of churn overrun. Some of these complain that they do not get enough overrun and others that they have some difficulty in keeping within the limit of the law.

Last winter the writer and a number of others went to Washington to urge Secretary Wilson to have the maximum amount of moisture for butter at 16%. We did not ask this with any idea of having the makers crowd this standard to the limit. In fact, I have no sympathy for the maker who attempts such methods. A few weeks ago we received a letter from a maker who claimed they did not get any overrun during the month of August. Another party claimed that he had been fined \$700 for going over the limit. He claimed that the samples taken by the internal revenue officers were not correct. He said that officers tipped out the butter and took their sample with a spoon from the lower end of the package. In regard to the latter case I will say that we have analyzed lots of butter and we did not find any perceptible difference between upper and lower portions of the tubs. It is true that moisture content of a tub may vary in different parts from one-half to three-fourths of one per cent. This is due to little pockets of water being caught up sometimes in the sample.

There is no reason for any maker incorporating excessive moisture at this time of the year, especially with all the different moisture tests on the market. The maker who never endeavors to go beyond 14 1/2 or 14% will not be likely to get in the clutches of the law. I cannot make it too strong that buttermakers should take no chances on the question of excessive moisture in butter. Water is a natural constituent of butter the same as fat and casein. When we churn butter in the natural granular condition from about 95 to 98% of the water content comes from the milk, which has been secreted from the blood by the cow, and we believe there is no necessity for making butter in any other way. The excessive churning of butter or working it in water certainly injures the grain and is not to be recommended.

In some of our experiments conducted last year at the large creamery at Strawberry Point, we had no difficulty in retaining all the moisture that was necessary when we churned in the regular granular condition. Different lots of butter made from the same cream varied in the per cents of moisture from 12 to 15.88%, according to the different methods used, and yet all this butter was churned in a granular condition. This butter was sent to three leading English markets as well as to New York market, and of the scores of the high and low moisture were practically all the same. Twenty-five tubs of this butter are held in storage and will be scored later on, to test its keeping qualities, when final results will be published in bulletin form. From the general appearance of this work it would seem that the water content up to the percentages named above has no effect on the quality, especially when butter is churned in a granular condition. A thick cream, or one containing 30 or 40% fat, will give a larger overrun than a thin cream or a cream containing about 20% fat, unless some artificial methods have been used in the latter case.

By churn overrun we mean the amount of casein, salt, and water incorporated with butter, other than fat. Salt in butter usually runs from 1 to 3 1/2%, and is held in solution in the water. Where excessive salting is resorted to, it will appear gritty in the butter. Water in butter will take up about 18% of its bulk in salt in a saturated solution.

## Lost Strayed or Stolen—One Cow

That is about what happens each year for the man who owns five cows and does not use a **Tubular** cream separator. He loses in cream more than the price of a good cow. The more cows he owns the greater the loss. This is a fact on which Agricultural Colleges, Dairy Experts and the best Dairy men all agree, and so do you if you use a **Tubular**. If not, it's high time you



did. You can't afford to lose the price of one of your cows each year—there's no reason why you should. Get a **Tubular** and get more and better cream out of the milk—save time and labor and have warm sweet skimmed milk for the calves. Don't buy some cheap rattle-trap thing called a separator; that won't do any good. You need a real skimmer that does perfect work—skims clean, thick or thin, hot or cold; runs easy; simple in construction; easily understood. That's the **Tubular** and there is but one **Tubular**, the **Sharple's Tubular**. Don't you want our little book "Business Dairyman," and our Catalog A.131 both free? A postal will bring them.

**The Sharple's Separator Co.**  
West Chester, Pa.  
Toronto, Can. Chicago, Ill.

When going beyond this amount the salt will not dissolve, hence the higher per cent of water the greater amount of salt can be used.

The casein in butter varies slightly, usually running from 1 to 1 1/2%. When cream is very sour, so that casein is precipitated and the butter is not washed much, the amount of casein may run sometimes from 2 1/2 to 3%. It is not desirable to increase the per cent of casein above normal conditions, as there would be a tendency to injure the quality of the butter.

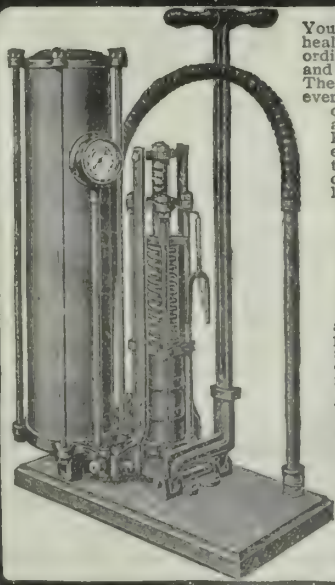
The greatest varying factor in butter is water. The variation in dairy butter sometimes runs from 9 to 25%. It is not desirable or honest to incorporate a high per cent of water. The law of the land has recognized 16% as the maximum amount of water that butter may contain. The controlling of moisture in butter to a per cent is a difficult problem, therefore a maker would be safe in not trying to go over 14 per cent.

Cream is only milk containing a large amount of fat. Butter fat exists in cream in the form of microscopic spheres known as fat globules. Under proper conditions the concussion of the churning makes the globules strike together and the impact causes them to form masses. The masses continue to increase in size with the progress of churning and rise to the surface of the buttermilk.

Butter made from thin cream and churned at a low temperature gathers very slowly for the following reasons: First, the fat globules are distributed in a large volume of milk serum, and the chance of striking one another is less than in thick cream. Second, the low temperature hardens the fat so that the globules do not cohere readily, and may probably strike together several times before adhering. The surface of such granules usually becomes smooth and the granule itself becomes very compact.

A rich cream that has been kept at a comparatively high temperature will churn very rapidly. The globules are in close proximity and there are naturally many chances of striking together to form large masses. Butter churned from this kind of cream has a tendency to gather in irregular shaped granules, which are not driven together so violently; consequently they hold more water or moisture. If cream is churned at a very high temperature the result is

## MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a **Bean Magic Spray Pump**. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

### Bean Magic Spray Pumps

are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name **BEAN** on a spray pump or appliance is a guarantee that it is the best that money and brains can produce.

The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you can not afford to be without a **Bean Magic Spray Pump**. Write for our special offer, also free illustrated catalog.

### BEAN SPRAY PUMP CO.,

163 W. Santa Clara St., San Jose, Cal.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded

Patent Continuous

### WOOD PIPE

Made from California Redwood

or Selected Puget Sound Yellow Fir.

404 Equitable Savings Bnk. Bdg.  
Los Angeles

268 Market St., San Francisco

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.



**HELP THE COWS**  
Even the best cows can't make big profits for the dairyman who persists in using pans or crocks or a poor skimming separator. Cream is cash, and if yours is just an "average" herd, then how much more necessary to skim out every drop! Why not help the cows boost your profits by skimming their milk with a reliable **UNITED STATES SEPARATOR**

**SKIMS OUT ALL THE CREAM**  
**HOLDS WORLD'S RECORD**

A cream separator is an acknowledged necessity to profitable dairying, but before you buy why not look very carefully into the matter and buy the best one at the start? It's cheapest in the long run. We'll gladly send you, FREE, an illustrated book, telling what a separator can and ought to do. Please write us today "Send your book No. 148."  
**VERMONT FARM MACHINE CO. (481)**  
**Bellows Falls, Vermont**

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

that butter will gather quickly and incorporate an excessive amount of water and casein, which will affect the body and color. An excessive amount of water has a tendency to make the butter lifeless and pale in color. A 35 to 38% cream will give as good satisfaction in churning as cream of any other per cent. Churning at 50 or 52°, or at a low enough temperature so that the butter will gather in 40 or 45 minutes in granules about as large as wheat and not too soft or too hard, will produce butter of the very best quality. Long churnings or quick churnings are not desirable. A large sized granule is conducive to high moisture. Therefore the factors that control moisture are thickness of cream; temperature of churning; amount of cream churned at a time, remembering that a churn two-thirds full will give greater overrun than a churn half full, under normal conditions; and the last factor, the kind of churn used. It would be well for every creamery to have two churns, one large and one medium sized, so that when the supply of cream falls off the smaller churn could be used.

## The Poultry Yard.

### Times for Hatching.

Mrs. Ella Layson takes up the subject of times for hatching which we have already under consideration, in her contributions to the Petaluma Poultry Journal, as follows:

It cannot be arbitrarily stated when is the best time to hatch to obtain mar-

ket eggs when prices are high, as there are several things to be taken into consideration which vary according to circumstances, and any one in doubt as to the best time to do most of their hatching would do well to experiment along this line. One year hatch as early as eggs are available, keeping strict account of the cost of eggs used, the percentage of each hatch, the number of chicks raised, how long before pullets began laying and the number of eggs laid the first season. Also note the time of molt and when laying is resumed.

Then the next year hatch eight or ten weeks later, keeping account as before and comparing results. This is to be done when one does all their hatching in one season, but when at all convenient it will be of advantage to hatch out some chicks in the fall, as these pullets will do their best work when the early hatched are beginning to fall off in laying and they will molt late in the season, continuing to lay during the fall months when eggs are at a premium. Also the hens late in molting, molt the quickest. The early molt takes place during the resting season when the natural forces are sluggish and laying is deferred for some months, but late in the season nature replaces the plumage very quickly and soon the hen will be laying.

Eggs are rather high priced in the fall, but the surplus cockerels may be disposed of for a good price, as they can be put on the market when young stock is scarce. The eggs most suitable for hatching at this season are from the late hatched pullets of the previous year, but these hens are most always lacking in size and should be mated with large, extra vigorous males. Also the eggs from the early pullets may be used after they have been laying awhile. In order to get good results these pullets should be mated with two-year-old males so that there will be no weakness in the chicks owing to immaturity of the breeding stock. But the regular run of hens that are just starting to molt or are exhausted from months of steady laying cannot be depended upon for eggs that will pay for hatching. It is not to be supposed that the late hatched pullets have been laying all summer and through the fall without a rest, for there will be brief periods of rest lasting perhaps a week or two which is common to all hens of the non-sitting class, or if Plymouth Rocks they doubtless became broody during the summer; but in any case fall generally finds them in good laying condition.

Pullets hatched along in January will begin to lay and then molt just when they should be laying and if they belong to the heavier breeds, unless care is taken how they are fed, they will take on fat instead of laying. To have them hatched so that they will begin laying late in the season means that they will continue to lay regularly unless checked by a spell of bad weather. But the January hatched birds, if well managed, make the best breeders as they are large and more perfect in shape.

If one could hatch all the pullets needed in March they would make no mistake in doing so. This seems to be a popular time for hatching, as the demand for eggs for hatching during March was more general than at any other time, although there was a demand for large numbers in the fall and early winter for hatching broilers. The breeding stock is likely to be in good condition at this time so that eggs will be fertile and chicks hatch out lively and strong. Warm spring days are just ahead, so they have every opportunity to make rapid growth and there will be but little loss, while many times the loss resulting from too early hatching is very large, for it is so easy for the little fellows to get chilled during the changeable days of winter, or if confined too closely they will develop weak legs and become stunted. Therefore in hatching so as to insure eggs when they are high one should consider the cost and the loss that may be entailed in getting started. In the poultry business it is never safe to consider one thing by itself, but due attention must be paid to other things that relate to it in any way.

## When Eggs Are Eggs

How do you manage your poultry business? Are you content to gather a moderate supply of eggs in springtime when prices are low, or do you aim to get your greatest number during the winter months when prices are up and "eggs are eggs?" The way to succeed with hens is to do what others don't do. When your neighbors' hens are on strike, then see that yours "get busy."

If you will begin now to feed Dr. Hess Poultry Pan-a-ce-a your hens will not stop laying at all. Of course the moulting season is an "off time," but even then Poultry Pan-a-ce-a will make a few eggs, and if you continue to give it regularly, you will get an abundance all through the cold winter days when others get none.

## DR. HESS Poultry PAN-A-CE-A

is the prescription of Dr. Hess (M. D., D. V. S.) and is composed of elements which assist digestion, make good blood and cleanse the system of clogging poisonous matter. It is also a germicide and prevents poultry diseases. It has the unqualified endorsement of poultrymen in the United States and Canada, hastens the growth of young chicks and helps fatten old or market fowls. A penny's worth a day is sufficient for 30 hens.

FRESH EGGS-45¢

Sold on a written guarantee.  
1 1-2 lbs. 35¢ 5 lbs. 85¢  
12 lbs. \$1.75 25 lb. pail \$3.50

Send 2 cents for Dr. Hess 48-page Poultry Book free.

**DR. HESS & CLARK,**  
Ashland, Ohio.  
Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR CO.,  
Petaluma, Cal.,  
Pacific Coast Distributors.

## PEAR-BLIGHT We can CURE IT

Our Work has Extended Over a Period of 3 Years

Process and Formula Patented.  
Address Correspondence to Vacaville, Cal.  
**PEAR BLIGHT REMEDY COMPANY**



THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

**Francis Smith & Co.**

Manufacturer of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

**WRIGHT BROTHERS,**  
Riverside, Cal.



## THE MARKETS.

SAN FRANCISCO, Jan. 8, 1908.

## WHEAT.

There are constantly increasing evidences that the demand for wheat is growing stronger as the season advances. The Chicago market is active, and Eastern millers have been taking on considerable quantities of grain. The speculative market here is strong and much more active than it has been for some time. There is a great deal of inquiry for cash wheat, especially on the higher grades for milling purposes, though the amount of business in this line is still comparatively small. Holders are very firm in their ideas, in view of the known shortage, and are still in a position to hold back, but so far the millers are unwilling to pay the prices asked.

California White Australian..	1.75 @ 1.82½
California Club.....	1.67½ @ 1.72½
California Milling.....	Nominal
California lower grades.....	1.60 @ 1.65
Northern Club.....	1.65 @ 1.72½
Northern Bluestem.....	1.75 @ 1.77½
Northern Red.....	1.62½ @ 1.70

## BARLEY.

All dullness and weakness in the barley market seems to have disappeared and the market opened the week very firm, after several days of activity, with the May option higher. Feed grades are especially strong, nothing of choice grade going now for less than \$1.55, while the lower grades of feed are several cents above last quotations. Arrivals are only moderate, and under the present strong demand it is expected that there will be further advances all along the line. While quotations show no change except on feed grades, everything is firm and active.

Brewing .....	\$1.60 @ 1.65
Chevalier .....	1.75 @ 1.85
Good to Choice Feed, per ctl..	1.55 @ 1.57½
Common to Fair .....	1.50 @ 1.52½
Shipping .....	1.57½ @ 1.60

## OATS.

Oats are still comparatively dull, with no strong demand in this section, and several grades show a decline this week. The expected activity on seed grades has not yet appeared, and choice red are lower. White also shows a slight decline, and gray have fallen off considerably. Dealers, nevertheless, report a strong feeling, as no large lines have been arriving, and offerings are light. There are very few black on the market.

Clean Black for seed.....	\$2.50 @ 3.00
Choice Red, per ctl.....	1.85 @ 1.90
Gray.....	1.52½ @ 1.60
White.....	1.52½ @ 1.70
Choice Red, for seed.....	1.90 @ 2.00

## CORN.

Quotations on corn show absolutely no change since last week. No new supplies have come in, and stocks are light, amounting on Jan. 1 to only 72 tons, a slight increase since last month. Trading is of little importance, with the demand as light as before, but everything is firmly held.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @
White .....	Nominal
Western State sacked Yellow, old.....	1.62½ @ 1.65
White, in bulk.....	1.55 @
Mixed, in bulk.....	1.52 @
Brown Egyptian.....	1.40 @
White Egyptian .....	1.35 @
New Yellow.....	1.47 @

## RYE.

Rye still shows no movement worth mentioning, there being no particular demand in this market. Offerings are small, and are held steadily at prices formerly quoted.

California .....	\$1.45 @
Utah.....	1.40 @ 1.45
Oregon .....	1.45 @

## BEANS.

Beans are beginning to move again in considerable quantities, though the demand is so far limited to the district west of the Missouri river, the eastern interest still holding off from the market. Business for the local interest is small. The feeling is much better, and dealers here are resuming activity, though there is little speculative buying. Prices are firm, with little change.

Bayos, per ctl.....	\$3.15 @ 3.25
Blackeyes .....	3.75 @ 4.00
Butter .....	4.50 @ 5.00
Cranberry Beans .....	3.00 @ 3.25
Garvanzos.....	3.75 @ 4.00
Horse Beans .....	2.75 @ 3.00
Small White .....	3.50 @
Large White .....	3.35 @ 3.45
Limas.....	4.85 @ 5.00
Pea .....	3.50 @ 3.75
Pink .....	3.15 @ 3.25
Red .....	3.40 @ 3.50
Red Kidneys.....	3.25 @ 3.50

## SEEDS.

The first of the new Utah alfalfa is now offering on this market, and is very firmly held at high prices. All varieties of alfalfa seed are again moving well under a strong demand from the rural districts. Other lines also show a considerable increase in activity since a week ago.

Utah Alfalfa .....	18 @ 19 c
Turkestan alfalfa.....	18 @
Alfalfa .....	17½ @ 18 c
Broomcorn Seed, per ton .....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3½ c
Canary.....	4½ @ 4½ c
Flaxseed .....	Nominal.
Hemp.....	4½ @ 4½ c
Millet.....	3 @ 3½ c
Timothy .....	nominal.
Yellow Mustard.....	5 @ 5½ c

## FLOUR.

The demand for flour is about average, but the market is not very strong. There is still no business in this market for the foreign interest, and there is likely to be none at prevailing prices. Quotations are unchanged.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras .....	5.40 @ 5.65
Superfine .....	4.20 @ 4.50
Oregon and Washington, Family .....	4.75 @ 5.25

## HAY.

Arrivals for the week show a total of 3290 tons in comparison with 4040 tons for the week preceding. This lessening in shipments was very opportune, for the market was becoming badly crowded and prices were again showing a decline. With the turn of the year there has been a general improvement in business throughout the city, and it is expected that the hay market will also show beneficial results; provided, however, that discretion be used in regulating shipments here. The interior demand is fast helping to reduce surplus stocks and at the moment the outlook is encouraging. Although some receivers of hay are cutting prices in order to effect ready sales, quotations continue about as they have been for the past two weeks.

Choice Wheat, per ton .....	\$16.50 @
Other Grades Wheat .....	11.00 @ 16.00
Wheat and Oat.....	11.00 @ 15.00
Tame Oat.....	11.00 @ 16.00
Wild Oat.....	10.00 @ 13.00
Alfalfa .....	9.00 @ 13.00
Stock .....	8.00 @ 9.50
Straw, per bale.....	50 @ 85c

## MILLSTUFFS.

The market has been practically bare of bran for the past week or two, and liberal shipments arriving from the north at the end of the week had very little effect, though there is no extensive buying. Shorts are very scarce, with practically no spot goods offering, and all new arrivals are eagerly taken. None can now be had under \$29 a ton. Other lines are steady to firm at prevailing prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing .....	23.00 @
Bran, ton .....	23.00 @ 29.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00 @
Jobbing .....	26.00 @
Corn Meal.....	37.00 @
Cracked Corn.....	38.00 @
Mealalfa.....	21.50 @
Jobbing .....	22.50 @
Middlings.....	31.00 @ 32.00
Mixed Feeds.....	22.00 @ 24.00
Oil Cake Meal, per ton.....	38.50 @ 39.50
Rolled Barley.....	35.00 @ 36.00
Shorts.....	29.00 @ 30.00

## POULTRY.

Last week closed with the poultry market very well sustained, and some lines decidedly strong, with a continued demand for everything except turkeys, late arrivals of which were inclined to drag. This week receipts of native as well as Eastern stock have been very moderate, and the market is in very good shape for

choice stock of all descriptions, all arrivals cleaning up easily under a brisk demand. Most attention is given to the best chickens, but prices on ducks, geese, and squabs are kept up by their scarcity. Good dressed turkeys are taken readily, though live stock is neglected at present.

Broilers .....	\$4.00 @ 5.00
Small Broilers.....	3.00 @ 3.50
Ducks.....	4.00 @ 7.00
Fryers.....	5.00 @ 6.00
Geese .....	2.00 @ 2.50
Hens, extra .....	7.00 @ 9.00
Hens, per doz.....	5.50 @ 6.50
Small Hens .....	4.00 @ 5.00
Old Roosters .....	4.00 @ 4.50
Young Roosters .....	6.50 @ 8.50
Pigeons .....	1.00 @
Squabs .....	3.00 @ 3.50
Hen Turkeys, per lb .....	17 @ 19 c
Gobblers, live, per lb.....	16 @ 18 c
Turkeys, dressed.....	18 @ 21 c

## BUTTER.

At the beginning of this week San Francisco is said to have been the lowest priced butter market in the United States. It is said in some quarters that strictly fresh stock is scarce, but that jobbers are selling firsts as extras, causing the latter to be in very little demand. At any rate the movement is of small proportions, and buyers seem unwilling to pay the low price that is asked. It is said that there is some pressure to sell storage goods, which has a tendency to limit the sale of lower grade fresh stock.

Cal. (extras) per lb.....	31 c
Firsts.....	26½ c
Seconds .....	25 c
Thirds .....	24 c
Fresh Eastern, extras.....	
Fresh Ladles, extras.....	
Fresh Ladles, firsts.....	
Storage, Cal., extras.....	24 c
Storage, Cal., firsts.....	23½ c
Storage Eastern, extras.....	24½ c
Storage Ladles, extras.....	20 c

## EGGS.

Cold storage eggs are in heavy supply this year, and there has been some pressure to sell on the part of holders for some time, which caused the week to end with a sharp decline on the lower grades of fresh stock. Extras sold off 4½c under an effort to clean up increasing receipts. This week opened with still larger arrivals, and the selling interest in a poor position, extras standing at 32c, though buying has been stimulated by the drop, and supplies clean up faster than before.

California (extra) per doz.....	32 c
Firsts.....	28 c
Seconds.....	25 c
Thirds.....	Nominal
Storage, Cal., extras.....	27 c
Storage, Eastern, extras.....	21 c

## CHEESE.

Fancy California flats are weaker again at 14½c, with plentiful stocks and no pressing demand. Young Americas are inclined to firmness. New Eastern is nominal, there being no business on this line at present.

Fancy California Flats, per lb.....	14½ c
Firsts.....	14 c
New Young Americas, Fancy.....	16 c
Storage, do.....	15½ c
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	15 c
Oregon, Fancy.....	15 c

## POTATOES.

The dullness in potatoes last week brought about a slight decline in Salinas Burbanks, but by this time the market is again in a good condition, stocks having been closely cleaned up since the first of the year. Arrivals have been light for some time, and the market is now firm, with a prospect of better prices. Sweet potatoes are very plentiful and weak, with a decline since last week.

Oregon Burbanks.....	\$1.00 @ 1.25
Burbanks, Salinas, ctl.....	1.10 @ 1.30
Burbanks, River.....	75 @ 1.00
Sweet Potatoes, per ctl.....	2.00 @ 2.25

## VEGETABLES.

Onions are now in a good position for holders, two carloads of Oregon stock arriving on a bare market Monday being cleaned up at once. Supplies are now very small, and prices show a decided advance, while the demand is brisk. Miscellaneous lines find about as good a market as usual at this time of year, and choice stock moves easily at good prices. Poor stock is weak, but little of it comes in. Beans, peas, green peppers, and egg plant are all in good demand.

# LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best for the West—all other sorts being discarded. Why experiment, why take chances? You can absolutely depend on LILLY'S seeds. Our catalogue for 1908, consisting of 112 pages, 16 colored pages made from actual photographs, with full cultural directions, is yours for the asking. You'll also find that LILLY'S seeds are **SOLD BY DEALERS**

The Chas. H. Lilly Co.  
Seattle, Portland, San Francisco.

Garlic, per lb.....	5 @ 7c
Green Peas, per lb.....	3 @ 5c
Green Peppers, per lb.....	5 @
Cabbage, per ctl.....	75 @
Onions, per ctl.....	2.25 @ 2.50
String beans, per lb.....	12½ @ 15c
Tomatoes, large box .....	Nominal.
Marrowfat Squash, per ton.....	10.00 @ 15.00
Carrots, sack .....	75 @
Hubbard Squash, ton.....	10.00 @ 15.00
Summer Squash, 8 box.....	1.00 @ 1.25
Celery, crate, small.....	75 @ 1.00
Egg Plant, lb.....	8 @ 11c

## FRESH FRUITS.

Deciduous fruits are decidedly quiet, business being entirely of a routine nature, and dealers will take no extensive lines. Most of the apples offered are from cold storage, and prices are easier, some dealers offering concessions. Aside from a few strawberries, which sold out at \$3 per crate, pears are the only other article now offering.

Apples, fancy .....	1.50 @ 2.50
Apples, common to choice...	60 @ 1.00
Pears—	
Winter Nelis.....	2.00 @ 2.25

## CITRUS FRUITS.

In spite of the recent rise in orange prices at the shipping points, quotations here remain the same, and goods move slowly at former prices. The lack of activity is said to be due to the cold and rainy weather. Other citrus fruits show no feature, and prices are unchanged.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.50 @ 3.00
Standard .....	75 @ 1.25
Limes.....	3.50 @ 4.00
Oranges—	
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.75
Tangerines, large box.....	1.00 @ 1.25
Grape Fruit.....	2.25 @ 3.00

## DRIED FRUITS.

The general weakness of the dried fruit market is now observed in changed quotations, nearly every variety showing a slight decline. The market, however, is beginning to show signs of life. There is a firmer feeling in prunes, with considerable interest in the New York market, and some large shipments are going forward. Raisins are still weak, as Eastern buyers are waiting developments.

Evaporated Apples .....	8 @ 9 c
Figs, black.....	2½ @ 3 c
do white.....	3 @ 4 c
New Apricots, per lb.....	18 @ 21 c
Fancy Apricots.....	22 @
Peaches .....	10 @ 13 c
Prunes, 4-size basis, 1907 crop.....	4 @ 4½ c
Pitted plums.....	Nominal.
Pears.....	10 @ 12 c

## RAISINS.

2 Crown .....	4½ @
3 Crown .....	5½ @
4 Crown .....	5½ @
Seeded, per lb.....	7½ @ 7½ c
Seedless Sultanas .....	5½ @ 7½ c
London Layers, per box .....	\$1.40 @ 1.50
London Layers, cluster.....	2.00 @ 3.00

## NUTS.

The same quotations are still given on nuts, though the jobbing market is weak,



# LILLY'S BEST HOLLY CHICK FEED

A nourishing, wholesome and complete food for young chicks. A mixture of eleven different grains proportioned to supply the food needs of growing chicks and to fully nourish them.

These letters verify our claims.

"I have about 600 chicks and find the Holly Chick Feed superior to any chick feed on the market." O. A. AHRENS, Gilroy, Cal.

"We used your Holly Chick Feed and like it quite well." A. H. CANTRELL, Meadowdale, Wash.

"Holly Chick Feed is all right and if my chicks do not grow I will look elsewhere for the reason." D. O. BRUNNER, Spokane, Wash.

**Sold by Dealers**

Made by  
The Chas. H. Lilly Co., Seattle

and a further decline is reported on some varieties of almonds. There is very little business in this market.

Almonds, Nonpareils	16 1/2 c
I X L	16 c
Ne Plus Ultra	15 1/2 c
Drakes	13 1/2 c
Languedoc	12 1/2 c
Hardshell	9 c
Walnuts, Softshell No. 1	15 c
Softshell, No. 2	12 c
Italian Chestnuts	10 @ 12 1/2 c

## HONEY.

Honey is very slow, and while there is no change in quoted prices it is said that some country shippers who had been holding back are now willing to make concessions in order to clean up. Considerable quantities are coming forward, and dark amber is again on the market.

Water White, Comb	16 @ 17 c
White	15 @
Water White, extracted	8 @ 8 1/2 c
Light Amber	7 @ 7 1/2 c
Dark Amber	6 1/2 @ 6 1/2 c

## WOOL.

No material change is reported by local buyers, who report very little demand, though some shipments have been made to the East from country districts. Prices are nominally the same.

Humboldt and Mendocino, year's staple	22 @ 23 c
Fall clip: Northern free, mountain	8 @ 11 c
do. defective	6 @ 8 c
San Joaquin and Southern	5 @ 8 c
Fall Lambs, Northern	9 @ 11 c
Fall Lambs, Southern	7 @ 9 1/2 c
Nevada	12 @ 16 c

## HOPS.

The quietness in hops continues, as the growers are holding back, and the buyers are waiting to see what action will be taken by the Hop Growers' Association, which has found strong support in all the growing districts.

1906 crop	2 @ 3 c
1907 crop	4 @ 8 c
1908 (contracts)	10 @ 11 c

## MEAT.

Beef and mutton show considerably more firmness than last week, nearly all lines of dressed stock showing considerable advances. There is some scarcity in this district. Livestock is unchanged, and hogs continue rather weak.

Beef: Steers, per lb.	7 @ 7 1/2 c
Cows	5 @ 6 1/2 c
Heifers	5 @ 6 1/2 c
Veal: Large	8 @ 9 c
Small	9 @ 10 c
Mutton: Wethers	10 1/2 @ 11 c
Ewes	9 1/2 @ 10 c
Lamb	11 1/2 @ 12 1/2 c
Hogs, dressed	10 @ 11 c

## LIVESTOCK.

Steers, No. 1	8 @ 8 1/2 c
No. 2	7 @ 7 1/2 c
No. 3	6 @ 6 1/2 c
Cows and Heifers, No. 1	6 1/2 @ 7 c
No. 2	5 1/2 @ 6 c

Bulls and Stags	3 1/2 @ 4 c
Calves, Light	5 @
Medium	4 1/2 @
Heavy	3 1/2 @ 4 c
Sheep, Wethers	5 @ 5 1/2 c
Ewes	4 1/2 @ 5 c
Lambs	6 @ 6 1/2 c
Hogs, 100 to 200 lbs	6 @ 6 1/2 c
200 to 300 lbs	5 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## WANTED

By an experienced middle aged man, a position as manager of a large ranch. Address Box 36, care of Pacific Rural Press.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### POULTRY.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

**POULTRY SUPPLIES**  
of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

### BUFF ORPINGTONS

Largest clean legged bird in the list, lay the year around, and bring a dollar each and more when turned to market. Postal will bring you prices and our show record.

W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
State V. P. Nat. S. C. B. O. Club.

## FOR SALE

One six years and one two years old Jacks. If interested, address

P. O. Box 345, Vacaville, Cal.

## ATTENTION, DAIRYMEN!

We would like to furnish you with a young registered **Holstein Bull**, from 12 to 27 months old, grandly bred at the low price of \$100. Write us and tell us what you want. Do it to-day. We will send you pedigrees and markings and records of ancestors.

**PIERCE LAND & STOCK CO.,**  
Phone Main 1597. Stockton, Cal.

## FOR SALE

A few thoroughbred registered Poland China service boars.  
Registered Holstein Friesian service bulls and bull calves from Advanced Registry Stock.

**STANFORD RANCH, Vina, Cal.**

**For Sale: Jerusalem Artichokes**  
THE GREAT WINTER HOG FEED  
Address  
Fancher Creek Nurseries, Fresno, California.

## SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by **Dr. Bosanko's Pile Remedy**. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada, Pa.

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**

Importer and Breeder of

## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

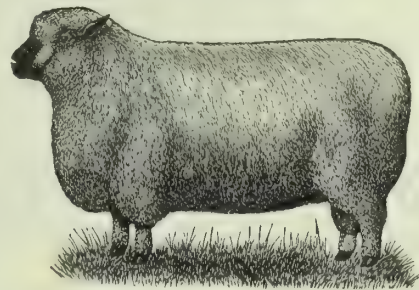
Address all communications PETALUMA, SONOMA CO., CAL.



**FRANK A. MECHAM**

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



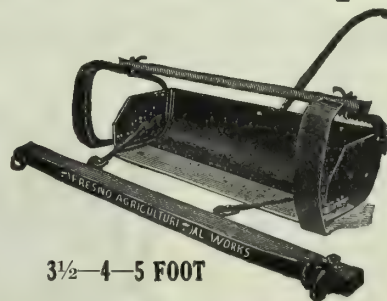
We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

**ASPARAGUS.**—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth.....\$0.50

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L.	27
Bean Spray Pump Co.	28
Beckman, Geo. V.	31
Blake, Moffitt & Towne	25
Bosanko Medicine Co., Dr.	31
Breeders' Directory	31
Coates Nursery Co., Leonard	27
Croley, George H.	31
Cutter Analytical Laboratory	29
Dewey, Strong & Co.	31
Disbrow, F. H.	27
Driver, E. S.	31
Eachus, R. P.	27
El Dorado Oil Works	31
Fancher Creek Nurseries	27, 31, 32
Ferry & Co., D. M.	27
Folding Sawing Machine Co.	22
Fresno Agricultural Works	31
Fresno Nursery	27
German Kali Works	22
Glenn, Estate of H. G.	25
Golden Rule Nursery	27
Gregory & Son, J. J. H.	27
Hart, Ed.	31
Hess & Clark, Dr.	29
Holcombe & Co., R. A.	22
Hopkins, G. H.	27
Howard Cattle Co.	31
Hoyt's Tree Support Co.	—
Hunter, R. J.	27
Jackson & Co., T. W.	22
Lawrence-Williams Co.	26
Liliencrantz & Son	25
Lilly Co., Chas. H.	31, 32
Lister, Henry B.	25
Ludemann, F.	27
Lynch, John	31
McClanahan, E. E.	—
Meacham, Frank A.	31
Mills, A. A.	27
Minnewawa Vineyard	27
Morse & Co., C. C.	26
Mountain Copper Co.	22
Myers, Wm. S.	23
National Wood Pipe Co.	28
Oakland Poultry Yards	31
Orange County Nursery & Land Co.	27
Oregon Nursery Co.	27
Pacific Coast Business College	25
Pacific Guano & Fertilizer Co.	22
Pear Blight Remedy Co.	29
Pierce Land & Stock Co.	31
Rex Company, The	21
Rhodes Mfg. Co.	29
Roeding, Geo. C.	31
Savings & Loan Society	25
Scheldecker, A. F.	27
Seeds and Plants	26, 27, 32
Seulberger, J.	27
Shaw, Henry	27
Sharples Separator Co.	28
Silva & Bergholdt Co.	32
Simmons Hardware Co.	—
Smith, Francis	29
Snow, D. A.	27
Stanford Ranch	31
Stowe, C. A.	31
Stratton, W. A. T.	27
Sullivan, W.	31
Sure Hatch Incubator Co.	—
Teague, R. M.	27
Temple Pump Co.	26
True, T. J.	27
Tuttle's Elixir Co.	28
Van Der Naillen, A.	25
Vermont Farm Machine Co.	29
Wagner, J. B.	27
Waite, Thos.	31
Western Meat Co.	26
White City Grading Co.	25
Wright Brothers	29

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## Cocoanut Oil Cake

THE BEST FEED

FOR STOCK, CHICKENS AND PIGS.

FOR SALE IN LOTS TO SUIT BY

**EL DORADO OIL WORKS**

2404 Broadway, San Francisco, Cal.



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard

**OUR STOCK**

Comprises all profitable commercial sorts of

PEACHES,	CHERRIES,
PLUMS,	ALMONDS
PEARS,	APRICOTS
APPLES,	and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

**PLACER NURSERIES**

**SILVA & BERGTHOLDT CO.**

NEWCASTLE, CAL.



#### Our New Catalogue

Is profusely illustrated and contains much valuable information about trees and nursery stock. Printed in English or Spanish. Sent free to any address. Price list mailed on application.

# TREES

#### Our Large Nurseries

Experimental Farm, Plant No. 1, 640 Acres.  
Nursery and Propagating Department, Plant No. 2, 130 Acres.  
General Nursery, Plant No. 3, 640 Acres.  
Citrus Nursery and Citrus Orchards, Exeter, Tulare county, 100 Acres.



Every One True to Name

### Citrus

Our trees are all grown in the finest soil and under perfect conditions for the production of strong, healthy trees with well developed roots.

#### Our Citrus Trees

All are grown at Exeter, in the great Thermal Belt of Tulare county. The stock is the very best, and the deep, black soil in which they are grown develops trees with magnificent root systems and fine thrifty tops. Oranges, Lemons, Pomelos, Limes, Citrons in the best varieties.

#### Our Deciduous Trees

All are grown in a deep, alluvial, river bottom virgin soil; consequently, the root systems are as perfect as good soil can make them. Our assortment of apples, pears, peaches, plums, prunes, apricots, etc., is very complete in all of the best varieties.

#### Roses and Ornamental Trees

Our rose stock is the finest we have ever grown. Can be supplied in bush and tree form. We have the largest stock of ornamental trees on the Coast. Order now.



### Ornamental

## BURBANKS NEW CREATIONS

Santa Rosa Plum      Gaviota Plum  
Formosa Plum      Rutland Plumcot  
Vesuvius, the beautiful foliage plum  
Royal and Paradox Walnuts.

We are sole propagators and disseminators. Send 10 cents for our illustrated booklet about these new and valuable creations.

Paid-Up Capital \$200,000

## Fancher Creek Nurseries (Inc.)

GEO. C. ROEDING, President and Manager.  
P. O. Box 18, Fresno, California

### Vines

Our system of packing trees and plants for shipments makes it certain that when received all will be in perfect condition.

#### Walnuts

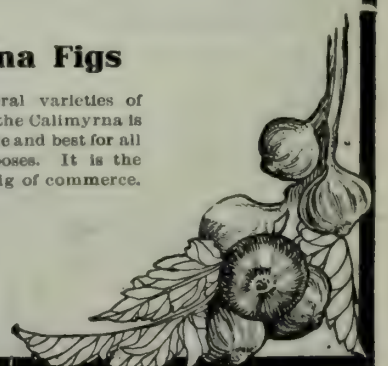
Franquette (Vrooman Strain) and other leading French and California types in grafted trees and also seedlings grown from selected seeds. All strong, healthy trees with well developed roots.

#### Grape Vines

We are the largest growers of vines on the Pacific Coast. All the leading raisin, wine and table grapes. We make a specialty of vines grafted on phylloxera-resistant roots, and can furnish them in any quantity, as well as vines on their own roots.

#### Calimyrna Figs

There are several varieties of Smyrna figs, but the Calimyrna is the most profitable and best for all commercial purposes. It is the genuine Smyrna fig of commerce.





# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 3.

SAN FRANCISCO, SATURDAY, JANUARY 18, 1908.

Thirty-eighth Year.

## Burbank's Formosa Plum.

The third of the trio of new plums which Mr. Burbank is offering this year through the Fancher Creek Nurseries at Fresno is shown upon this page. It is an unusually handsome fruit which runs surprisingly uniform in size, in many respects resembling the fruit of the Kelsey and Wickson, but much more uniform and handsome in appearance than either. In flavor, firmness and coloring, it surpasses the older varieties in every sense of the word. It is said by Mr. Burbank to be of rather a mixed parentage, blending probably fifteen to eighteen varieties in its origin. It ripens about a week later than Santa Rosa. "Professor E. J. Wickson describes it as follows: "I have never seen this fruit before, and I find it large (two and one-half inches longitudinal and two and one-fourth inches cross diameters) and handsome, red, shading from rather light to deep cherry color, the coloring being more even than the original Wickson as it grows with me. The variety also seems to have a tendency to greater symmetry, the heart-shape being less pronounced and the general exterior points of the fruit striking me as superior. Comparison of flavor points could hardly be made unless one had the two varieties grown under exactly the same conditions."

Mr. Burbank gives the following account of Formosa: "This is a plum which has been very fully tested for the past five years in close comparison with all others, and has been pronounced 'the best plum in existence' at the present time. The trees are wonderful growers (so far as known nothing comparable to

Formosa is now in cultivation in this respect), with unusually large, thick, healthy, light green foliage; strong, hard, wiry wood, which is always capable of holding the great crops of fruit which the trees so

far have never failed to bear. Even this year when all ordinary plums are either a partial or complete failure, Formosa is loaded with fruit of great size, unusual beauty, and unequalled in quality with per-

ing as directed for other fruits should be adopted. After the tree has acquired its form and the main branches are sturdy and strong enough to support a crop, no further pruning is necessary.



Burbank's Formosa Plum.

haps the exception of the new Santa Rosa first introduced last season.

Formosa blooms with the Burbank and Abundance, and always escapes late spring frosts, and always bears profusely even when continuous rainy weather prevents full pollination in most other plums. No disease has ever found lodgment with Formosa. The fruit is of uniform size, averaging about six inches in circumference one way by eight the other. Fruit yellow with a pale bloom until nearly ripe, turning to a clear rich red. Flesh pale yellow, unusually firm, sweet, rich, delicious, with a delightful apricot flavor, nearly free-stone. Formosa has been very thoroughly tested for its keeping qualities, which are unequalled except by Santa Rosa, Wickson, Burbank, and a few others."

In his announcement Mr. Roeding gives further points as to Formosa, what is expected of it and suggestions as to the treatment of the tree.

Formosa, like all the plum family, finds congenial conditions over wide geographical areas. In view of this its trial culture can be recommended not only in the Pacific States and Territories but throughout the Eastern United States, Europe and of course all countries enjoying a climate similar to that of California.

In habit of growth it is rather sprawling, hence the tree should be pruned quite severely when young and headed back to 18 inches from the surface of the ground. Plum trees are more or less subject to sun scald, which is overcome by having the branches start down to give ample shade to the body of the tree. The first four seasons following planting, practically the same method of pruning



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.	-	-	-	PUBLISHERS
E. J. WICKSON	-	-	-	Editor
EDGAR RICKARD	-	-	-	Business Manager

## The Week.

The winds are beating the clouds around the sky, fitful rains in considerable quantities are falling in some places, the rain-makers are hopeful of realizing on their "heads-I-win; tails-you-lose" contracts, and generally the winter may be said to be going on. A good, steady rain which shall extend to southern California is now a desideratum. The south caught on to the Mexican summer rainfall system last fall and secured early rains, but has not yet connected with the California winter rainfall system, and is therefore still dry and awaiting refreshment. Judging by the frequency of rains in the northern and central parts of the State it will not be long before a cyclonic movement of sufficient seriousness to embrace the south glides in from the Pacific. In the central parts of the State the frequency of showers is keeping the surface rather too wet for the grain seeding which some growers are anxious to finish, and this work is kept backward both at the south and at the north, though for opposite reasons. Such conditions are worth noting once in a while, simply to show the infinite diversity of California. Fortunately such troubles are usually only temporary, and are more vexatious for the moment than ever afterwards.

Meantime a large amount of work is being done in the great valley. Plowing and planting are being pushed widely. Nurseries are handling stock in large quantities. Many are using the lessened rate for farming in 1908, and the more abundant supply of mechanics' labor to carry on improvements. Many tourists of the home-seeking class are in the land, and everything looks like a year of considerable advancement and development.

One phase of winter work—the lifting of the great potato crop on the low lands around Stockton—is just now particularly active, and there is enough in sight according to local authorities to keep the growers busy until March. Potatoes are going directly from the fields to the cars to be rolled to Texas and adjoining States. Large buyers in the Middle West are not as free with orders as could be desired, but are expected to improve as local supplies become more reduced. Prices are rather low, but something like one million sacks of potatoes are calculated to be in this winter's crop in the Stockton district, and that will mean a lot of money, especially if the price advances as the country gets more hungry, as is expected.

Thinking of this great resource of the river-side region in the center of the State reminds us of the important movements now in progress to make that district safer and the shipment of its produce by water, as well as by rail, more easy. That means the improvement of the rivers. Nothing can be more industrially important to the State, and it can be attained by continually working for it. The River Improvement and Drainage Association of California, of which Mr. R. P. Jennings of this city is president, has received information that its invitation to the United States Board of Engineers in charge of Rivers and Harbors to visit California has been accepted, and that members of the Board, including Daniel W. Lockwood, Colonel, Corps of Engineers, U. S. A., and Chairman of the Board, and Lieutenant-Colonel S. S. Leach, Corps of Engineers, U. S. A., and Captain Webber, Assistant Engineer, and other members of the Board, will be here during the month. Hearings in the river section have been arranged. At Stockton, January 18, 1908, 10 A. M., there will be a hearing with reference to the improvement of the San

Joaquin river and its tributary, Stockton channel, from San Francisco bay to Stockton. At Sacramento, January 20, 1908, 1 P. M., there will be a hearing in reference to Sacramento river from its mouth to Feather river. In advising the Association of the above hearings, the United States Engineers state: "The object of the Board's visit is to secure information setting forth the commercial necessity of the improvement specified in the law, and all persons interested in the matter under consideration are invited to attend the hearings, and to present such information as is available bearing upon these questions. While oral statements are of value, the Board suggests that especially important facts and statistics should be submitted in writing, in order that they may become of record." This will be a great opportunity, and, if these distinguished engineers do not have full knowledge of what Californians know about these great rivers and think about them, it will be a great mistake.

We turn from this moist subject to another of quite a different kind. We have received a pressing invitation from Mr. Fisher Harris, president, to attend the Second Session of the Trans-Missouri Dry Farming Congress, which meets in Salt Lake City, Jan. 22-26, 1908, and are asked to give our readers information of the Congress and its purposes. The objects of the Congress are an increase of the cultivatable area of the country through recourse to rainfall farming. As the limitations of the reclamation of our arid lands by means of irrigation are brought nearer realization, the necessity for the general adoption of a system, or systems, of scientific soil culture that shall bring under cultivation the immense areas of land for which no water can be obtained, save such as falls in the shape of snow or rain, becomes more and more urgent and important. We thoroughly sympathize with this purpose and urge consultation as to its attainment though we would again, as we have in the past, urge conservative attitude and a freedom from booming on a dry-farming basis, which is the most dangerous thing now in sight in the West. Booming under irrigation is dangerous and booming without it is not less so. To expect too much from culture systems or from plant endurance is unwise. But what can be expected from systems and from hardier plants is a thing which every progressive person wants to know. Consequently we say take a cool head to Salt Lake and confer about these things.

As already stated in these columns, the opening of asparagus fields to free movement of dry summer air and the use of sulphur, which check the rust in California, do not work that way in the moist summer air of the Atlantic States. We have just received a letter from Mr. C. W. Prescott, of Concord, Mass., who has charge of experimental work for the Massachusetts Asparagus Growers' Association, which shows that they are relying upon two other lines of escape: First, strengthening the plant by fertilization of the soil; second, effort to secure resistant varieties. It seems that they have found two or three sections of the country which were inflicted with rust many years ago, got rid of it, and have not been troubled during the recent outbreak. They have secured seeds and plants from these localities. Mr. Prescott says it has been pretty generally demonstrated that Argenteuil and Palmetto are more resistant than other varieties, and these are being largely planted for that reason. We hope to have later a fuller account of what the Massachusetts Association is doing.

The financial disturbance is interfering with California winter activities somewhat, because many who wintered here will not do so this year. We usually get the light end of trouble, though. We read that in Berlin, Germany, the "American financial trouble," for they haste to credit us with it, results in depression which causes the problem of the unemployed in Berlin to assume most serious proportions. According to official calculations, the number out of work aggregates 30,000, more than 20,000 of whom either belong to unions or have some trade or other regular occupation. They seem to be having, also, a very cold winter across the water, and all charitable agencies are unable to prevent suffering which makes the heart sad.

Hard times are terrible upon the poor in any event, and doubly so when climatic rigors are added.

We wrote recently about a demand in some foreign country for a revolving machine to hash up the crust and improve alfalfa better than the ordinary disk harrow can do it. A Connecticut Yankee has announced the following:

I made a machine several years ago to hoe timothy and redtop. The machine had seventy-two blades, made in an oval about 3 inches long, ground to a sharp edge. Every time this machine rolled around there would be seventy-two of these knives penetrate an average of two or more inches in every 12 inches in width—in other words, seventy-two oval knives  $3\frac{1}{2}$  inches wide, 2 inches deep, every 4 feet in length the machine was drawn. I am going to take that machine and take a section of the alfalfa field and go over it in several directions and shave this dodder root from the alfalfa plant. The alfalfa will stand a great deal of cutting without damage, and these knives passing through the alfalfa stems cutting in every direction down through it and otherwise, I believe, will kill out the dodder before the alfalfa will be killed.

How this will act on the alfalfa crowns our readers can figure out for themselves and make such a machine if they desire to try it. We only wish to remark that such cutting will have no effect on the dodder unless it is used just at the right time, that is before the dodder makes its seed. There is no purpose in shaving the dodder root from the alfalfa plant; the root lets go for itself when it is through, because it is an annual and not a permanent parasite of the alfalfa. If it can be kept from seeding its course is run. This is the reason why burning and close pasturing keep it down. Hashing up the alfalfa crowns after the season's growth is made will have no effect upon the dodder seed, which will be in the ground at that time.

The President has just signed a proclamation creating the Verde National Forest in Arizona. This new national forest has an area of 721,780 acres and is located in Maricopa and Yavapai counties. It lies on the west side of the Verde river and includes a large portion of the watershed of that stream. The greater part of the area of this forest is covered with a growth of brush without commercial value. The protection of this, however, is just as important as heavily forested land, for, as in the case in southern California, this scrubby growth is the only thing that conserves the water supply and protects the watershed of the Verde river from serious erosion. The creation of this new national forest is considered necessary by the Reclamation Service for the best administration of the Reclamation Act, and the watershed has an important relation to the full development of the irrigable lands of Salt River Valley.

## Queries and Replies.

### Killing Morning Glory.

To the Editor: You were kind enough to advise me last March of a method of reducing morning glory by the use of a weed knife. Beginning shortly after that date I have used the knife on several patches of the weed aggregating 10 acres. One four-acre field I examined yesterday. This field has been thoroughly treated twice a week for the entire season. There are about  $3\frac{1}{2}$  inches of finely pulverized dusty soil over the field, and no green shoot has appeared on the surface. On hoeing away the dust in infected spots I found the undisturbed soil quite moist, and in most instances I found white threads of morning glory roots in this subsoil which were juicy and had apparently retained their vitality. This is a disappointment to me, and I report it to you for your information and consideration.—FARMER, Santa Barbara.

We were careful not to say how long it would take to kill morning glory in the way prescribed. We have never given any guarantee of the amount of time necessary to kill morning glory by never allowing it to reach the light and attain green color, but we are perfectly sure that if you continue the treatment this pest will be subdued. Cutting once a week, or possibly even once in ten days, should be often enough. The philosophy of the treatment is to allow the plant to make growing effort and yet never allow it to form chlorophyll. It is possible that this constant



effort may minister toward a weakening of the roots, providing they are never allowed to receive refreshment by light action. We hope you will continue your experiments and observations, even though it be only in the interest of better knowledge of the subject.

#### **Spraying for Weed-Killing on Drying Ground.**

To the Editor: Since your prescription for spraying to kill weeds on walks I have been wondering if the lye and arsenic sprayed around where chickens were running would be a bad thing, or if a horse should nibble around and get some of the poison, would it be strong enough to do damage? Or would the effects wear away in a few days after spraying? If so, I could keep them shut up. Could I dissolve salt in water so I could make a spray strong enough to spray on weeds now (they are about one or two inches high) to kill them, say for this year, and repeat next fall? If so, how strong?—READER, Santa Clara.

There would probably be no danger in using the arsenic mixture providing you keep the stock shut up until the vegetation is killed and withered down. We should guess that they would not get enough by licking the ground to do any injury, but we have no experimental knowledge on that subject. You can certainly kill the weeds by spraying with brine, and so long as the salt continues strong enough in the surface soil nothing will grow. It may be two or three years before the salt would be leached out sufficiently to admit growth. We cannot tell you exactly how strong to make the brine; you will have to experiment with it a little. You might begin with one pound of salt to five gallons of water and work either up or down, as the behavior of the grass indicates.

#### **Berry Plants—White Alkali.**

To the Editor: Would it be better to buy loganberry plants from a reliable nurseryman than to get them nearby free, when the plants were badly neglected last season? I want to set out quite a quantity of strawberries and find there is considerable white alkali. I have heard gypsum was good. How much should be used per acre? How much risk do I take?—NEWCOMER, San Diego.

Nobody can tell you whether you should buy loganberry plants or take them as a gift, without seeing the plants. If they are thrifty, though small, they will advance rapidly under favorable growing conditions, which you may have prepared to give them.

There is little chance of growing strawberries in alkali soils, and gypsum has no effect on white alkali. Gypsum is sometimes used to turn black alkali into white, and thus render it less corrosive, but it does not in any way diminish the amount of alkali present, and it has no effect whatever on white alkali.

#### **Persimmon Growing.**

To the Editor: If I should plant a few acres into persimmons for commercial purposes, what varieties are the best for it? I would not care to plant more than two or at most three varieties. Which loquat is the best variety for commercial purposes?—READER, Stockton.

If we were to undertake planting Japanese persimmons, we should select bright red varieties which had a little difference in the ripening season, if possible. We are very sure, however, that we would not undertake planting any large area of Japanese persimmons for commercial purposes. They have been grown for a good many years and have never sold at the East as they were expected to when planting began 25 years ago. It has never been possible to sell more than three carloads a year, and they seem to be required only for decorative purposes. In California markets a few persimmons often sell well, because of the Asiatic demand, but large quantities cannot be disposed of unless they can be profitably shipped to China or Japan, where the fruit is better understood and more highly esteemed than it is ever likely to be in this country. Although it is true that we are making some progress in curing the fruit as the Japanese do, it is quite unlikely that our people will ever be very fond of such a dead sweet fruit, which has to be, as some one has very coarsely expressed it, "nearly rotten before it becomes edible."

The best loquat is probably the Advance, originated by Mr. C. P. Taft, of Orange.

#### **Walnut Budding.**

To the Editor: I am somewhat at a loss to know if my walnut buds put in last August will grow next spring, or have I made them blind? My operation was this: I cut the bark the shape and size I wanted my bud, then I took the bud off carefully not to bruise it. Then I cut the bark on the stock of the black walnut to receive the bud to suit the same way as I would a peach bud, and slipped it in place. Now then there is a small indentation left in the bud or corcule, and in slipping in, it is pushed in tight so that it may disturb the cambium layer or the indentation at the corcule may affect it. Now will either of these blind the bud? I manipulate my buds in a way that I believe three-fourths will live, but for the buds to grow next spring I have my doubts. If I am successful I will write you later. I haven't any buds to spare to make the ring or annular bud.—EXPERIMENTER, Fresno county.

We cannot answer. You will have to tell us after the buds tell you. We see no reason why some of the buds which you put in should not grow next spring, unless they have already dried out and died, but budding by the method employed with ordinary fruits, like peaches, seldom succeeds with the walnut. Plate budding, that is, entirely removing a piece of bark of the stock, cutting a bud of the exact size and planting it upon the cambium layer and binding with wax cloth to wholly exclude the air, is more successful, and this is done where ring budding is not practicable. Keep watch of your buds and write about them later. If the bark keeps alive but the bud, instead of growing, sort of crawls into itself, you have blinded it all right.

#### **Growing Grapes From Seed.**

To the Editor: Will you kindly advise me how to proceed in planting grape seeds to get them to grow? I was impressed with the Satakanski and got a box of them after the fair here. Now the question is how best to plant the seed to get them to grow. I may be able to get something good in the line of a new variety.—READER, Sacramento.

There is no particular difficulty about getting seedlings from grape seed, if the seed is well matured and fertile. It should not be allowed to fully dry, but still does hold its germinating power even after a certain amount of drying. Cover about one-quarter of an inch in sandy loam with a little fibrous material, or using a mixture of sand and leaf mold such as florists generally employ. If you have a great quantity of seed, it can be handled in a garden-bed; if only a few, it is easier to grow in boxes and transplant. If you use the box method, you can get a quick start in a greenhouse or in a warm house room, and take the box into the open air as the season advances. After the plants start, they will be quite hardy and need no protection, except from frost.

#### **Early Winter Pruning.**

To the Editor: Will you please kindly advise me as to the propriety of pruning in the fall of the year, especially prune trees? Prunes, peaches, and apricots rotted badly before they got ripe last year, but possibly it was owing to something in the soil or to excessive irrigation.—GROWER, San Jose.

Fall pruning is more and more largely practiced for deciduous fruit trees and is, on the whole, a desirable method, except for trees which are disposed to retain active foliage and grow late in the season. They should be pruned later. The rotting of fruits is often due to an invasion of a fungus, like the 'brown rot,' which is much more active in a moist atmosphere, resulting from a too free use of water, but reasonable and even liberal irrigation, if the trees require it, is not harmful, providing good cultivation is done as soon as the ground is in good condition to receive it. If your trees are growing thriftily your soil is not at fault. Failure of the fruits seems to be due to other causes.

#### **The Berry Scale.**

To the Editor: The enclosed specimen is a section of a cane of the Phenomenal berry. Kindly tell me what is the matter with it, and how I shall proceed to remedy the evil.—AMATEUR, Stockton.

Your berries are infested with a scale insect known as *Diaspis rosæ*, which is very common on berry bushes as well as rose bushes. Prune out all the

spent canes and burn them, and spray all that you retain for next year's fruiting with kerosene emulsion, being careful to prepare the emulsion so as not to have free oil. It may be well to remove the earth a little so as to reach old stubs and bases of canes which carry the insect, at the same time being careful not to allow the wash to collect in too large quantities at the roots of the plant.

#### **Peach Twig Borer.**

To the Editor: Last season our Muir peaches were badly infected with twig borer, which caused the fruit to drop prematurely, and it was also very wormy at cutting time. We also had the brown rot in our Muirs. I would like to hear from you in regard to a remedy for these diseases.—ORCHARDIST, Red Bluff.

The University bulletin on the peach worm is out of print. This is the insect which appears as a twig borer, and is also the worm found in the fruit later in the season. The proper treatment is to spray with lime, salt and sulphur just before the color appears in the bloom buds in the spring time, because the same temperature which causes the tree to blossom also causes the insect to emerge from hibernation, and if thorough spraying is done at that time not only will the twigs be saved, but the fruit will be also largely free from worms. This same treatment should kill the spores of the brown rot which may be resting upon the bark. Subsequent treatment for brown rot consists in the use of the Bordeaux mixture after the fruit is set.

#### **Grape Coloring Again.**

To the Editor: I would be grateful for some information in regard to land suitable for raising Tokay grapes. Would it be possible for you to ascertain by analysis of soil whether a particular piece of ground was suitable for Tokays, provided you knew the geographical location of the land? It is popularly supposed that the Tokay will produce its best color in but few places. Before investing in some property, with a view to planting this variety of grapes, the writer would like to satisfy himself as to the apparent truth of this to guard against encountering future overproduction.—ENQUIRER, Oakdale.

No examination of soil will inform you as to whether the Tokay grape will color properly. Coloring is apparently not so much a matter of soil as of local climatic conditions. The only satisfactory evidence of whether the grapes will color well on the kind of soil you have in mind is the fact that they are coloring well on similar soil in the immediate vicinity.

#### **Straightening up Eucalypts.**

To the Editor: Will you advise what is best to do with *Eucalyptus rostrata* that were set out from flats last March? They have grown finely, some of them 12 feet, but the branches have blown over and made the trees lean over a great deal. Will cutting the lower branches off help to straighten the trees, or will they straighten by themselves in time? They are planted 8 by 6 ft. in 6 rows across my land.—FARMER, Turlock.

We suppose that you have so many trees that tying up to stakes would be out of the question. If this is so, and the trees seem to be pulled over by the weight of the branches, they certainly should be helped toward assuming an erect position if these branches were removed, but in such close planting they would get up any way.

#### **Planting Knotted Roots.**

To the Editor: Is there no way of treating the soil at planting that will tend to prevent the growth of root knots? How would a heavy sprinkle of sulphur do, sprinkled on the pits in the furrow before they are covered? Is there likely to be any more knots in the second crop of trees on the same soil? Are Muir pits any more liable to disease than any other pit?—GROWER, Kings County.

So far as we know all the methods of treating the ground for the destruction of root knot fungus have not succeeded. Cases reported to us would indicate that the number of trees affected is likely to be increased from year to year, and for this reason new ground is continually being sought for nursery purposes. We are not aware that seedlings from Muir pits are more susceptible than others. We sadly lack definite and satisfactory information on this subject. We are simply giving you the best we have.



## Horticulture.

### Work of the State Horticultural Commissioner.

From the opening address of Mr. J. W. Jeffrey, State Horticultural Commissioner, acting as chairman of the Marysville Fruit Growers' Convention:

The office of State Commissioner of Horticulture is largely executive, and is charged with duties and endowed with powers neither possessed nor needed by any other department. It is a clearing house of horticultural information, not a bureau of scientific investigation other than is necessary in making effective its quarantine department, and its control of insect pests and plant diseases; it is the horticultural patrolman of the State, its badge of authority the quarantine code; it is not the detective of soil salts, the discoverer of varietal adaptations, the sleuth of pathologic troubles in plant life or the officer to bring to book the thousand secrets of nature that perplex or impoverish the farmer. The office of State Commissioner of Horticulture is not the State schoolmaster of horticulture charged with the duty of bringing back to the soil the escaping young men, or to educate the rural people in the technical departments of horticulture. These matters properly belong to the University. Rather is the commissioner's office the statistician, the secretary of correspondence with horticultural societies, colleges, and schools upon applied knowledge, and, above all the medium through which protection is afforded to the orchards of the State, and pursuant of which this great office is empowered to bring into business-like co-operation the County Horticultural Commissions in the enforcement of the laws designed for the exclusion of insect pests and disease, their extermination or control, and in meeting any emergency that may threaten the fruit growing enterprises of the State. To secure this co-operation the law has made your State Commissioner member ex-officio of every County Board of Horticulture, and I shall try to fulfill this duty to the best of my ability.

**BENEFICIAL INSECTS.**—Upon the policy of protection from insect pests there is an idea extant that the new administration will be at variance with the old, especially in the search for and use of beneficial insects. Statements have been made that, if true, should disqualify me from holding my present position, and as far as I know the belief in these statements is the only bar to my acceptability as your Commissioner. I would not refer to this personal matter if it did not touch so closely the work of this office. And then you have the right to know my attitude upon a question so paramount to the success of fruit-growing. A circular was sent all over the State last summer in which, with other remarkable matter the statement was made that my candidacy was a direct challenge to Mr. Cooper's policy of using parasitic insects in the control of orchard pests. The charge needed no denial in the south, and it is useless to deny anything in the warmth of a contest of this kind. I think it is proper now, however, to suggest that the authors of this circular depended entirely upon their imagination for their facts, for my faith in the efficacy of parasitic and predaceous insects is now and always has been as firmly grounded as that of any other individual's in the State. \* \* \* I believe, however, that some of us have lost the sense of proportions between the so-called natural and the artificial methods of fighting insect pests, and I hold that these proportions may be equalized in the public mind without abating in any degree the search for the new insect friends or relaxing in the nurture and distribution of our native beneficial species. I know by experience how easy it is to exaggerate the achievements of parasitic insects.

Within the next three months we hope to have the insectary built. Time will prove this institution one of great value. Its successful operation will be in line with my predecessor's most cherished policy, and I propose, when the insectary is finished, to have placed in its entablature this inscription, "Founded by Elwood Cooper," and then a line indicating the years of his services to the fruit growers of the Golden State.

**LEGISLATION THAT IS NEEDED.**—It is a shame that this great office under whose auspices you are assembled today has to plead for a bare existence when it should be equipped to give back to the State ten thousand times its cost every year. It would not drink from the finger-bowl nor swallow the knife, nor eat the bouquet if given a seat with the more scientific institutions that are so richly sustained with means of doing the work they have so well in hand. The scope of the office which I represent is broad enough. It should have officers with executive ability and should be backed with the funds to make its work felt throughout the length and breadth of the State. To this end the laws concerning the appointment and support of our County Boards of Horticulture should be wiped off the Statute books and re-enacted in a new and effective spirit; the county quarantine ordinances should be destroyed and a uniform system

adopted that would be more stringent and effective, without driving our nurserymen to distraction as they are driven under the present lack of system. I believe this feasible, if every fruit growing county were compelled to maintain an efficient Horticulture Commission, appointed solely on merit and supported by an able corps of inspectors. These appointments should be divorced from politics and governed entirely by fitness for the work required. I shall carry this idea into the administration of the State Commissioner's office, for merit will govern every appointment, and no one in the State will expect any other policy to prevail. Time will not permit further reference to the work that this office should do, or to refer to many other topics that demand attention.

**PRACTICAL FRUIT GROWERS.**—At the risk of your impatience I must pay a tribute to the chief of the forces that stand for betterment of fruit growing in California—the men and women of the country homes, the artisans who have built the grandest horticultural structure in the world, and have established here the highest degree of rural civilization upon the face of the earth. Twenty-seven members on this convention's program are represented by these people. Who shall say their achievements are not far beyond those of all other forces combined? These are the architects of the State's real grandeur. These are the people to whom the elimination of an unfit fruit is greater than the creation of a hundred varieties, the delineation of suitable soils for the cultivation of their crops of more value to them than an encyclopedia of horticulture, the possession of an honest nurseryman of more worth than another farm. They are here to speak for themselves. They pay for all and all should listen. All honor to the fruit growers of the State. May their prosperity never grow less nor their influence in these conventions be abated.

### Suggestions on Top Grafting.

By Mr. FRANK FEMMONS of Ahwahnee, Madera County, in the Town and Country Journal.

Almost every orchard grower has more or less experience with unprofitable trees. Some of them bear little fruit, and that of others is inferior or worthless. The old scriptural suggestion was to use the ax and hew them down, but we don't like to destroy a fine, thrifty, growing tree and then wait for another to grow in its place. Now and then there are trees that it is just as well to destroy, root and branch. With most, it is better to convert them into something better—something that will return some value and pleasure from their use of the ground, and so we resort to grafting, which is nothing more than putting a new and better life into the tree, that by its fruit we shall know and care for it; and who is there that does not love an old apple tree, that, from its generous heart presents to us each year the rich overflowing bounty of its nature?

Perhaps we have no history of who first conceived the idea of grafting cions of one variety into the stock of another. Far back in the ages, some horticultural genius, either from long and careful study or the inspiration of some passing fancy, thought he could change the fruitfulness of some tree in his garden. Perhaps it was only some accidental experiment, crude in workmanship, no doubt, but in results one of the grand achievements of the human mind. With what wonder must his friends and neighbors have seen the results of his skill! It was a mysterious change. It was no less than the conjuring of nature, and by a simple process conferring upon the world a benefit that, even now, we scarcely realize. From that one discovery far back in the primitive ages, dates all the advancement in the science of horticulture as we know it today, and we still owe a debt of gratitude to its unknown founder. But for the discovery that one variety could be grafted upon another and thus perpetuate the choice types we would still be gathering the wild fruits of nature, and though we might recognize that some of them were very fine we would have no certain way of preserving the variety and it would die with the parent tree.

Horticulture and mechanical ingenuity have devised many forms of grafting and most of them have their place and advantage under the different conditions in the age and size of the trees or stock to be worked upon; but I wish to say something about what is generally known as 'top grafting' large trees.

**SIDE GRAFTING.**—After sawing off the branches where we wish to insert the cions, it has long been the usual custom to split the stock in some form with some tool and hold the cleft open to receive the cion, but it was almost a barbarous method and often, with the greatest care, invited decay and disease and endangered the usefulness and life of the tree. There have been many efforts made to find some method to avoid splitting. I know one Scotch horticulturist, who by his knowledge and skill, has made a reputation on three continents, and friends wherever known, who has used his knife to cut a V-shaped recess in the side of the stock in which to place the tapered end of

the cion, but the process was so slow that it is only used in occasional work. A few years ago a little hand machine was invented and advertised here in California to cut the recess. The idea seemed a good one at first sight, but, like many others, proved so in theory only. The knife was hard to keep sharp, and the bark of the stock was apt to be torn and lifted around the cut. We have heard nothing from it for several years.

**SAW-GRAFTING.**—A few years ago a rather new idea originated with a Mr. W. S. Coburn of Hotchkiss, Colorado. In case of splitting the stock, he made a kerf with his pruning saw into the side of the stock, perhaps a half inch deep at the upper portion and extending down the side far enough to give the cion a proper seat—about one and a half inches—and then with a saddler's or other knife, formed a V-shaped recess. This was much better than the old method, but the tools and the time required seemed to make it rather slow, and I tried several combinations of saw and knife, to do the work more speedily, but they all seemed to be more or less a failure.

Among my old tools was what used to be called a hand saw, a small saw about a foot long, a thin blade, with a stiff back and about twenty teeth to the inch. Dressing it as a rip saw (my old wood-working friends will know what that means), running an oil stone lightly along the side of the teeth to make them smooth and true; boring a hole through the handle for a buckskin string to pass over the wrist, I soon found I had a tool, that, with a sharp pocket knife, was just what was wanted. The saw being so thin and the teeth so fine, a V-shaped recess was easily cut out that required little if any dressing out or smoothing to receive the graft and a tap or two with the handle of the knife used to shape the cion placed in it firmly, ready for waxing.

The width of the wedge-shaped piece sawn out of the stock should, of course, correspond with the size of the cion placed in the recess formed. The essential feature in having the saw do its work properly is that the teeth are very fine, true and sharp. It is said that 'a workman is known by his chips,' but his best work in either chips or the final result very much depends on the shape and quality of the tools he uses. I have used this method for the past two years and it has proven itself so satisfactory that now I would use no other that I know of in grafting bearing trees and it can be used on stocks as small as half an inch in diameter.

The wounds heal over more quickly than the old splitting method; no sour sap oozing from the stock as is so often seen and a sure sign that nature is having a hard struggle with decay and disease; the cions grow with a more uniform vigor and a less percentage of loss and besides the method is so simple, requiring so few tools and so few different motions in the work that it very soon comes easy to the hand and almost a pleasure instead of a painful duty. The pruning saw is to cut off the limbs, which you lay aside as soon as you have cut from the tree what you wish, and then with your cions, your little saw hanging on your right wrist in easy reach of the hand and your pocket knife sharp, you are all ready to do your work, and when it is properly finished, Nature left in a way to easily do hers.

### Irrigating Apples in Washington.

Growing apples with irrigation in the North Yakima district of Washington is described by Mr. S. O. Jayne in a bulletin of the Irrigation Investigations of the United States Department of Agriculture as follows:

Apples, peaches and pears are the three fruits of greatest commercial importance. Of these, apples, and especially the winter varieties, easily lead. The best practice in planting is to place the trees about 30 feet apart each way, by what is called the triangle system. In many of the older orchards they are only 20 to 25 feet apart, but experience has shown this to be too close for apple trees, although about right for pears. Very often, with the apple trees 30 feet apart, peaches will be set between them, and as they mature much quicker than the apple, several crops may be obtained before the apple trees are large enough to bear, and the peach trees may then be taken out. Potatoes, corn, or other crops are grown between the trees when they are small, in order to get some revenue from the land while the orchard is growing. A crop should be selected which requires about the same amount of water as the trees, for when strawberries, for instance, which require much more water, are planted between the rows, the growth of the trees will be retarded in a very marked degree.

The orchards are irrigated entirely by the furrow system, although there is more or less variation as to time of watering and as to the quantity applied. Where they are planted on deep loamy soil, three irrigations are usually considered sufficient if thorough cultivation follows each, but if the trees are in such shape that the ground cannot be well tilled, more wetting is necessary. On the deep soils it is commonly



not necessary to irrigate until early in June. The next application is made about the middle of July, and the last near the middle of August. Where the soil is gravelly or has a gravel subsoil the irrigation begins about the first of April and continues till the middle of September. Some orchardists make the irrigation furrows on each side of the trees 4 to 6 feet distant from them and allow the water to run in each furrow for a couple of days, or until the ground appears to be sufficiently moist, when it is turned into other furrows. This is perhaps the most common practice. Cultivation is considered to be of very great importance, and all of the best orchards are kept perfectly free from weeds, with the soil at all times worked so as to have a deep mulch over the surface, which conserves the moisture.

With few exceptions, the orchards are small, ranging from 5 to 20 acres. The labor, however, required to properly care for 10 acres of bearing orchard is greater than that of a much larger farm with ordinary crops, but the returns are large in proportion.

### More About the Fig Insect.

To the Editor: I have read with great interest your column "Queries and Replies" in the PACIFIC RURAL PRESS under the date of November 30, relative to the introduction of the fig wasp (*Blastophaga Grossorum*) and I again repeat that it was due to Mr. Roeding's efforts that this insect was successfully introduced into this State. Mr. Swingle is or was an agricultural explorer at the time the insect was sent over by him and he was visiting foreign countries, not for the purpose of looking into the scientific aspect of successfully introducing the fig wasp, but was in foreign countries on some other mission connected with the Department of Seed and Plant Introduction. While it is true that Mr. Roeding did not visit Asia Minor until after the fig wasp was established, the general public must not lose sight of the fact that Mr. Roeding from the year 1890 until the insect was actually introduced devoted his energies and money trying to find some feasible way to get the insect here. Swingle being a typical American and possessed with a keen insight and natural desire to do anything in entomological lines or otherwise to accomplish a certain attainment to further the interests of any particular industry, took up the matter of looking into the blastophaga problem and trying if possible to bring it to a head. I contend and always will contend that it was Roeding and no one else that first started Mr. Swingle on his investigating this important problem. Had not Mr. Roeding suggested the matter in hand, Mr. Swingle would have entirely overlooked the matter of introducing the fig wasp, but would have probably devoted his time and attention in some other direction, as, for instance, looking up new varieties of pistachio nuts, date palms, and other commercial nuts and fruits.

Before Mr. Swingle succeeded in sending consignments of the fig wasp, Mr. Roeding had previously received a number of consignments from correspondents in Asia Minor, but unfortunately they arrived in Fresno in poor condition and up to the time that Mr. Swingle commenced to send consignments, all shipments of the blastophaga arrived in such poor condition that they eventually died and proved entirely worthless.

To make a long story short I again repeat that had not Mr. Roeding suggested to Mr. Swingle and the Department of Agriculture the importance of getting the insect here so it could reproduce itself in the Capri figs of California, the Smyrna fig industry would be a failure as to this particular fig, unless it was caprifigged through the agency of the insect in question. Mr. Swingle was therefore a very important factor in getting the Smyrna fig established on a commercial basis, inasmuch as he was a very good messenger with enough intelligence and scientific knowledge to use good judgment in the manner of packing the insect within the Capri figs, in order to get it here in good condition.

No one knows better than myself what obstacles Mr. Roeding had to contend with. In the first place there are no scientific men in Asia Minor. Take for instance the matter of fertilizing the Smyrna fig. Ask any of the Armenians and Turks today in America and Asia Minor, "Why is it necessary to have the wild or Capri fig in order to produce the Smyrna fig of commerce? Why is the insect necessary to carry on this fertilizing process? What is their answer? They don't know. They will simply shrug their shoulders and work their arms up and down like the handle on a pump and say: "I don't know why, my father he did it, my father's father he 'hang' Capri fig in Smyrna fig. No 'hang' him no catch 'em fig crop."

That is as far as they know of the subject. They know one thing, unless the Capri fruits with insects are hung in the branches of the commercial Smyrna fig, in order to fertilize them, the Smyrna crop of figs will not mature.

In conclusion, I again repeat that Walter T. Swingle was the actual messenger that sent to Mr. Roeding a consignment of Capri fig fruits containing the fig wasp

that Mr. Roeding received said consignment, put them on his Capri fig trees with the result that they made themselves at home and reproduced themselves in his Capri fig trees and finally kept on multiplying until we have enough insects in California to fruit every Smyrna fig in the State. Who started the ball a-rolling if it was not Roeding? He is entitled to all the credit, for if Mr. Roeding had not kept hammering with his dogged persistency, Mr. Swingle would not have been inspired in the matter of looking up the importance of introducing the insect.

Mr. Swingle intimates that Mr. Roeding made no attempt to introduce the insect. Just how he draws these conclusions I am unable to state. After Mr. Roeding got his fig orchard established it did not take him long to come to the conclusion that something was needed to make the figs mature and that something was a small insect to carry on the fertilizing. Mr. Rowley and others at the time thought the insect business all superstition, inasmuch as the White Adriatic and other figs did not require anything of the kind to cause the figs to mature. After Mr. Roeding got the insect established, Mr. Rowley and other horticulturists would not be convinced until Mr. Roeding actually demonstrated the matter beyond a doubt, that it was absolutely necessary to have the insect before the commercial Smyrna fig would be a success.

The writer is well acquainted with Anthony C. Denotovich, whom Mr. Swingle mentioned. Mr. Denotovich was a Smyrna rug peddler. He posed as a great man and one that knew all about Smyrna fig culture. The fact of the matter is he did not know that an insect was required to fertilize the Smyrna fig, until Mr. Roeding informed him of the fact. After Mr. Roeding told him fully about the caprifigging process he seemed to recollect when he was a boy that something of the kind was done in Smyrna. He described the matter about as follows: "My papa he 'catchem' fig trees in Smyrna. Every June he catchem some figs from some fig that grows in 'de' mountains. He put him fig on 'de' fig tree growing on home place. After he put 'him' mountain fig on home tree, home fig he swell up, make 'him' heap big fig," etc., etc.

This is as much as Mr. Denotovich knew about the fertilizing process. Mr. Roeding in his book "The Smyrna Fig at Home and Abroad," taught those Smyrnites more than they ever knew before. They called the fig wasp *Blastophaga Grossorum* "knat" and it never was known until Mr. Roeding pointed out to them that the insect did the business.

Before Mr. Swingle sent several consignments of Capri fruits containing the insects which finally arrived here at the proper time when the California Capri fruits were ready to receive them, Mr. Roeding was and had been laying his plans to have some one go to Smyrna, dig up a few Capri fig trees, box them in large boxes in order to get a few Capri fig trees with fruits thereon, containing the insect and thus get them established and started. Mr. Roeding has been busy on this ever since 1890.

It is true that Mr. Swingle did send Mr. Roeding Capri fig fruits with insects from Algiers and that the figs arrived here in good condition and as a consequence they became established in Mr. Roeding's fig trees. This consignment solved the problem. The question is, however, who gave Mr. Swingle the clue to look into this matter in the first place; if it was not Roeding, who was it? We have to thank Mr. Swingle for the careful manner in which he prepared these bugs for shipment, but Roeding must get all praise for the inspiration.

CHAS. A. CHAMBERS.

Fresno, Cal., November 30.

[It will be noticed that Mr. Chambers wrote his letter in advance of others which we have since published. This is due to a mishap through which Mr. Chambers' communication was mislaid. His statements are, however, still of interest.

### Walnuts and Filberts in Humboldt County.

To the Editor: I am sending you several specimen collections of walnuts grown in the Mattole valley. For years I have regarded Mattole as a section of California well adapted to walnut culture. With the common English walnut filling so well and bearing regularly and abundantly, why should not the improved French varieties grow to perfection? The English walnut puts forth a trifle early and is liable to suffer from late spring pests, and still it never fails to produce at least part of a crop. The French Bijou on Geo. B. Etter's place in Upper Mattole, as characteristic of the French type, is late in leafing out and is never caught by pests, and annually bears as full as a plum tree.

I have no means of comparing the quality of the Mattole nut with those of other sections other than with those of the retail stores. They are certainly as well or better filled and superior in flavor to such as we are able to buy in this part of California.

One advantage of this section for walnut culture is

our moisture supply, making irrigation unnecessary. With a little nursing to establish them, they will take care of themselves. There is no question but that there is plenty of land on our mountain sides that is deep and moist enough to grow a walnut tree to perfection. Judging by the thrift of the native oak and madrone, and the immense size they attain, it seems we may justly infer that the walnut ought to grow correspondingly well, and all the evidence of trees now growing would so indicate. Any comment you have to make will be thankfully received, for I am one who doesn't think this part of Humboldt county ought to remain in the backwoods forever.

ALBERT F. ETTER.

[The nuts are rather inferior in external appearance and have the general aspect of Chile walnuts rather than of the accepted California type except one from Upper Mattole, which is of the Franquette style and well worth growing. The Bijou is rather small of its kind but is otherwise good. Evidently better varieties should be introduced as Mr. Etter suggests, and the nuts will need bleaching a good deal to sell well. It seems, however, that Mr. Etter is right that walnut growing is justified in the district—if followed along rather more advanced lines.

Mr. Etter sends also some very good filberts of the roundish, cob-nut type and not at all the Red Aveline for which it was bought. The full bearing he reports is, however, another good point for filberts near the coast.—Ed.]

### Effects of Cyanide Waste.

Mr. E. L. Koethen of Riverside writes the Fruit World about the spent cyanide from the jars used in the fumigation of citrus trees: With us at Riverside it has been the custom for the Horticultural Commissioner to advise emptying it out in the irrigating ditch, or out beyond the orchard, so that no possible injury should occur. As to the nature of the injury, the cyanide kills certain roots, and then the injury can be traced up the trunk to a limb fed by that particular root, showing that every root in the orange tree is needed for the sustenance of a definite part of the tree, and this suggests some things in orchard practice. First, that all the roots are important. Second, that the ground occupied by all the roots need equally good treatment. Third, that we cannot afford to use fertilizers that in themselves have the power to injure these precious roots.

To return to the value of this material as a fertilizer. We never could see why stress should be laid on its value, for whatever quantity its value, the few ounces used in fumigating could not possibly cut such figure in fertilizing an orchard. Certainly not enough to justify risking the life of the trees.

### Pears Blighting Little in Colorado.

The Denver Field and Farm names several pears from the point of view of blight resistance. Beurre d'Anjou is but little subject to blight which injures so many of our pear trees. It is considered a good bearer under irrigation but naturally does not do so well in dry situations. The blossoms are imperfectly self-fertile; and another variety more abundantly supplied with pollen and blooming at the same time should be planted not far off in order to secure fructification. Other varieties which do well in Colorado and comparatively free from blight are Kieffer, Mt. Vernon, Garber, Howell, Seckel, Le Conte, Bosc, and Sudduth. Winter Nelis is fairly resistant, while Clairgeau seems to suffer severely from attacks in the trunk and larger branches. Flemish Beauty, Clapp, and Idaho are just now out of popularity.

## Agricultural Engineer.

### The Opportunities for Rural Engineering Instruction in California.

By SAMUEL FORTIER, Chief of Irrigation Investigations, U. S. Office of Experiment Stations, at a meeting of Agricultural College instructors in Madison, Wisconsin, December 27, 1907.

Fifty-five years ago James Laurie and his associates, following the example of their English brethren, founded the American Society of Civil Engineers. In looking back to this event, over half a century of remarkable progress in all branches of engineering, it seems to stand at the threshold of much of the material progress of this nation. From the erection of wooden



bridges, the location of railroads, and the excavation of canals, the work of the engineer has increased until it now extends through all the manufacturing, transportation, and municipal enterprises of the country. The power required by manufacturers and the complex processes involved in converting raw materials into salable products require a large army of educated and highly trained engineers. In former times, when the streets of American cities were hub-deep with mud, when the sewage was collected in cesspools in the rear of each lot and just beyond the house well, when the streets were lit by oil lamps, and when horses were the chief mode of transportation, the ward politician took upon himself all the duties of the municipal engineer. Now the water system, the sewer system, electric traction, heating, and electric plants of the municipality are each in charge of a body of engineers specially fitted by training and experience for such duties. The same may be said of railroad, hydraulic, irrigation, naval, mining, electrical, mechanical, or any other branch of engineering one may mention. Each branch is subdivided into a number of more or less distinct parts which call for special training in their execution.

Agricultural engineering occupies today a position similar to civil engineering half a century ago. The opportunity for progress is as unbounded, and there is scarcely any limit to the branches into which it may in time be divided. The application of engineering skill has worked wonders in changing the conditions of the modern city, but the same training and experience when applied to the farms and farm homes of America will produce a greater change. The extension of rapid transit lines into the country districts adjacent to towns and cities, the extended use of the automobile, the building of better country roads, the use of power on the farm, the care and operation of farm machinery, the conveyance and application of water for the irrigation of land, and the use of water for domestic purposes open up a wide field of usefulness to the rural engineer.

The engineering training demanded in the successful operation of the modern farm and the knowledge of engineering subjects required by the up-to-date farmer render it imperative that we regard this branch of agriculture in a broader light. An attempt has been made to confine it to farm mechanics, but this is only a small part of a big subject. Farm mechanics, properly speaking, should be confined to the mechanism, operation and propulsion of farm implements and farm machines. This excludes road-building and the transportation of soil products, domestic water supplies, farm buildings and structures of all kinds, as well as irrigation and drainage systems for the farm.

In a State like California the subject of farm mechanics is much less important than some others that belong to a rural engineering course. A large part of the arable land is too dry in summer to produce profitable crops unless it is irrigated. Water for irrigation, its conveyance, distribution and use becomes, therefore, the chief engineering problem of the irrigated farms of the State. There are other fertile tracts which aggregate many hundreds of thousands of acres that are subject to overflow in the early spring months. Such lands have to be protected by levees. Still other portions are in need of drainage, and ditches have to be dug and tiles laid to remove the surplus waters. It is thus evident that the handling of water is a much more important problem than the operation of farm machinery, although California ranks high in labor-saving devices.

One of the chief reasons that induced the State Legislature to purchase and equip a large farm in the Sacramento Valley was to afford adequate training for the youth of the State in all that pertains to irrigated agriculture. On this farm of 780 acres, located at Davisville, 75 miles north of San Francisco and near the centre of the State, irrigation is to be not alone the foundation, but a large part of the superstructure. Every acre of this university farm can be irrigated. One of the best irrigation systems in central California furnishes an abundant water supply, and in course of time the entire farm can be used to illustrate irrigation practice. Particular tracts are now being set apart for the purpose of demonstrating standard methods for preparing land and applying water. This is an important matter throughout the arid region. In the Mississippi Valley it is seldom that the cost of farm machinery and farm implements exceeds seven per cent of the total value of the farm, but on the majority of irrigated farms the value of water for irrigation and the cost of preparing the soil and applying the water, together with the necessary farm equipment, averages more than 45 per cent of the total value.

In addition to the graded fields, water channels, measuring devices, and irrigation structures of the farm, the plan contemplates the erection in the near future of a commodious rural engineering building. Here will be installed the best appliances for the measurement and division of irrigation water. The installation of a pumping plant operated by a gasoline engine and the storage of water in an elevated tank will give students an opportunity to learn how to operate and repair gasoline engines and pumps, while the stored water in the tank will afford an excellent opportunity to study and observe the action of water as it passes through orifices and closed channels.

This rural engineering building is to contain carpenter and blacksmith shops, as well as drafting rooms for the designs and drawings of ordinary farm structures, such as fence gates, bridges, headgates, sheds, barns, and dwellings.

Another division of the rural engineering building is to be devoted to farm implements and farm machinery of the most approved type. Students will be taught how to erect, handle, repair, and care for such machinery. They will also be required to study the good and bad features of each and to determine their relative efficiency.

Still another division of the engineering building is to be devoted to road-building, the making and laying of cement and concrete structures, and the application of crude oils to road and irrigation canal surfaces.

The people of California believe that if a boy can be taught how to use surveying instruments, how to locate and build farm ditches and prepare land for irrigation, how to measure and divide water, how to run a gasoline engine, how to build good roads, how to operate and care for farm machinery, and how to design and erect ordinary structures, he has acquired much of the experience and skill necessary for the twentieth century farmer.

While the practice of irrigation is as ancient as the tillage of the soil, the scientific problems relating to the use of water are all new. We are just beginning to learn something of the scientific aspects of the subject, and this field of inquiry is certain to expand as the arid region becomes settled. For several years the U. S. Office of Experiment Stations has been co-operating with the State of California in carrying on investigations for the purpose of obtaining greater economy in the use of water. The State expends fully \$12,000,000 annually in obtaining water for irrigation and in applying it to crops. It is no exaggeration to state that less than one-third of the water which is annually applied subserves a useful purpose in nourishing plant life. The large balance is wasted—wasted in careless use, in porous channels, and in passing from the soil into the atmosphere in the form of vapor. This, therefore, is another of the great problems which confronts the people of California, and in the efforts that are being made by the United States Department of Agriculture to find the right solution the University Farm may be of great service. This large farm, representing as it does the typical climate and soil of a large part of the irrigable lands of the State, can be used in part in an experimental way to carry on scientific investigations. The irrigation and drainage branch of the U. S. Office of Experiment Stations has already joined hands with the University in an experiment to determine the cheapest and most effective linings for irrigation ditches and canals, in order that the large percentage of water now lost by seepage may be lessened. This, it is hoped, will be the first of a long series of experiments on various phases of the use and application of water to cultivated crops.

I may state in conclusion that the effort to extend the benefits of engineering knowledge and experience to the agricultural classes of California meets with the united and hearty support of both President Wheeler and Director Wickson. The president has done much to build up a strong department of irrigation in connection with the University, and Director Wickson realizes that much of the agricultural development of the future depends on irrigation.

## Forestry.

### Mr. Cooper's Eucalyptus Growing.

Mr. Elwood Cooper, of Santa Barbara, recently wrote about his experience with eucalypts as follows:

I planted about 250,000 trees of the different species, in all probability about 30. The best results I had was blue gum, 11 years old, 28 inches in diameter, and 104 feet high. I have sold about \$4000 worth of wharf piles. This species will last about three times as long as the redwood or the Sound pine. That is, it resists the attacks of the limnaria and the teredo much longer than the woods above mentioned.

It is a very strong and valuable wood, and has no equal for burning purposes, except it may be Eastern hickory. The red gum (Rostrata) is a wonderful wood for any purpose. When finished it cannot be told from mahogany. It is a hard wood, easily worked, is better than mahogany, quarter-sawed oak or walnut for furniture.

Now that the white oak forests, hickory and black walnut have disappeared, it is of the greatest importance that these trees should be extensively planted. There are about 20 species that should have preference. The Marginata is a wood that will not decay in the ground, and is not attacked by the teredo. This species did not do well on my place, but should be tried in a very different locality. I have a red gum 31 years old, 2 feet 6 inches in diameter. Another probably 2 feet, and the trunk about 60 feet high—that is, it carries its size and contains nearly 2000 feet of lumber, and if sawed, dried, and ready for finishing offices, banks, etc., it would have a value

of about \$200. Many varieties are very hard and heavy, and have a value not equaled by any other wood. The eucalyptus genus is adapted to the California climate, and cannot succeed anywhere in the East, as they will not stand heavy frost.

### The Manna Gum (Eucalyptus Viminalis).

To the Editor: In answer to your question as to the use of the term "Manna gum" in connection with Eucalyptus viminalis, I have found the following in Maiden's Useful Plants of Australia: "From the bark of this tree a kind of manna exudes. It is a crumbly white substance, of a very pleasant sweet taste, and in much request by the aborigines. The white, nearly opaque manna from the normal E. viminalis was found \* \* \* in small pieces, about the size of peas, but of irregular flattened shape. In appearance it very much resembles lime which is naturally crumbled or slaked by exposure to a moist atmosphere. It is composed of an unfermentable sugar \* \* \* together with a fermentable sugar. \* \* \* The manna is derived from the exudation of the sap, which, dried in the hot parched air of the midsummer, leaves the sugary solid remains in a gradually increasing lump, which ultimately falls off, covering the ground in little irregular masses."

It seems that the exudation of the sap is caused by some boring insect. H. M. HALL.

University Experiment Station, Berkeley.

This may explain the fact that we have never seen any "manna" on the tree in California; no insect, no manna. Probably the special insect was left behind in Australia. If anyone has seen the manna in this State we would like to know it.

### Eucalyptus in the Coast Region.

To the Editor: I have a number of acres of very light sandy ground in Santa Cruz county that is very wet during the winter months. During the summer months it dries out for about a foot down, but at the driest time of the year water can be reached at from five to six feet. I would like to plant some kind of forest tree on it if there is any that would thrive fairly well. Could you recommend any variety of tree, or would any of the eucalyptus variety grow there?—SUBSCRIBER, Santa Cruz.

The situation which you describe ought to give you a splendid growth of eucalyptus trees, providing your winter temperature does not fall below 15° F. There are some low places where hard freezing is likely to occur, which is fatal to the eucalyptus, otherwise we should expect you to succeed admirably with a hardy variety like the Eucalyptus rostrata, or red gum, which you can now get in any quantity from the nurserymen, who are propagating it largely.

### Roadside Trees.

The district attorney of Santa Clara county gave the board of supervisors of that county some desired information on the question, "Who has control of shade trees growing in a public highway?" which may be of interest to others. He says:

"As some persons view the matter, an abutting owner whose estate extends to the centre line of the highway has the right to pluck nuts growing on his land within the line of the highway, and so, they argue, must have an equal right to remove the tree itself, or chop it up into stovewood if he so desires. The matters are not the same. The board of supervisors has power to pay to persons who plant and cultivate ornamental trees the sum of \$1 for every living tree thus planted, when it has attained an age of four years. It is absurd to suppose that thousands of such trees might, on the next day, be felled by the abutting owners."

"Section 2742 of the Political Code provides, that whoever digs up, cuts down, or otherwise maliciously injures any shade or ornamental tree on any highway, unless the same is deemed an obstruction by the road overseer and removed under his direction, forfeits \$100 for each such tree. No special privileges are conferred on abutting owners by this section."

### Approves Burnet.

To the Editor: I have been requested by Mr. H. Overacker of St. Helena to give you my opinion of the plant known as potentilla or burnet. Judging by my experience, I believe that it cannot be surpassed as a forage plant, especially for unirrigated lands or hills. It thrives very well in this locality.

M. J. LOPEZ.

San Luis Obispo.



Warranted to Give Satisfaction.

**Gombault's  
Caustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

**Co-operative Marketing.****What Oregon Onion Growers Are  
Doing.**

Onion growers in the Willamette valley, Oregon, formed an association about a year ago, and so far seem pleased with results. The organization, known as the Confederated Onion Growers' association, boasts over 100 members, who control about 500 acres of onions. The crop this season amounts to about 280 cars, according to a report furnished Orange Judd Farmer. Of this total some 100 cars were grown for seed.

Oregon onions are sold largely in Portland, Tacoma, Seattle and Spokane. Many are sent to Alaska, however, and during the spring months San Francisco takes liberal quantities.

The association has been experimenting in increasing the quantity of onions grown and improving the quality of the crop, also in encouraging better methods of cultivation, packing and marketing. Last year growers made an average of about 55 cents per bushel on their onions. There are local associations in various towns, and these are represented in the confederated association by one or more trustees, in proportion to the membership of the local organization: These trustees are, E. J. Thomas of Cedar Mills, K. P. Brown of Hillsboro, J. N. Miller of Cornelius, F. E. Rowell of Scholls, M. F. Johnston, J. C. Smock and B. G. Leady of Sherwood, John Nyberg and J. G. Thompson of Tualatin, W. T. Johnston of Milwaukie, C. N. Seeley of Woodburn, Ole Olesen of Beaverton, E. Black of Vancouver and Scott Brenner of Gaston.

Writing from Tualatin, J. R. C. Thompson says: "The culture of onions in this section is, on the average, very profitable. The kind of land that will produce onions of good quality and give satisfactory yields is somewhat limited in extent, as it is marsh, or what we call beaver dam land. The average yield is about 300 sacks (100 pounds each) per acre. The variety mostly grown is the Oregon Yellow Danvers, a very fine flavored onion and a good keeper. Fertilizers are used to some extent, good barnyard manure being the most favored. We do not irrigate in this part of Oregon. Our local association has 15 members."

"I have been growing onions for 12 years," says F. E. Rowell of Hillsboro, "and have received an average of \$1.32 per sack year in and year out. It now costs us about 75 cents per 100 pounds to grow and market our onions, the high price of labor having tended to increase

this lately. In some localities fields yield 350 to 400 sacks to the acre, but these are very heavy crops. Generally, yields are from 200 to 250 sacks to the acre. Our association has been organized about 11 months, and although we have some plans which will have to be altered, it has generally proved quite a success."

**Correspondence.****Grain on Tule Land in Modoc  
County.**

To the Editor: In answer to your note of inquiry about my grain crops I will say that my land is reclaimed tule land, said to be more peat and less sediment than the islands of the Sacramento. There are 28 ft. of fall in 12 miles of distance over the tract. Two large canals near the east and west margin make perfect reclamation. Seven cross canals, with head-gates, made irrigation cheap and thorough where the land was used for raising grass. Irrigation is not used for grain.

Last year we raised 5000 sacks of wheat and 21,000 sacks of barley—fine heavy grain—on about 1850 acres. This year we had ice on August 9 and 10 which about ruined our wheat for milling and diminished the yield of late barley one-half. Some of our early barley sown in April yielded full 90 bushels to the acre. About 200 acres of wheat sown in May and 400 acres of barley sown in May and June were cut for hay on account of frost. It was as fine looking grain as any one ever saw.

We harvested 34,500 sacks of light grain from about 2000 acres, not one-half what there would have been without frost.

My ground is very soft when wet, but quite solid when dry. I ran two 18-ton traction engines, pulling combined harvesters last summer, and had no trouble anywhere except where water had percolated from cross canals.

We had report last year from Fairfield, Wash., of 14.4% sugar from beets sent there and from the Union Sugar Co., Betteravia, Cal., of 14.5%. I shall send some more in a few days. If the result is better, I will write you.

We grew onions last year and they are 16 in. in circumference, but the land is so damp and rich we have difficulty in maturing them. I sent last year to Yorkshire for a gardener. He sowed onion seed in August and will transplant in the spring. He will make a fine showing next year with asparagus, celery, etc. Frost did not hurt it at all.

GEORGE H. BAYLEY.

Likely, Modoc county, California.

**A Coyote Story.**

To the Editor: There seems to be considerable agitation now in some sections about the coyote. The subjoined remedy is vouched for by a neighbor of mine, who lived in San Mateo county years ago, when coyotes were as thick as hops:

A day was appointed and each farmer took an old plug of a horse or worthless cow to a convenient spot (preferably near water) and there tapped one of the jugular veins, making the incision lengthwise. He then managed to inject about two ounces of strychnine—no more, as it is not so effective; then closed the wound and held it until the muscles began to swell, as first noticed in the legs; then shot the animal and immediately left. In two or three days coyotes were lying everywhere—in fact, in some places they were so plentiful that they had to be collected and hauled off by the wagon-load. They were exterminated, and no one saw a live coyote until they straggled in from the outside country. The above I believe to be correct, and, if not too long for the query department, would like to have it published for the

**BEEF SCRAPS  
RAW BONE**

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

**POULTRY FOODS**

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

**Western Meat Company**

South San Francisco, San Mateo County

**All Soils Alike to Wood Pipe**

The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Bending—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Pipe. Bored Wood Pipe.

**National Wood Pipe Company**404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.268 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

benefit of our infested friends. Please ask them to report results to your paper.

Boulder Creek.

We look upon this as a fairy story of the coyote brand.

**The Stockyard.****Feeding Alfalfa, Corn Stover, etc.**

The Nebraska experiment station reaches some interesting conclusions after feeding a lot of steers during the winter of 1906-7. Sixty high grade Angus two-year-olds were selected in October, 1906, from a herd numbering about two hundred, all reared under range conditions, having had, previous to their purchase, nothing but grass supplemented with native hay during the winter months. They were divided into lots and differently fed. From elaborate weighings and records the following conclusions were drawn:

1. Prairie hay when fed with corn alone to fattening cattle gives small and unsatisfactory gains and very little or no profit.
2. Alfalfa hay with corn alone gives large and profitable gains.
3. The use of well-cured corn-stover with alfalfa and corn, while it may not produce larger gains, will make the gains less costly because of its low market value, thereby increasing the profits over the corn and alfalfa alone.
5. The results of two experiments indicate that linseed-meal is a little more valuable than cotton-seed meal and much more valuable than wheat bran for supplementing corn when fed with prairie hay or corn-stover.
6. When alfalfa is made at least

half the roughness with prairie hay or corn-stover, good gains may be made and at less cost than when no alfalfa is fed, the protein being supplied by the use of linseed-meal. In other words, it is possible to grow protein on the farm at a price much below what it will cost on the market in the form of some commercial protein food.

7. Corn-stover, cut immediately after the ears ripen and cured in shocks, possesses a value fully two-thirds as great as prairie hay. The part usually consumed, viz., the leaves and upper portion of the stalk, is quite the equal of prairie hay pound per pound.

8. The results of a single experiment in which but a little more than half a full feed of corn was supplied two lots of fattening steers suggest the possibility of making a larger use of hay in finishing cattle for market than is ordinarily made and at less cost, especially where hay is relatively low and corn high in price.

**Only One "BROMO QUININE"**

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.

**WANTED**

By an experienced middle aged man, a position as manager of a large ranch. Address Box 36, care of Pacific Rural Press.

**Cutter's Anthrax and  
Blackleg Vaccines**

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.



## The Home Circle.

### That Good Old Feather Bed.

When a boy I climbed the stairway leading up into my room  
I would see hobgoblin faces peering at me through the gloom;  
And a sort of creepy feeling up and down my spine would go  
As I saw these ghostly figures swiftly wavering to and fro,  
And my teeth would fairly chatter with a nameless fear and dread,  
Till I smuggled 'neath the covers of that good old feather bed.

And the sweetest hopes were fashioned in those boyhood's happy days—  
How I'd climb the steps of glory and fair honor's trail I'd blaze;  
All the world would fall before me and bow low the bended knee  
When they recognized my presence and its grand authority,  
Till at last kind sleep would woo me, and the raindrops overhead  
Would sing lullabies so tender to me on my feather bed.

Now I was a soldier, longing for the coming of the strife;  
Now a multimillionaire, who married a crown princess for his wife;  
And anon the scene swift changing, I would sail for ports afar,  
And would be served up for dinner by the blacks of Zanzibar;  
But the sun arose next morning, and these visions all had fled,  
And found me most softly lying on that good old feather bed.

Years have passed, but still at seasons memory will backward stray  
To the happy times of childhood, when life's cares thronged not the way.  
Forms and faces come back clearly, and they will not let me be,  
But with outstretched hands they beckon, and their voices call to me.  
Times have changed, but I remember—all are scattered now and dead.  
But it all comes back when sleeping on that dear old feather bed.

—Bernard Aubrey Pitman.

### Maria's Burglar.

He is called Maria's burglar because I hired him on her account. As the children would say, he was not a "really" burglar. One glance at his gentle frankness, his serene respectability must have convinced you of that fact beyond peradventure. Moreover, he was my daughter's fiance, and no decent citizen, so far as I am aware, would suffer an avowed lawbreaker to remain in his household in that capacity.

Maria's burglarphobia exhibited its first symptoms the night we moved into our new home.

We were sleeping for the first time under its roof. Hardly had I dosed off when I felt the gentle impact of Maria's fist on my ribs and the soft sibilance of her whisper in my ear, "Get up, John. There's some one on our roof." I raised my head and listened attentively. "There's no one there," I announced, definitely. Maria insisted there was; adding that there were two of them, and that one wore hob-nailed shoes. My query as to the size of the shoes met with no response. At last, to satisfy her, I arose and went to the little closet on the top floor which marks the entrance to our scuttle. In one hand I carried a lamp; in the other an unloaded revolver. Twice I called, "Who's there?" and twice was I answered only by the moaning of the wind as it swept along the chimney tops. I did not raise the scuttle lid; time for that in the morning. Though fully regaled with the details of my expedition Maria remained awake for at least four hours. She told me about it the next day.

In the morning we found an old felt hat on our roof. Maria gloated. Our neighbor's son claimed it later in the day, saying he had dropped it on our roof while playing on his own some weeks previous.

Our burglars next appeared on the front steps about four o'clock of a frosty winter's morning. From her trembling place under the blanket Maria could almost distinguish the words of their conversation; something I failed to accomplish, even though I stood for three whole minutes in the vestibule with my ear at the front door keyhole. That we arose the next morning to find ourselves alive, our silverware intact, and our doors securely bolted, Maria was inclined to attribute to a renaissance of the age of miracles. After that we were besieged no less than three times a week; sometimes oftener.

"Maria," I said, at last, "what is it about a burglar you fear so abjectly? If one wants to get into our place he'll get there, never fear. Whatever he takes will be replaced by the insurance people, anyway."

"And if he kills us where we lie I presume that will be liquidated by the insurance people as well—if either of us is here to collect it." This in Maria's most sarcastic manner.

"So it's bodily injury you fear? Why? Am I not here?" Our hero spoke these words with calm confidence and fine fearlessness. Under the circumstances Maria's responsive sniff was hardly complimentary. Bluntly she inquired— "if a burglar saw fit to enter our room with a loaded pistol in his hand and a ferocious scowl upon his countenance—what would I do."

"I'd jump out of bed and grapple him where he stood. I'd put my knee on his neck and throttle him until he howled for mercy. I'd pummel him with all my might, and leave him lying inert on the floor while I went off to fetch an ambulance in which to remove his battered carcass—that is, of course, provided he was not inconsiderate enough to take to his heels before I had time to complete my vengeance." So that due modesty might attend my claim, I vouchsafed the opinion that all burglars are cowards at heart.

"Indeed!" said Maria. The sublimated sarcasm and skepticism contained in that brief word determined me.

My prospective son-in-law, Clarence Colburn, failed to evince instant enthusiasm over my plan, even though I offered to purchase on his behalf the real thing in the shape of a mask, a jimmy and a lantern. Before he agreed to carry out the part I had assigned him I was obliged to promise several things. First, the wrath of his prospective mother-in-law must be appeased by me, in case of the discovery of his identity at whatsoever expense. Secondly, my demonstrations of bravery must be strictly passive and largely oratorical. I might command him to desist; to leave the house under threat of speedy apprehension; to abandon his plunder where he found it—but I must not leave my place. I was not to touch the floor until he had full opportunity to clear the room. Lastly, my pistol must remain unloaded—"in case we get too excited, you know." These details fixed, we set Thursday as the date, and prompt midnight as the hour of our adventure.

Maria was very nervous that night. Three evenings before the Sanborn house in our street had been entered and its contents removed to parts unknown. That morning we had learned of two other burglaries in our immediate vicinity. Eagerly Maria scanned the obituaries in the local journal; I fancy she was disappointed at the lack of funeral announcements. Before we finally retired she saw fit to recount all three affairs mosaically, and to remark dolefully that she was sure that our turn was coming soon.

"Nonsense," said I, having left the door unlatched.

The town clock bell had completed its dozen peals, and we were lying cozily in our places when there came a soft creaking on the hallway stairs, followed by the muffled tread of footsteps outside our door.

"John," Maria whispered, "did you hear that?"

"What?" I asked, fearlessly.

"Some one is at our door. Go out and shoot him. Oh-h-h!" The door opened

softly and a circle of light was planted on the opposite wall.

Our visitor made straight for the bureau and started to fill his pockets.

I rose in my place. Impressively I demanded, "What are you doing there, r-r-rascal?"

For answer he flashed the light into our faces. My own was unruffled; smiling even. On Maria's I saw such a look of frozen terror that I was sore tempted to abandon our experiment then and there. It was only my promise to Clarence that impelled me to see it through.

"See here, sonny," said he, as he took my watch. "Get your thinking apparatus busy locating where you keep the decent things. This is junk. The stuff I got down in your dining room is enough to make anybody mad. You ought to be ashamed of yourself."

"Out of my house this instant, or, by Heaven, you perish where you stand! Begone, villain. Vanish! Vamoose!"

"Vamoose" was Clarence's cue to depart. Instead of that he strode over to our bedside and dealt me a smart cuff on the ear. This was no part of the agreement, and I hastened to voice my remonstrance.

"Not do what?" was the answer, gruffly given. "That is funny. Ha, ha! Keep quiet, you fossil, or I'll run a rapid transit tunnel right through you." A ball of fire flashed into my eyes and I felt the impact of cold steel on my forehead.

"Spare us! Spare us!" came in muffled tremolo from under the blanket. "Give him that \$100 you have under your pillow, John."

He did not wait for me to give it. He pushed my head aside and thrust his hand under the pillow. As the gleam of the lantern was turned aside for an instant I caught a glimpse of the pistol as it went by me. It was a tiny automatic revolver. And I had bought Clarence a horse pistol!

"Give me your diamonds," growled the intruder. "Quick, or I shoot." My tongue clave to the roof of my mouth and my teeth rattled. As speedily as I could I withdrew my head under the coverlet and kept it there until the sound of retreating footsteps made known that the burglar had gone.

It was Maria's voice that I heard as I emerged. Her tones, I must confess, were slightly hysterical. "Grapple him, throttle him, pummel him; pummel him, throttle him, grapple him." She said this over and over again.

I did not stop long to listen. I jumped out of bed and made for the window. I called for help, and an answering whistle told me that my call had been heard. As I left the window I spied some one coming up on the run. I rushed down the stairs and ran through the hallway. On the porch I ran into a policeman. There was another man with him—held tightly.

"Here's your burglar," said the officer. "I got him as he was coming back. Said he came up to help you; good nerve, eh? His partner wasn't quite so cool about it. I saw him running away with a bag. He was too quick for me so I nabbed this one."

The captive removed his mask and showed us his startled, white countenance. Yes. It was Clarence.

We have tried to explain matters to Maria. Time and again we have assured her that it was all a joke perpetrated for her especial benefit. No use. Each time she rewards both of us with a cool stare and asks icily, "Where, then, are my coffee pot and my silver spoons and the soup ladle?" Besides, she invariably concludes, had Clarence been the burglar, she has small doubt that I would have grappled him, throttled him and pummeled him. Cold type does not reproduce the possibilities lurking in her tone.—N. Y. Tribune.

### Progressive Woman.

Singleton—Your wife seems to be an up-to-date woman.

Wedderly—Huh! She's away ahead of the date. Why, she has a lot of trouble borrowed for next year.

### Lincoln and the Lad.

While officially resident in Washington during the civil war, I once had occasion to call upon President Lincoln with the late Senator Henry Wilson, upon an errand of a public nature in which we were mutually interested, wrote the late ex-Governor Rice in his memorial volume. We were obliged to wait some time in the anteroom before we could be received, and when at length the door was opened to us, a small lad, perhaps 10 or 12 years old, who had been waiting for admission several days without success, slipped in between us and approached the President in advance. The latter gave the Senator and myself a cordial but brief salutation, and turning immediately to the lad said, "And who is this little boy?" The boy soon told his story, which was in substance that he had come to Washington seeking employment as a page in the House of Representatives and he wished the President to give him such an appointment.

To this the President replied that such appointments were not at his disposal, and that application must be made to the door-keeper of the House at the Capital. "But, sir," said the lad, still undaunted, "I am a good boy, and have a letter from my mother, and one from the supervisors of my town, and one from my Sunday-school teacher, and they all told me that I could earn enough in one session of Congress to keep my mother and the rest of us comfortable all the remainder of the year." The President took the lad's papers and ran his eye over them with the penetrating and absorbent look so familiar to all who knew him, and then took his pen and wrote upon the back of one of them: "If Captain Goodnow can give a place to this good little boy, I shall be gratified," and signed it "A. Lincoln."

The boy's face became radiant with hope, and he walked out of the room with a step as light as though all the angels were whispering their congratulations.

Only after the lad had gone did the President seem to realize that a Senator and another person had been some time waiting to see him.

Think for a moment of the President of a great nation engaged in one of the most terrible wars ever waged among men, able so far to forget all as to give himself up for the time being to the errand of a little boy who had braved an interview uninvited, and of whom he knew nothing but that he had a story to tell of his widowed mother and of his ambition to serve her!

### Curious Facts.

In the last 60 years the speed of ocean liners has increased from 8½ to 23½ knots an hour.

The earliest mention that is so far disclosed of the use of the crozier is of one carried by Altadus, Archbishop of Reims, who died A. D. 933. An ancient Saxon or Norman font in Winchester Cathedral has a very old representation of a bishop with a crozier, probably the earliest example to be found in England. A crozier of rude shape is cut on the tomb of Bartholomew, Bishop of Exeter from 1161 to 1184.

The new coins made from models by St. Gaudens are not the first on which the American eagle is shown with plumage furled or at rest. Among the "individual coins" which were issued in the days of the civil war, when there was a gold and silver famine, a one-cent piece issued by a grocery concern in New York State bore on one side the inscription, "Good for one cent—D. L. Wing," and on the reverse side had an eagle much like the St. Gaudens bird. Another "good for one cent" coin put out by a New York restaurant had an eagle perched at rest on a beer barrel.

When a woman is really in love with a man she feels certain the train he is traveling on will be wrecked.



## Course in Telegraphy

### Good Positions

Tuition back after one year's service.  
Main S. P. wire in schoolroom. Write  
for particulars.

## PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

### Gleanings.

The doll is the oldest toy.  
The marksman's eye is gray.  
Soap has been in use for 3000 years.  
The piano contains about one mile of wire.  
London eats 180,000 tons of fish a year.  
Swans have been known to live 300 years.  
One hundred cod livers yield a gallon of oil.  
The load for a full-grown elephant is two tons.  
Japan exports large quantities of mushrooms.  
John Bull annually eats \$50,000,000 worth of fruit.  
The average weight of the British salmon is eight pounds.  
Newspapers are sold on the streets of Spanish cities by women.  
It is said that cold tea will kill the microbe of typhoid fever.  
This century will have twenty-four leap years, the greatest possible number.  
Four hundred millions of sardines are taken yearly off English coasts.  
An orange tree has been known to produce 15,000 fruit at one crop.  
Taking the flags of 25 leading national powers, red is found in 19 of them.  
There are 1047 women to 1000 men in England, but in Italy only 995 to each 1000.  
That metals get tired from overwork is clearly proven in the case of telegraph wires.  
The Mauretania has four funnels and four locomotives abreast could pass through them.  
The brain of the female commences to decline at the age of 30; the male's ten years later.  
The United States has still 400,000,000 acres of forest, Australia 60,000,000, India 45,000,000.  
The output of cast iron sash weights in the United States has reached 85,000 tons a year in recent years.  
Free electricity travels at the same rate as light—186,000 miles a second. Through wire, only 16,000 miles a second.  
There is a clearing house for packages lost on the British railways, and about 1000 packages a day are handled.  
Among the richer classes 343 in 1000 live to 60 years of age, in the middle classes 175 do so, and 156 only of the laboring class survive to reach 60 years.  
What is said to be the largest wagon in the world is doing service at Nome. It is 26 ft. long, and 7 ft. high from the axle and has wheels 10 ft. in diameter.

### The Spine Located.

A class of boys in a West Philadelphia school have been studying physiology with remarkable results. They were ordered to write a composition on "the spine." Many interesting papers were turned in on this subject, but there was one that was a gem. The boy wrote: "The spine is a bunch of bones that runs up and down the back and holds the ribs. The skull sits on one end and I sit on the other."—Philadelphia Record.

### The Dawn of Peace.

Put off, put off your mail, O kings,  
And beat your brands to dust!  
Your hands must learn a surer grasp,  
Your hearts a better trust.

Oh, bend aback the lance's point,  
And break the helmet bar;  
A noise is in the morning wind  
But not the note of war.

Upon the grassy mountain paths  
The glittering hosts increase—  
They come! They come! How fair their feet!

They come who publish peace.

And victory, fair victory,  
Our enemies are ours!  
For all the clouds are clasped in light,  
And all the earth with flowers.

Aye, still depressed and dim with dew;  
But wait a little while  
And with the radiant deathless rose  
The wilderness shall smile.

And every tender, living thing  
Shall feed by streams of rest;  
Nor lamb shall from the flock be lost,  
Nor nursing from the nest.

—John Ruskin.

### Indian Love of Dog Meat.

The romance and poetry that surround the Indian in his native environment are lost forever to the paleface, who rashly goes into a wigwam to dine, says Estelline Bennett in What to Eat. When the pans and kettles have been put away and the night wind or the afternoon sunshine has swept through the canvas opening; when the squaws have taken up their bead work and the Indians have stretched themselves out on their blankets with their long pipes of kinnekinick, the Indians at home are as picturesque as Remington pictures make them, and the charm of the shadowy tepee lighted only by the fire in the centre, is something a man never forgets. But neither is the odor of the dog stew that simmered in the black kettle over the fire a thing to be forgotten as long as a man lives. It is the worst odor in the world, excepting none. It is the most insidious smell that ever crept into one's clothes and hair. If you have gone into a tepee while the stew was cooking, you smell dog, taste dog, breathe dog for weeks to come. And it is the favorite dish of the Sioux Indians. Out on the Pine Ridge reservation, where most of the Indians are farming their allotted lands, and the compulsory education law is in full force, an old, old squaw lives alone in a tepee, perhaps the only Indian on the reservation who utterly disdains a house and raises dogs to sell. They swarm around her dirty little tepee, a gaunt, hungry tribe, looking as though they were good for nothing in the world. But even now, at a stage of civilization where the ghost dance is a thing of history, and the war bonnet a curio, the Indians buy them and make them into soup. They dry the meat by hanging it over a line in the sun, as one does the family washing, and it forms a staple part of the daily living. It all goes to prove that the final, decisive test of civilization is the food we eat. Dog meat is the last remnant of his savagery which the Indian gives up. The entrails of the beef given out by the Government is still a delicacy to the Indian girl after she has learned to make white bread and broil chicken.

### Not News.

Titus Titmouse was infuriated, but the editor of the Western Wind shut him up in two seconds, says an exchange. "Is this the newspaper office?" inquired Mr. Titmouse. "It is," responded the man at the desk. "Didn't this paper say I was a liar?" "It did not." "Well, some paper said it." "Perhaps it was our contemporary down the street," suggested the editor, as he picked up a paper weight. "This paper never prints stale news."

### How to Train a Collie.

In the first place allow me to say, on the authority of my grandfather, who spent his life in the Highlands of Scotland and was considered one of the best dog trainers, that in order to secure the best results with dogs as workers they should be broken by the one who is to handle them. I have one bitch that I have offered to work in competition with any dog in our country, and yet I have never seen her do reasonable work for anyone else. For some people she will not go a rod. In the first place I would want to know the kennels a puppy was from and would want it when from 2 to 4 months old. It should be fed by the hands of its master and should learn to love home. Never kick or strike a collie. Scold him or pull his ear for punishment. And never call him to you for this. Make him 'down' where he is and go to him. If you call him to you he is liable to suspect you and make a sulky dog. His first lesson should be to 'come here.' Use it whenever you call to feed him, and he will get into the habit of coming when called. Next teach him to 'down' by saying 'down,' and pressing down with the hand. Be very thorough with this lesson and make him keep his position while you go any distance from him and stay any length of time. He should be taken among the stock from the first and learn to like them. If you keep him constantly with you he will soon try to help you in whatever he sees you doing. By petting and encouraging when he does right and scolding when he does not please you, he will soon do as you bid him. But remember 'licking' spoils more collies than all other things combined. Never try to teach but one thing at a time and have that well learned before you try to make him learn another. Patience and perseverance will make a good work dog of any bright and well-bred dog.—American Sheep-Breeder.

### Insomnia.

Every cause capable of increasing the amount of blood ordinarily circulating through the brain has a tendency to cause wakefulness. If the brain is often kept for long periods on the stretch, during which the vessels are filled to repletion, they cannot contract even when the exciting causes cease. Wakefulness, as a consequence, results, and every day the condition of the individual becomes worse, because time brings the force of habit into operation. Everything that tends to throw the blood unduly to the brain, or to accumulate it there, should be avoided. This is a vital matter, and prevention is better than cure.

Tight or ill-fitting articles of dress, especially about the neck or waist, and tight boots and shoes, should be discarded; the feet should be kept warm, so that circulation may be promoted. Wearing cork soles in the boots and shoes, and changing the socks every day, are excellent means to this end, and strongly recommended. Apart, however, from physical causes, there are various moral causes acting on the brain equally inimical to sleep—whatever keeps the attention fully aroused keeps the blood vessels of the brain distended, and the consequences of that we know. On the other hand, when the attention begins to flag the tendency is for the vessels to contract and for sleep to ensue.—Health.

"Johnny, is the new baby at your house a boy or a girl?"

"Ma says, it's a girl, but it ain't a-goin' to be baptized till next Sunday, an' if I have my way about it she'll change her mind before then."

"Thomas A. Edison has perfected a way to build a three-story house in twelve hours, at a cost of \$1000."

"Now, if he'll perfect a way to house-clean it in twelve hours he'll be a daisy."

### Useful Hints.

**MAKE CHAIR SEAT GOOD AS NEW.**—Sunken cane seats in chairs will be as good as new if washed in soap suds and left in the open air to dry.

**REPAIRING TORN MUSIC.**—When the covers to sheet music become detached bind them together with white passepartout paper. This paper being of a tough texture makes a firm and durable binding and if applied to new music will prevent much mutilation.

**TO BORE HOLES IN GLASS.**—Any hard steel tool will cut glass with great facility when freely wet with camphor dissolved in turpentine. A drill may be used, or even the hand alone. A hole bored may be easily enlarged by a round file. The ragged edges of glass vessels may also be easily smoothed thus with a flat file. Window glass may be readily sawed with a watch spring saw by aid of this solution.

**MAKE OLD FLOOR LIKE NEW.**—About seven years ago I moved into an old cottage, the floors were of old walnut, beyond polishing. I used building paper, mitered the corners, put thin warm flour paste on the floor with an old whitewash brush, rubbed well in, then put the paper on. I painted with floor paint, a tan, as that color matched up with my rug.

### His Revenge.

In the small compartment of smokers at the rear end of a train going out of Norfolk a few weeks ago sat three commercial travelers and an old farmer whose dilapidated exterior made very plausible the story he told the conductor.

"I'm only a poor lone man," he said, with tears in his eyes. "I haven't a cent in the world. But my daughter is dying"—here he almost broke down—and I want to see her, "please don't put me off. It's only 60 miles."

"Nothing doing," said the conductor, though with a touch of pity. "Orders are orders. You'll have to get off at the first station."

"It's all right, conductor," said one of the drummers, "I'll pay for him. "How much?" And he drew out a roll of bills.

"Not on your life!" cried the farmer. Thank you all the same, though." And, drawing out his own rather substantial roll, he paid his fare. The conductor grinned and passed on.

"Gentlemen, I owe you an explanation," said the farmer to his astonished companions. "Five years ago this darn railroad ran over one of my cows—ran over her in broad daylight, before witnesses. I sued the company for forty dollars, but their cussed lawyers beat me out of it. Since then I've been tryin' to get my forty dollars every way I could, and by hook or crook I've beat 'em out of thirty-seven of it. It was the other three I was tryin' for just now.—Harper's Weekly.

ORDINARY MAPS of the world are very deceptive. It would seem from them that the shortest course for ships entering the Pacific by way of the Panama Canal and bound for China or Japan would take them directly across the ocean from the Isthmus. But the fact is that a material saving in distance is made by coming north along the coast to San Francisco, following what is styled the "great circle" principle of sailing. It is for this reason, as well as for the necessity of recoaling steamships on so long a voyage, that the Navy Department believes the canal will make San Francisco a great coaling and naval rendezvous and the paramount port on the Pacific. And this will tend to the profit and advancement of all California, for it will provide abundance of shipping to carry the products of the State to the leading ports of the Atlantic and Pacific.—Sacramento Bee.

Dainty Indian muslins are made from the fibres of the banana tree.



## AGRICULTURAL REVIEW.

### BUTTE.

**FEED FOR STOCK.**—For the first time in several weeks the owners of large flocks of sheep are breathing easier. The delay of the fall rains caused a short food supply for the woolly animals, and they ate up everything in the shape of dry feed that could be made to support them. Now the grass is coming on rapidly, and many of the owners are getting on to their winter ranges. W. R. Rhinehart, who has about 3000 sheep, has taken his animals on to the Myers place in the Marysville buttes and the feed is good. In the warm valleys of the buttes the feed comes on several weeks earlier than in the more exposed portions of the Sacramento Valley.

**STRAWBERRIES ON CHRISTMAS DAY.**—Gridley Globe: Just to demonstrate what this section can produce, Mrs. J. F. Schaeffer on Christmas Day went into her strawberry patch and picked a number of ripe strawberries. She left a few samples at this office and they are fine big well-developed ones. The vines also carry innumerable green berries and blossoms, giving promise of a continuous crop for several weeks to come.

### CONTRA COSTA.

**FINE PROMISE.**—Gazette: There is fine promise, in the way the wheat is greening the earth, of a plentiful crop of wheat around Knightsen and Brentwood.

### GLENN.

**BIG ACREAGE IN ALFALFA.**—One thousand acres of the Boggs ranch, near Princeton, will be planted to alfalfa, which will be irrigated from the Central Canal Co.'s river ditch. Teams have begun work on the first tract of 300 acres which will be prepared for the crop. A large number of teams will be engaged in the work, which will be completed in a short time if the weather permits. S. J. Johnson, a recent arrival here, who is an expert on alfalfa planting, has charge of the work.

### LOS ANGELES.

**MARKETING WALNUTS.**—Anaheim Gazette: Walnut growers from many sections of southern California met in Los Angeles and discussed plans for marketing their crop. It is understood growers are dissatisfied with the manner brokers treated them the past season, and numerous complaints have been heard. For instance, after prices are fixed, if markets are firm and show a rising tendency, brokers acquire all nuts contracted for and reap additional profit. On the other hand, when prices decline, they show a disposition to fudge, and many individual losses was the result. This horseplay was worked upon growers the past season, the flurry in finances being alleged to be the reason for numerous refutations of consignments already contracted for. A reduced price was the result, while brokers continued to be doing quite well. A consensus of opinion at the meeting was that growers should in future market their crops without the interruption of middlemen.

### SAN BERNARDINO.

**GINSENG.**—Index: A party of capitalists has been investigating conditions relative to the cultivation of ginseng. Their conclusions were that this soil, climate and water are most favorable to that industry, and they are preparing to engage in the growth of that plant on an extensive scale. It is asserted by these men that their experience in the East in the cultivation of the plant has proven that there, under less favorable conditions and with poorer soil, an acre in this plant may be made to yield \$24,000 of the root in a season. The profit-taking begins the third year after planting, and is continuous thereafter. According to these men there is a demand for all the roots that can be raised. Indeed, it is stated that the production is not keeping pace with the

demand, and the price of the product is on the increase.

### SAN DIEGO.

**COTTON.**—Press: Texans living in Imperial valley have planted small fields and grown several hundred cotton plants, and they will plant some acres in cotton this season. They are not chasing rainbows, but they are ready to put up a cotton gin just as soon as the acreage required is assured. It has been demonstrated that cotton grows better here than in Texas. The plants are much taller, reaching a height of six feet, and the yield is from three to six times greater. Experienced growers pronounce the cotton superior in quality, and they are certain that Imperial valley is one of the best cotton regions in the world as to soil and climatic conditions. There is no guess work about it. Cotton will be grown here because the crop is profitable, and because the picking will give steady employment between fruit seasons, and constitute a very desirable supplementary industry.

### SAN JOAQUIN.

**COLTS POISONED.**—A Farmington correspondent of the Stockton Record says that H. A. Benton lost a pair of fine colts, which were poisoned by eating bluestoned wheat. Sinclair Orr, who rents Mr. Benton's ranch, was sowing grain and left some of the wheat in the field, which the colts found and ate. They died a couple of days later. Mr. Benton had, only a few days before, refused \$200 for one of the colts.

**MUST DIP CUTTINGS.**—Sacramento Bee: In order that the vines in the Lodi section will not become further diseased in any way, stringent regulations regarding vine cuttings affected with mildew or odium are being posted by the district horticultural inspector and C. L. Tubbs, a member of the Horticultural Board, representing the district, who recently came into possession of a letter written by District Attorney George F. McNoble to I. N. Southrey, president of the Horticultural Commissioners of San Joaquin county, and in it are the following facts, a copy of which will be sent each vineyardist that due precaution may be taken: "The County Board, through information from the State authorities, recommends that all cuttings affected with mildew or odium be immersed in a solution called Bordeaux mixture of winter strength. As the law provides that the proper horticultural authorities may confiscate, burn up and destroy all such products which are found to be affected with mildew or odium, I want to state to you directly that you are authorized to instruct your deputy inspectors to go into the vineyards and wineries, or any other place, and if they find vines or cuttings affected with disease hereinbefore mentioned, it becomes their duty and not their discretion to destroy same, by gathering them and having them burned, unless the owners, or those in possession of the affected material, proceed and obey the instructions of the circular and have them properly treated with the Bordeaux mixture or some like treatment." District Inspector Costello also states no cuttings will be received at the local depot for shipment anywhere unless they bear the stamp of approval by him, and that will mean that they shall have



124 Page  
Free Book.

Send today.

## Seeds, Plants, Etc.

C. C. MORSE & CO.

Plants SEEDS Trees

41 Jackson St.  
San Francisco



This picture represents the cover of our handsome new catalogue done in colors, showing the flowers and fields true to life.

Send us your name and address and we will mail this new 1908 Catalogue free.

Send us \$1.00 and we will send one each of these three fine roses (strong 2 year old roots): Frau Karl Druschki, Mildred Grant, Madam Caroline Testout. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea—Florence Morse Spencer.

undergone a Bordeaux mixture treatment.

### STANISLAUS.

**EARLY SOWING.**—Modesto Herald: Taking a lesson from last season, the farmers of this portion of the country did not wait until the rains set in before beginning to sow grain. Much of the summerfallow, of which there was not a very large average, was seeded dry several weeks ago, and some of the early sown grain has been up for a month. Last week's rains put the soil in pretty good condition for plowing and the ranchers are making every minute count. So far this season has been mild, more like a California winter, differing from the past two, which were cold and frosty, and it is hoped that this presages a return to normal weather conditions and that the season of 1908 will remunerate our farmers for the two hard years just passed through with abundant crops and good prices.

### WANTED

Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

FANCHER CREEK NURSERIES  
Fresno, California.

### Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

WRIGHT BROTHERS,  
Riverside, Cal.

### "Old Trusty" Incubators

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

E. E. McCLANAHAN

711 So. Main Street

Los Angeles.

## Burbank Says:

"Best way to get a Walnut Grove—Plant California Black Walnuts, graft them when 4 years old to Franquette or Santa Rosa."

We have extra good stock of  
**CALIFORNIA BLACK**  
3 to 5 feet. Write for prices.

**JOHN SWETT & SON**  
MARTINEZ, CAL.

### ENCINAL NURSERIES.

**SPECIALTIES:**—Apriocot on 'Cot and Genuine Franquette Walnut on black walnut root. Strong, thrifty trees grown on new soil, entirely without irrigation, and surrounded by all safeguards possible, from selection of seeds and buds to the digging of the tree, to have them healthy, free from disease and true to name.

F. C. WILLSON proprietor, Sunnyvale,  
Santa Clara County, California.

### SUGAR GUM AND RED GUM TREES

In large or small numbers. Eucalyptus 6 to 12 in. ready for planting; packed and sent to you, express or mail, 100 for \$2.50 (four pound package.)

HENRY SHAW, RIVERSIDE NURSERY  
320 River St. Santa Cruz, Cal.

## Grafted Vines and Resistant Cuttings

Malaga, Muscat, Emperor on Rupestris St. Geo. Muscat on 3306. CUTTINGS of Rupestris St. Geo., 3306, 3309, 1202. Address

MINNEAWAWA VINEYARD, Fresno, Cal.

### FOR SALE

200,000 Berry Plants, including Phenomenals, Mammoths, Blackberries, Himalaya Giants, Lucretia Dewberries and Raspberries. Send for Catalogue to

R. J. HUNTER, OAK VIEW BERRY FARM  
Gridley, Cal.



# SEEDS, PLANTS, Etc.

## ALMONDS

Lewelling, Texas Prolific, Drake, Three sure bearers.

## PEACHES

Muir, Elberta, Lowell, Orange and Tuscan Cling, etc.

## CHERRIES

Chapman (earliest), Royal Ann, Bing, Tartarian, etc.

## WALNUTS AND PECANS

Grafted and Seedlings.

## ELLWOOD WALNUT

**EUCALYPTUS**—Twenty varieties, in 10,000 or 50,000 lots.

**Leonard Coates Nursery Co., Inc.**  
Morganhill, Santa Clara Co., Cal.

## The Crocker Bartlett Pear

### DOES NOT BLIGHT

If proven different, purchase price of trees bought from us in 1907 will be refunded. Fruit highly recommended by Luther Burbank. Sample of pears sent on receipt of 25 cents. See U. S. Year Book of 1905.

**Peach Trees, 15c**—all leading varieties.  
**Cherry Trees, 20c**—all leading varieties.

## GOLDEN RULE NURSERY

Loomis, Placer County, Cal.

## Pacific Nurseries

San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting a full line of

Ornamental Trees and Shrubs, Evergreen and Deciduous, Conifers, Palms, Rhododendrons, Camellias, Ericas, Azaleas, Roses, Eucalyptus, Cypress, Pine, Monterey and Maritima Pittosporum transplanted into plats.

Send for Catalogue

**F. LUDEMANN, 3041 Baker Street**  
SAN FRANCISCO

## Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, A1, Lady Thompson and Midnight, Pedigree Plants.

## Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

## Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

**Dewberry, Loganberry, Phenomenal Berry Plants.**

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS, Burbank, Cal.**

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc.

Send for price list.  
**A. F. SCHEIDECKER, Sebastopol, Cal.**  
Proprietor Pleasant View Nursery.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## WALNUT TREES

Grown from carefully selected seed Postal for prices.

**A. A. MILLS, Anaheim, Cal.**

## BARTLETT PEARS.

I have a large stock of Bartlett Pears that cannot be excelled for size and quality grown on whole roots one year old. Prices reasonable. Those desiring in any quantity, address,

**R. P. EACHUS, LAKEPORT, CAL.**

# TREES

**Best Stock on the Coast**  
**Every Tree True to Name**

## CITRUS

Any quantity in all of the leading Standard Varieties. All grown at Exeter, where they develop perfectly.

## DECIDUOUS

The best of everything in all sorts, strong and healthy, with well developed roots. Properly packed and shipped promptly or when desired. Place your orders now.

# BURBANKS NEW CREATIONS

We are sole propagators and disseminators

## Santa Rosa Plum

**Rutland Plumcot, Gaviota Plum**  
**Formosa Plum, Vesuvius Plum**  
**Royal and Paradox Walnuts**

Send 10c. for our valuable booklet, beautifully illustrated in colors, which tells all about these wonderful new creations.

## GRAPEVINES

On their own roots and grafted on Phylloxera Resistant Roots.

**Callimyrna Figs, Ornamental Trees, Roses, Palms, Plants.**

Our large new catalogue sent free.

PAID-UP CAPITAL \$ 200,000.00

# FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 18 Fresno, California, U.S.A.

**A Good Harvest**

We aim to insure a good harvest if you plant

**Gregory's Seeds**

Always sold under three guarantees, insuring freshness and purity. Our free catalogue contains lots of information of value to farmers and gardeners.

J. J. H. GREGORY & SON, MARBLEHEAD, MASS.

**GREGORY'S SEED CATALOGUE FOR 1908**

**FREE TO ALL**

**D. M. FERRY & CO.'S**

**ILLUSTRATED SEED CATALOGUE**

**PRICED ANNUAL**

**for 1908**

Ferry's Seeds are the best known and the most reliable seeds grown. Every package has behind it the reputation of a house whose business standards are the highest in the trade.

Ferry's 1908 Seed Annual will be mailed FREE to all applicants. It contains colored plates, many engravings, and full descriptions, prices and directions for planting over 1200 varieties of Vegetable and Flower Seeds. Invaluable to all. Send for it.

**D. M. FERRY & CO., Detroit, Mich.**

**BROOM CORN AND BROOMS.**—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 59 pages 5 by 7 inches. Cloth.....\$0.50

## Trees that Grow and Bear Fruit

**SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.**

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

**Orange County Nursery & Land Company**  
FULLERTON, CAL.

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES**—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untied. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

## THE FRESNO NURSERY

**F. H. WILSON, Proprietor.**

Box R. R. 42.

**Fresno, California**

# 200,000 Eucalyptus Trees

(IN VARIETY)

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit, 20,000. Our trees are up to our usual standard. Correspondence invited. Our booklet, telling when, how, and what to plant, free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman**  
PETALUMA, CALIFORNIA.

**Ask us about Walnuts**

The kind for Commercial Planting.

**Large, Rich and Prolific**

Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.  
Salesmen Wanted.

High In Quality

Low in Price

## OUR SEEDS GROW

**Vegetable, Flower and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50

## GRAFTED VINES

FIELD GRAFTING

BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

**JOHN L. AMES,**

Elk Grove, Cal.

## TREES

Franquette Santa Rosa **WALNUTS** Grafted on Calif. Black

Finest Varieties **CHESTNUTS** Grafted

Burbank's Best **Opulent Peach** Finest Quality

Burbank's Crimson Winter **Rhubarb** Also other stock

Grown at Sebastopol

**T. J. TRUE,**

Rural Route 1.

MODESTO

## Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery Spring of 1908.

**SOUTHLAND NURSERIES,**

F. H. DISBROW, Proprietor.

Both Phones.

R. D. 1, Pasadena, Cal.

## Ask for SNOW'S GRAFTING WAX

In use all over the State

For sale by all the large grocers, or

**D. A. SNOW, Lincoln Avenue, San Jose, Cal.**



## COUPON FREE Book on Poultry Profits

Cut Out, Sign and Mail This, and by return mail you will receive our great Free Book, telling how 140,000 Men and Women are Making Money with the Famous Sure Hatch. Book is full of valuable help to beginners and professional poultry raisers. Tells why the Sure Hatch excels all other incubators. We ship Sure Hatches on Unlimited Trial direct to you from Los Angeles or Salt Lake City. Don't delay—fill out and mail coupon NOW.

**SURE HATCH INCUBATOR CO.**  
Box 181, Fremont, Neb., or Dept. 181, Indianapolis, Ind.

Send book to (write plainly)

Name \_\_\_\_\_  
Address \_\_\_\_\_

## Labor Supply.

### More Asiatics Not Desirable.

To the Editor: Having read carefully the article from G. H. Henke on the labor supply from a fruit grower's view point in the PACIFIC RURAL PRESS of Dec. 28, I wish to present herewith a few points on the same question but viewed from a slightly different point. The articles on this question but viewed from a slightly different point. The articles on this question invariably appear to emanate from men with large holdings of orchard, vineyard or hopfields; it may therefore not be amiss to look at it from the point of the small owner, the owner of not over 25 acres of fruit land.

In the first place, what is more desirable in the interest of the welfare of the people and for the greatness of this State: Is it large holdings requiring many hired hands and yielding certain net profits going to one individual or is it small holdings, requiring more improvements, yielding more taxes, with intenser farming, more produce, and giving independence and a competence to many instead of one. We have read the answer to this question time and again. But then the argument was used in regard to those large areas of grain lands; will it not be applicable to any very large holding by one owner?

The writer has in mind one immense estate in Tehama county, consisting of thousands of acres of vineyard and orchard, besides untold thousands of acres of arable and pasture lands. A small town, consisting mostly of saloons, with a hundred or thereabout of poor white people and a lot of Chinamen, living in a dirty manner, is all that derive a living from this wonderfully fertile ranch, besides, of course, the owner and some superintendents. Seven miles from this town is located another town, a splendid place, with hundreds of fine houses inhabited by over 1500 people surrounded by thousands of acres of orchard owned by hundreds of men making a living therefrom, requiring little if any hired help. The hustling town comprises many large general stores, hotels &c., but no saloons. The above statement is easily to be verified and seems conclusive in the matter of the present controversy. That the large owner wants the door opened to the Chinamen is, if not patriotic, very natural; but in his station he is not compelled to come so much in contact with them as the smaller owner, nor is his family, and herelies one of the most serious drawbacks of the presence of large numbers of any kind of Asiatic people. The presence of the negro in the South has retarded the progress of that section more than anything else.

Having come from the East a few years ago, the writer knows that the presence of above-named people in this State keeps a far greater number of white people from coming here than is generally thought. At one time I advertised in an Eastern paper for some hired help and received over 50 offers, some mentioning the fact that in spite of their wish of many years to come to California, they had always been kept back through what they had heard

about the competition of the Chinamen. So much has been written lately about the Japanese question, exclusion acts, and so forth, that it has led a large number of Eastern people to believe that this State is crowded with Asiatics. And here come men that want to reopen the doors to them. Has not San Francisco had enough trouble and disorder lately, and do we want to give the white labor element there fresh reasons to get unruly?

The white man is not so much averse to migrate from one place to another as he is to be influenced by the conditions under which this has to be done. When the large owners provide decent quarters, it will no doubt be possible for them to hire a certain amount of white help through some labor contractor as well as a railroad company or other enterprise can do it.

Agricultural progress and, as a consequence, the greatness of our State, is furthered immeasurably more by the addition of the Eastern immigrants acquiring mostly small places than it is retarded by the lack or want of labor, and as a consequence failure of some large owners to get the full benefit of their holdings. It would not be an unmixed evil, though it might entail financial loss, if some of the larger properties would have to be cut up and owned by several parties.

In conclusion, I would say that the writers of the articles favoring readmission of the Chinaman have probably no idea of the storm of protest that will raise once the daily press once begins to discuss the pros and cons of this matter.

JOHN STAHEL.

Kelseyville, Lake county.

### The Yellow Peril.

To the Editor: During something more than 30 years' residence in California I have felt compelled to reflect seriously on the various aspects of what are called labor problems.

One point of view shows that enterprising men are apt to undertake more than they can accomplish by their own hands or help within their control, the help of their own families being usually insufficient.

The result has been that fruit growers have often such extensive plantations that in certain seasons they are forced to rely on uncertain transient laborers, and we have lately seen a State convention of fruit growers publicly petitioning for an increase of Asiatic help.

It has always seemed to me that public and private welfare will be and always has been best promoted by moderate fruit growing, such as families can control, rather than those 10 or 20 times as large, with 50 or hundreds of aliens, whose neighborhood or national interests are not the same as ours.

Better 50 citizen fruit growers, counting the women and children as citizens, than 50 aliens controlled like slaves for the benefit of one citizen owner.

No argument is necessary on this point, but we have had and now have continued planting so extensive and reckless as in some cases to overstock the markets, and one result is that every large orchardist demands a number of coolies to do the work, at least part of the year. On many accounts this is a deplorable result. Better give us the greatest good for the greatest number of American citizens.

Soon the competition of these cheap fellows will come in lines we can not evade or prevent. They will grow and manufacture cotton on their own soil, successfully competing with our factories. In other ways we may eventually be subdued by the "yellow peril," but in the name of civilized life let us postpone this result as long as possible. I do not much care to live to see the day when our families shall be denied harmless luxuries—when, in fact, we cannot afford to have families. War is bad enough, but insidious, peaceful con-

## IT'S FREE

### FERTILIZE FOR PROFIT

It's the RESULTS that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY.

Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity quality of products and profits. Our fertilizers have the largest sale west of the Rockies because they make sure and good crops. Lack of fertility means starved soil. Our fertilizers feed the soil and make it produce abundant harvest. Write us and let us tell you about it.

**California Fertilizer Works,** Cor. 11th and Market Sts. SAN FRANCISCO, CAL.

Branch Office: Room 216 Grosse Building, Los Angeles, Cal.

### FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.



268 MARKET STREET  
San Francisco

MANUFACTURERS OF

### Special Fertilizers for all Crops

Our New Catalogue

"The  
Farmer's  
Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.

## WHEAT GROWERS!

### SPEND \$1.00 PER ACRE

for the unsurpassed cereal phosphoric acid fertilizer, SUPERPHOSPHATE, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvelous results as applications of superphosphate."

GET PARTICULARS FROM

**The Mountain Copper Co., Ltd.**  
150 PINE ST., SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

quest by races trained to be content with mere existence is perhaps worse.

In such condition all the little luxuries of musical and social life would be impossible. We might with the cheap labor have good roads, but no perfected conveyances to use upon the roads. We might in careless moments whistle or sing, but musical instruments there would be none in such a reduced scale of wages. Most of the ornaments and conveniences of our homes would be unattainable.

One of my ancestors told his children to fear falsehood, but never to be afraid of the dark. In spite of this revered family tradition, I fear the results of economic conquest by races trained for untold generations to exaggerated parsimony. In connection with this fear, I tremble in view of the predominance of great wealth.

It is the real or supposed interest of rich people and great corporations to wish for cheap labor, and, so far as they can control legislation and public opin-

ion, they will, and use all possible efforts to pave the way for the supremacy of the cheap Asiatic laborers.

HENRY SHAW.

Santa Cruz.

To the Editor: I have read Mr. Hecke's article. I wish to state that you can get plenty of cheap white labor by the owners forming an organization and starting free employment offices, getting out circulars stating where and when men are wanted. Or you can send to the Industrial Workers of the World, 510 Larkin St., S. F., or 409 E. Seventh St., Los Angeles. You should advertise where to go and how to go. The Easterners do not know where to go to look for work.

JAMES PALMER.

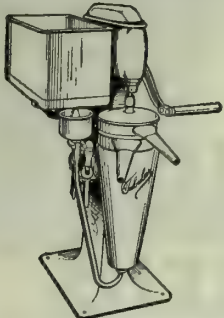
Pasadena.

[We do not know anything about the organization mentioned and do not commend it.—ED.]



## Because You Need The Money

It's your business and if you don't attend to it, who will? You cannot afford to keep cows for fun. That isn't business, and, furthermore, it isn't necessary. There is money in cow keeping if you go at it right, and besides there is more fun in going at it right than there is in staying wrong.



You need a Tubular Cream Separator because it will make money for you; because it saves labor; because it saves time; because it means all the difference between cow profits and cow losses.

Look into this matter; see what a Tubular will do for you and buy one because you need it.

How would you like our book "Business Dairying" and our catalog B. 131 both free. Write for them.

**The Sharples Separator Co.**  
West Chester, Pa.  
Toronto, Can. Chicago, Ill.

## Sheep and Wool.

### Sheep Grazing on the Forest Reserves.

By W. C. CLOS, U. S. Inspector of Grazing, at the American Rambouillet Association convention in Chicago.

The national forests are created to preserve a perpetual supply of timber for home industries, to prevent destruction of the forest cover which regulates the flow of streams, and to protect local residents from unfair competition in the use of forest and range.

It is evident that the purposes for which the national forests were created cannot be fully accomplished without regulation of grazing, consequently such regulation was necessary in view of the notorious abuses of the range formerly committed by all classes of users. These abuses are facts too prominent to be denied or even excused, and there is abundant evidence to prove that the range, as well as the various classes of people dependent upon its use, suffered great loss under the old "open range" system where all did as they pleased, to satisfy the demands of the present, without regard to the consequences and the needs of the future. Thoughtful minds, however, anticipated the inevitable results years ago, and public sentiment at last has condemned the old destructive practices and demanded and obtained relief from the then existing evils by means of Government control of the range within the national forests, a large number of which were created in answer to numerous petitions from the nearby settlers and small stock owners, this being the only means of protection available for them against the oppressive aggressions of the large stock owners. The change, however beneficial in its intentions, was not effected without mistakes; yet reasonable minds could not expect such an evolution to take place otherwise, and apologies are unnecessary because the errors have been corrected or are being corrected as fast as possible. The resources and products of forests and range are intended for us, but this use must be conservative not wasteful, therefore the range must be used in such a manner that its usefulness is not decreased but increased. Consequently the leading objects of the grazing regulations are:

(1) The protection and conservative

use of all national forest land adapted for grazing.

(2) The permanent good of the live stock industry through proper care and improvement of the grazing lands.

(3) The protection of the settler and home builder against unfair competition in the use of the range.

The protection and conservative use of all national forest land adapted for grazing necessarily conditions the enforcement of protective measures, rules, and regulations intended to effect the greatest good to the greatest number. The Government is the owner of the range, it cannot concede legal claims to land unless the title of such land has legally passed. Continued use of the range by individuals does not lead to a servitude on the part of the Government, consequently the right of the Government to administer the use of the range within the national forests is indisputable, yet this administration is not arbitrary. The grazing regulations are designed to aid in the maintenance of a maximum number of prosperous homes in the neighborhood of national forests. The people are given a voice in the allotment of the range and in the adjustment of grazing by means of the advisory boards. These advisory boards consist of committees of five appointed by any live stock association whose membership represents a majority of the committees of the respective national forest or even a certain portion of it.

In the practical allotment of grazing privileges, the small owner and home builder living near the national forests are given the preference. They constitute Class A and are provided for before all others. Then come the larger owners (Class B), and finally if there is still room the transients or rather the more distant owners (Class C) may be accommodated. Priority in the occupancy of the range is taken into account, the older occupants receiving additional consideration. If it is found necessary to reduce the number of stock grazing upon a certain forest, the reduction is made on the basis of a sliding scale, large owners being reduced a heavier per cent, but ample time is given them to dispose of their surplus stock, and the reduction is gradual.

It is the policy of the Forest Service to assign individual allotments and allow the stock to use the same range in succeeding seasons wherever this is possible. But this must not be understood as guaranteed because it is evident that it cannot be done in every instance. The Government has a right to control the range at all times, and, in return for the protection, benefits, and services rendered, to collect a reasonable charge or grazing fee. No valid objections can be possibly offered to this, and the present "per capita" fees are very reasonable, and there is no intention to increase them during the present administration.

Applications for regular grazing permits must be made by the owners of the stock and the grazing fee must be paid to the fiscal agent before the animals are allowed to enter the national forests.

The permanent good of the live stock industry is accomplished by systematic range improvements under the direction of the Forest Service. The large number of such improvements may be divided into two groups: Improvements of the means concerning the proper handling of the stock and improvement of the range itself.

Fencing of the range in order to control the stock upon national forests is permitted under proper restrictions.

Permits to construct drift fences may be secured wherever such fences are necessary and will not create a monopoly.

Pastures may also be enclosed provided they do not interfere with the rights of other permittees or the proper management of the range as a whole.

Corrals may be constructed wherever there is an apparent necessity for them.

As much of the range has suffered more or less from reckless overgrazing in the past, due attention is paid to proper development of the forage, and during the past season extensive experi-

ments have been carried on by the Forest Service in co-operation with experts of the Department of Agriculture for the purpose of determining the best methods in the handling of stock, the determination of grazing capacities, as well as the most valuable forage plants and the possibilities of their increase by re-seeding.

The poisonous plants have also been investigated by competent experts, and as soon as possible the public will be informed of the positive results, showing just how this danger can be avoided and the evil corrected.

The development of water is another very important object that the Forest Service is pursuing. Springs and seeps will be troughed, and piped if necessary. Reservoirs for watering stock will be built and windmills will be put up in such a condition so as to warrant the expense.

The Forest Service has also taken up an active hand in the fight against predatory animals, and professional hunters and trappers have been engaged in many localities.

In view of all this, the Forest Service certainly is entitled to claim the support instead of the opposition of the persons engaged in the grazing industry, since it has proven itself to be the best friend of the live stock industry of the West.

A great many problems will yet need to be solved, but the best and quickest results will be obtained if the public will try to understand the good intentions and beneficial purposes of the Forest Service, and assist and co-operate with its officers for the greatest good to the greatest number, which means the successful and continued maintenance of the maximum number of prosperous homes.

## The Garden.

### Rocky Ford Growers Coming to California.

An Imperial Valley exchange states that among recent arrivals in Imperial Valley is L. C. Sloan, who has been growing melons at Rocky Ford for seven years and has been attracted by the superior advantages of this region. Mr. Sloan has rented land on the McGuire place, a mile and a half south of El Centro, and intends to plant 14 acres in cantaloupes and 6 acres in watermelons with seed which he brought from Rocky Ford.

Comparing conditions in Colorado and in Imperial Valley, Mr. Sloan said: "Planting begins at Rocky Ford about May 1 and gathering the crop about August 5. Here they plant in February and begin shipping by the middle of May. Rocky Ford land, valued at \$100 to \$300 an acre, produces from 100 to 250 crates, worth from 75 cents to a dollar a crate. Imperial Valley produces from 300 to 400 crates to the acre and the price runs from \$1.85 to \$2.60 per crate. The quality of Imperial Valley cantaloupes is said to be better."

As no other melon-growing region produces so early a crop as Imperial Valley, there can be no competition to greatly reduce market prices, and Mr. Sloan says he sees no reason to fear that the raising of melons ever will be overdone here. He intends to buy land and become a permanent resident and he knows a number of Rocky Ford growers who are coming here to rent land and put in crops during the next season.

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

### BEST PILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25c. a box at druggists, or by mail Write Dr. Rosanko Co., Philadelphia, Pa. Sample Free. ONLY ONE FOR A DOSE

## Heavy Steers

A steer receiving a small amount of Dr. Hess Stock Food twice a day in his grain will consume, digest and assimilate larger quantities of coarse fodder and make steady growth from start to finish. This is because Dr. Hess Stock Food acts upon the digestive organs, keeping them in perfect health and activity.

Dr. Hess Stock Food is the prescription of Dr. Hess (M.D., D.V.S.) and contains tonics, iron and nitrates necessary to aid digestion, make good blood and cleanse the system.

**DR HESS STOCK FOOD**  
A TONIC

Is a perfect animal tonic. It causes rapid growth, increases milk yield and insures good health and condition in all farm animals.

Sold on a written guarantee.

100 lbs. \$7.00; 25 lb. pail \$2.00

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medical compound and this paper is back of the guarantee. If your dealer can't supply you, we will.

DR. HESS & CLARK, Ashland, Ohio.  
Also manufacturers of Dr. Hess Poultry Panacea and Instant Louse Killer.

THE PETALUMA INCUBATOR COMPANY  
Petaluma, Cal. Pacific Coast Distributors.

## Glenn Ranch

GLENN COUNTY, CALIFORNIA

### For Sale in Subdivisions

This famous and wellknown farm, the home of the late Dr. Glenn, "The Wheat King," as been surveyed and subdivided. It is offered for sale in any sized Government subdivision at remarkably low prices, and in no case, it is believed, exceeding what is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for fifteen miles. It is located in a region that has never lacked an ample rainfall and no irrigation is required.

The river is navigable at all seasons of the year and freight and trading boats make regular trips. The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter

**F. C. LUSK,**

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, Cal.

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying. 5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA Open all Year. A. VAN DER NAILLEN, Pres't Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE MARKETS.

SAN FRANCISCO, Jan. 15, 1908.

## WHEAT.

Eastern and foreign speculative markets have been unsteady during the week, with a slight firmness toward the close. There is considerable activity in the Eastern milling centres, where spot grain is firm and in strong demand. The export demand, on the whole, is improving, and there is a good movement for export from northern ports. The falling off in the demand for flour in the oriental countries, and the consequent inactivity of the northern mills, is said to have put more grain than usual on the export market. In this market futures opened the week lower, and cash wheat is described as quiet and easy, though quotations are unchanged.

California White Australian..	1.75 @1.82½
California Club.....	1.67½ @1.72½
California Milling.....	1.70 @1.72½
California lower grades.....	1.60 @1.65
Northern Club.....	1.65 @1.72½
Northern Bluestem.....	1.75 @1.77½
Northern Red.....	1.62½ @1.70

## BARLEY.

May options opened the week with a decline. Receipts have been moderate, and mostly sold prior to arrival, but the activity observed last week has fallen off, and there is now little interest on the part of buyers. Quotations have remained steady to firm, however, except on feed grades, which are weak at a slight decline. The best feed at present will not bring over \$1.55, and several sales have been made at \$1.52½.

Brewing .....	\$1.60 @1.65
Chevalier .....	1.75 @1.85
Good to Choice Feed, per ctl..	1.55 @—
Common to Fair .....	1.50 @1.52½
Shipping.....	1.57½ @1.60

## OATS.

Spot stocks of oats in this market are still rather light, as there have been no heavy arrivals from the north, and most of what has come in has been sold prior to arrival. The market, however, is very dull, with little apparent demand, but the market shows no weakness, as holders are firm and confident of better prices. The Oregon market has a firmer feeling, as half the crop is sold, the mills have taken on large lines, and a large Government contract is expected. Speculative buying there is active, and higher prices are looked for.

Clean Black for seed.....	\$2.50 @3.00
Choice Red, per ctl .....	1.85 @1.90
Gray .....	1.52½ @1.60
White.....	1.52½ @1.70
Choice Red, for seed.....	1.90 @2.00

## CORN.

Considerable corn has come in from California points during the week, more in fact than has appeared for some time, and it is said that there is likely to be more of this grain on the local market as the mills here resume activity. The market has been dull as usual most of the week, with several Western lines offering at low prices.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @—
White .....	Nominal
Western State sacked Yellow, new.....	1.60 @1.65
White, in bulk.....	1.49 @—
Mixed, in bulk.....	1.47 @—
Brown Egyptian.....	1.40 @—
White Egyptian .....	1.35 @—

## RYE.

Stocks of rye are light, and there is very little activity. Occasional sales are reported, but there is not enough demand to cause any movement of importance. Choice California grain now sells up to \$1.47½.

California .....	\$1.45 @1.47½
Utah .....	1.40 @1.45
Oregon .....	1.45 @—

## BEANS.

The feeling in the bean market shows still further improvement, with a tendency to greater firmness in most descriptions. The speculative market now shows some activity, and, while Eastern buyers still show little interest, the movement to the Western States, especially Texas, has increased considerably. Practically all the crop has been bought, but first-hand

stocks in this market are light. The only change in quotations is on limas, which are a little lower.

Bayos, per ctl.....	\$3.15 @3.25
Blackeyes .....	3.75 @4.00
Butter .....	4.50 @5.00
Cranberry Beans .....	3.00 @3.25
Garvanzos.....	3.75 @4.00
Horse Beans .....	2.75 @3.00
Small White .....	3.50 @—
Large White .....	3.35 @3.45
Limas.....	4.75 @4.85
Pea .....	3.50 @3.75
Pink .....	3.15 @3.25
Red .....	3.40 @3.50
Red Kidneys.....	3.25 @3.50

## SEEDS.

Great activity is beginning to appear in miscellaneous garden seeds, owing to general rains and good growing weather. Aside from these, leading features are all varieties of alfalfa, and timothy seed, which is now on the market at appearing quotations. All these descriptions are very firm, with prices on alfalfa unchanged. Other lines quoted are quiet.

Utah Alfalfa .....	18 @19 c
Turkestan alfalfa.....	18 @—
Alfalfa .....	17½ @18 c
Broomcorn Seed, per ton .....	\$22.00 @25.00
Brown Mustard, per lb.....	3 @3½ c
Canary .....	4½ @4½ c
Flaxseed .....	Nominal.
Hemp.....	4½ @4½ c
Millet.....	3 @3½ c
Timothy .....	7 @7½ c
Yellow Mustard.....	5 @5½ c

## FLOUR.

Flour holds quite steady, with prices at the same figures that have ruled for some time. The demand for local interest is quiet and without feature, jobbers being reluctant to take on new lines. The foreign demand in the north has fallen off greatly since the rise in prices was announced, and few mills there are working to their capacity.

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras .....	5.40 @5.65
Superfine .....	4.20 @4.50
Oregon and Washington, Family .....	4.75 @5.25

## HAY.

There has been a further falling off in hay arrivals during the past week, the total showing 2580 tons in comparison with 3290 tons last week and 4040 tons for the previous week. The market, however, continues dull, and is still far from cleaned up. Coastwise business and trading with the interior continue, and if the Federal Government makes the expected large purchase for Manila, that will help out the situation. Alfalfa shows some little improvement, and number one straw is in light supply and slightly higher. Standard grades of hay show no material changes.

Choice Wheat, per ton .....	\$16.50 @18.00
Other Grades Wheat .....	11.00 @16.00
Wheat and Oat.....	11.00 @15.50
Tame Oat.....	11.00 @15.00
Wild Oat.....	10.00 @13.00
Alfalfa .....	9.00 @13.50
Stock .....	8.00 @9.50
Straw, per bale.....	50 @90 c

## MILLSTUFFS.

There is no change in quotations on feedstuffs, all descriptions remaining about as firm as last week. There is still a marked shortage of bran and shorts, and moderate arrivals of both lines from the North were needed to fill back orders, leaving the market practically bare. This shortage, in view of the inactivity of the Northern mills, is likely to continue indefinitely.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @—
Jobbing .....	23.00 @—
Bran, ton .....	28.00 @29.50
Broom Corn Feed, per ctl.....	90 c @1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots) .....	25.00 @—
Jobbing .....	26.00 @—
Corn Meal.....	37.00 @—
Cracked Corn.....	38.00 @—
Mealalfa.....	21.50 @—
Jobbing.....	22.50 @—
Middlings.....	31.00 @32.00
Mixed Feeds.....	22.00 @24.00
Oil Cake Meal, per ton.....	38.50 @39.50
Rolled Barley.....	35.00 @36.00
Shorts.....	29.00 @30.00

## POULTRY.

Prices on chickens are remarkably well sustained, some lines even showing an advance over last week. There have been

liberal arrivals of Western stock already this week, though supplies of California poultry are light. Most of the arrivals consist of large fine stock, which has cleaned up fairly well under a moderate demand. Receipts of turkeys are rather liberal, and only strictly fancy stock is taken at appearing quotations, poor offerings being neglected, and only moving when liberal concessions are given.

Broilers .....	\$4.50 @5.00
Small Broilers.....	3.50 @4.50
Ducks.....	4.40 @7.00
Fryers.....	5.50 @6.00
Geese .....	2.00 @2.50
Hens, extra .....	7.00 @9.00
Hens, per doz.....	5.50 @6.50
Small Hens .....	4.00 @5.00
Old Roosters .....	4.00 @4.50
Young Roosters .....	6.00 @7.50
Pigeons .....	1.00 @—
Squabs .....	2.75 @3.00
Hen Turkeys, per lb .....	16 @18 c
Gobblers, live, per lb.....	15 @17 c
Turkeys, dressed.....	18 @20 c

## BUTTER.

After several days of marked weakness, the week closed with a somewhat better feeling in butter, at least in regard to extras, which, under a good demand, and light supplies of choice Humboldt county stock, advanced to 33c. This week's arrivals were late, and of very moderate proportions, and as the lower prices had caused a livelier market, there was a further reaction, quotations now standing at 34c. Lower grades, on the other hand, are weak at a decline, with seconds at 24c, as inferior fresh stock still has the competition of cheap storage goods. The latter are weak, but unchanged.

Cal. (extras) per lb.....	34 c
Firsts.....	24 c
Seconds .....	22 c
Thirds .....	—
Fresh Eastern, extras.....	—
Fresh Ladles, extras.....	—
Fresh Ladles, firsts.....	—
Storage, Cal., extras.....	24 c
Storage, Cal., firsts.....	23½ c
Storage Eastern, extras.....	24½ c
Storage Ladles, extras.....	20 c

## EGGS.

Fresh extra eggs have a better tone, the market having cleaned up extremely well under the strong demand induced by last week's easy prices. Arrivals for the last few days are unusually light, owing to the demand for use in the incubators. After the incubators are set, a lower range of prices is expected to rule. Last week's prices on extras turned the demand away from low-grade and storage stock, both of which are weak, the latter with lower prices, as there is still some pressure on the market.

California (extra) per doz.....	36 c
Firsts.....	30 c
Seconds.....	25 c
Thirds .....	22 c
Storage, Cal., extras.....	24½ c
Storage, Eastern, extras .....	21 c

## CHEESE.

All grades of California cheese are weak, with plentiful supplies and a light demand. Fancy and first new flats, as well as new Young Americas, are lower.

Fancy California Flats, per lb...	14 c
Firsts.....	13½ c
New Young Americas, Fancy.....	15 c
Storage, do.....	15½ c
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	15 c
Oregon, Fancy.....	15 c

## POTATOES.

Potatoes are again in good supply, with large arrivals from all growing districts. Business, however, is quite active, as the market has been closely cleaned up, and dealers are anxious for new stock. Sweet potatoes are firm, with a strong demand.

Oregon Burbanks.....	\$1.00 @1.25
Burbanks, Salinas, ctl.....	1.10 @1.30
Burbanks, River, bag .....	65 @1.00
Sweet Potatoes, per ctl .....	2.25 @2.50

## VEGETABLES.

Receipts from the south are light. Most of the new arrivals consist of peas, which are accordingly weak. Egg plant and string beans are very firm, but in other lines there is sufficient to supply the demand, as business is naturally light at this season. Receipts of onions have been considerable, but cleaned up well with a lively demand.

Garlic, per lb.....	5 @7 c
Green Peas, per lb.....	3 @5 c

## Send for this Catalogue

Of Northern Grown Seeds—Tried and proved Best for the West. Contains 112 pages and 16 colored photos of Farm, Field and Flower Seeds with full cultural directions. A request will bring it to your home free. Ohas. H. Lilly Co., Seattle, Wn.



Sold by Dealers

Green Peppers, per lb.....	5 @—
Cabbage, per ctl.....	75 @—
Onions, per ctl.....	2.25 @2.75
String beans, per lb.....	12½ @15 c
Tomatoes, crate.....	2.00 @2.50
Marrowfat Squash, per ton.....	10.00 @15.00
Carrots, sack.....	75 @—
Hubbard Squash, ton.....	10.00 @15.00
Summer Squash, ¾ box.....	1.00 @1.25
Celery, crate, small.....	1.00 @1.25
Egg Plant, lb .....	10 @12½ c

## FRESH FRUITS.

The movement of apples is only fair, and is mostly confined to the better grades, such as Newtown pippins and Spitzenbergs, with little demand for cheap stock. The few strawberries that come in find a slow market.

Apples, fancy .....	1.50 @2.50
Apples, common to choice...	60 @1.00
Pears—	—
Winter Nelis.....	2.00 @2.25

## CITRUS FRUITS.

There is a heavy stock of oranges on hand, over 20 cars remaining unsold last Monday morning. There is little buying for the regular trade, most dealers taking only small amounts, and the principal business being done with peddlers. Prices accordingly drag, with great weakness on fancy stock. Lemons are also weak, but grapefruit is steady.

Choice Lemons.....	\$1.50 @2.00
Fancy Lemons.....	2.00 @2.50
Standard .....	75 @1.25
Limes.....	3.50 @4.00
Oranges—	—
Fancy.....	1.75 @2.00
Standard.....	1.25 @1.75
Tangerines, large box.....	1.00 @1.25
Grape Fruit .....	2.25 @3.00

## DRIED FRUITS.

All varieties of dried fruits, as well as raisins, appear to be in a little better demand, and the movement has increased since last week. Growers at Fresno have been getting 3½ to 3¾ for raisins. There has so far, however, been no rise in quotations on this market, and sales of London layers and clusters have been made on a lower basis.

Evaporated Apples .....	8 @9 c
Figs, black.....	2½ @3 c
do white.....	3 @4 c
New Apricots, per lb.....	18 @21 c
Fancy Apricots.....	21 @22 c
Peaches .....	10 @13 c
Prunes, 4-size basis, 1907 crop..	4 @4½ c
Pitted plums.....	Nominal.
Pears.....	10 @12 c

## RAISINS.

2 Crown .....	4½ @—
3 Crown .....	5½ @—
4 Crown .....	5½ @—
Seeded, per lb.....	7½ @7½ c
Seedless Sultanias .....	5½ @7½ c
London Layers, per box .....	\$1.25 @1.40
London Layers, cluster.....	1.30 @2.00

## NUTS.

The market on nuts is in about the same position as last week in regard to business, few sales being reported. The jobbers are well stocked, and movement, both for local and Eastern interest, is slow. The little business done has established a new and lower range of values.



Almonds, Nonpareils.....	15 c
IX L.....	14½c
Ne Plus Ultra.....	14 c
Drakes.....	13 c
Languedoc.....	12 c
Hardshell.....	8 c
Walnuts, Softshell No. 1.....	14½c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @12½c

#### HONEY.

Honey so far shows no further change, jobbing prices being the same, and no concessions are offered by local dealers, though stocks are larger, and prices to growers are weak.

Water White, Comb.....	16 @17 c
White.....	15 @—
Water White, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c
Dark Amber.....	6½ @ 6½c

#### WOOL.

Locally wool is about at a standstill, as the Eastern clothing mills are going slow, and there is no demand for California stock. What business comes is only brought by concessions.

Humboldt and Mendocino, year's staple.....	22 @23½c
Fall clip: Northern free, mountain.....	8 @11 c
do. defective.....	6 @ 8 c
San Joaquin and Southern.....	5 @ 8 c
Fall Lambs, Northern.....	9 @11 c
Fall Lambs, Southern.....	7 @ 9½c
Nevada.....	12 @16 c

#### HOPS.

Quotations remain the same in this market, though some growers are reported to have sold for lower prices. The better grades, however, are becoming scarce in the north.

1906 crop.....	2 @ 3 c
1907 crop.....	4 @ 8 c
1908 (contracts).....	10 @11 c

#### MEAT.

Beef in general is firmer, under an increased demand. Dressed lambs also show a slight advance. Most varieties of live cattle are about ½c over last week's quotations.

Beef: Steers, per lb.....	7 @7½ c
Cows.....	6 @ 6½c
Heifers.....	6 @ 6½c
Veal: Large.....	8 @ 9 c
Small.....	9 @10 c
Mutton: Wethers.....	10½ @11 c
Ewes.....	9½ @10 c
Lamb.....	12 @12½c
Hogs, dressed.....	10 @11 c

#### LIVESTOCK.

Steers, No. 1.....	8½ @ 9 c
No. 2.....	7½ @ 8 c
No. 3.....	6½ @ 7 c
Cows and Heifers, No. 1.....	6½ @ 7 c
No. 2.....	6 @ 6½c
Bulls and Stags.....	3½ @ 4 c
Calves, Light.....	5 @—
Medium.....	4½ @—
Heavy.....	3½ @ 4 c
Sheep, Wethers.....	5 @ 5½c
Ewes.....	4½ @ 5 c
Lambs.....	6 @ 6½c
Hogs, 100 to 200 lbs.....	6 @ 6½c
200 to 300 lbs.....	5 @ 5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

#### FINE CALENDARS.

We have received from the Advertising Department of the International Harvester Company a set of their new 1908 Calendars, which are the finest we ever saw. We desire to make it plain to our readers that each interested party may secure a calendar (one calendar) of the particular harvester in which he is interested by inquiry upon the local dealer handling that particular machine. Some local dealer within easy reach of our readers will be handling one of the machines manufactured by the International Harvester Company, and will be pleased to send to each reader the one particular calendar which he wishes.

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author that whom no one is better qualified. The subject-matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 450 pages. 5½ by 8 inches. Cloth.....\$1.75

#### THE REX SULPHUR-LIME COMPOUND.

A representative of the PACIFIC RURAL PRESS called on The Rex Company, of Benicia, Cal., a short time ago, and found them very busy people. We doubt very much if our readers have any conception of the proportions of this company and the splendid equipment operated by them. It was a revelation to see Lime and Sulphur Spray being manufactured and shipped out in amounts of a carload per day. The plant seems an ideal one, and is operated by machinery that is protected by patents lately granted The Rex Company. To show their painstaking method of doing things, we learned every ounce of Sulphur and Lime used is accurately weighed, even the water used is measured, barrels are filled by actual scale weight. No guessing done at any place. The Rex Company have an investment of about \$10,000 for the manufacture of Lime and Sulphur Spray only. The four immense boiling vats used by them are completely lined with sheet lead, which probably cost as much or more than a fair sized fruit ranch. Evidently the idea in mind with this company was to make a perfect factory to carry on the work. We know what they are making, and do not hesitate to say it is good, and they should be liberally patronized. It is not a secret formula product, the only secrecy is the process by which it is made, and having spent many years and many dollars to perfect this, it is proper they should be protected by patents.

## BOOKS FOR THE FARM

### For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth.....\$2

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth.....\$1.50

**THE BOOK OF CORN.**—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages, 5 by 7 inches. Cloth.....\$1.50

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 321 pages. 140 original illustrations. Cloth.....\$1

**For Sale: Jerusalem Artichokes**  
THE GREAT WINTER HOG FEED  
Address  
Fancher Creek Nurseries, Fresno, California.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### POULTRY.

**BROWN LEGHORNS AND BARRED PLYMOUTH ROCKS.** Eggs for hatching a specialty; cockerels for sale. Walter Curry, R. D. No. 21, San Jose, California.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

## ATTENTION, DAIRYMEN!

We would like to furnish you with a young registered **Holstein Bull**, from 12 to 27 months old, grandly bred at the low price of \$100. Write us and tell us what you want. Do it to-day. We will send you pedigrees and markings and records of ancestors.

### PIERCE LAND & STOCK CO.,

Phone Main 1597. Stockton, Cal.

## FOR SALE

A few thoroughbred registered Poland China service boars.

Registered Holstein Friesian service bulls and bull calves from Advanced Registry Stock.

**STANFORD RANCH,** : Vina, Cal.

## NOW READY

# THE BOOK OF ALFALFA

History, Cultivation and Merits. Its Uses as a Forage and Fertilizer. By F. D. COBURN, Secretary Kansas Department of Agriculture.

The appearance of F. D. Coburn's little book on Alfalfa, a few years since, has been a complete revelation to thousands of farmers throughout the country and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is, by far, the most authoritative, complete and valuable work on this forage crop ever published.

One of the most important movements which has occurred in American agriculture is the general introduction of alfalfa as a hay and pasture crop. While formerly it was considered that alfalfa could be grown profitably only in the irrigation sections of the country, the acreage devoted to this crop is rapidly increasing everywhere. Recent experiments have shown that alfalfa has a much wider usefulness than has hitherto been supposed, and good crops are now grown in almost every state. No forage plant has ever been introduced and successfully cultivated in the United States possessed of the general excellence of alfalfa.

The plant although known in the Old World hundreds of years before Christ, was introduced into North America only during the last century, yet it is probably receiving more attention than any other crop. When once well established it continues to produce good crops for an almost indefinite number of years. The author thoroughly believes in alfalfa, he believes in it for the big farmer as a profit bringer in the form of hay, or condensed into beef, pork, mutton, or products of the cow; but he has a still more abiding faith in it as a mainstay of the small farmer, for feed for all his live stock and for maintaining the fertility of the soil.

The treatment of the whole subject is in the author's usual clear and admirable style, as will be seen from the following condensed table of contents: History, Description, Varieties and Habits, Universality of Alfalfa, Yields, and Comparisons with Other Crops, Seed and Seed Selection, Soil and Seeding, Cultivation, Harvesting, Storing, Pasturing and Soiling, Alfalfa as a Feed Stuff, Alfalfa in Beef-Making, Alfalfa and the Dairy, Alfalfa for Swine, Alfalfa for Horses and Mules, Alfalfa for Sheep-Raising, Alfalfa for Bees, Alfalfa for Poultry, Alfalfa for Food Preparation, Alfalfa for Town and City, Alfalfa for Crop Rotation, Nitro-Culture, Alfalfa as a Commercial Factor, The Enemies of Alfalfa, Difficulties and Discouragements, Alfalfa in the Orchard, Practical Experiences with Alfalfa. Illustrated. 6 1-2 x 9 inches. 336 pages. Cloth. Price \$2.00.

**PACIFIC RURAL PRESS**

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L.....	43
Bean Spray Pump Co.....	48
Beckman, Geo. V.....	47
Blake, Moffitt & Towne.....	45
Bosanko Medicine Co., Dr.....	45
Breeders' Directory.....	47
California Fertilizer Works.....	44
Coates Nursery Co., Leonard.....	43
Croley, George H.....	47
Curry, Walter.....	47
Cutter Analytical Laboratory.....	39
Dewey, Strong & Co.....	47
Disbrow, F. H.....	43
Driver, E. S.....	47
Eachus, R. P.....	43
El Dorado Oil Works.....	—
Fancher Creek Nurseries.....	42, 43, 47
Ferry & Co., D. M.....	43
Folding Sawing Machine Co.....	—
Fresno Agricultural Works.....	—
Fresno Nursery.....	43
German Kali Works.....	—
Glenn, Estate of H. G.....	45
Golden Rule Nursery.....	43
Gregory & Son, J. J. H.....	43
Hart, Ed.....	47
Hess & Clark, Dr.....	45
Holcombe & Co., R. A.....	44
Hopkins, G. H.....	43
Howard Cattle Co.....	47
Hoyt's Tree Support Co.....	48
Hunter, R. J.....	42
Jackson & Co., T. W.....	44
Lawrence-Williams Co.....	39
Lilly Co., Chas. H.....	46
Lister, Henry B.....	45
Ludemann, F.....	43
Lynch, John.....	47
McClanahan, E. E.....	42
Meacham, Frank A.....	—
Mills, A. A.....	43
Minnewawa Vineyard.....	42
Morse & Co., C. C.....	42
Mountain Copper Co.....	44
Myers, Wm. S.....	—
National Wood Pipe Co.....	39
Oakland Poultry Yards.....	47
Orange County Nursery & Land Co.....	43
Oregon Nursery Co.....	43
Pacific Coast Business College.....	41
Pacific Guano & Fertilizer Co.....	44
Pear Blight Remedy Co.....	48
Pierce Land & Stock Co.....	47
Rex Company, The.....	—
Rhodes Mfg. Co.....	—
Roeding, Geo. C.....	47
Scheidecker, A. F.....	43
Seeds and Plants.....	42, 43, 48
Saulberger, J.....	43
Shaw, Henry.....	42
Sharples Separator Co.....	45
Silva & Bergholdt Co.....	48
Simmons Hardware Co.....	—
Smith, Francis.....	—
Snow, D. A.....	43
Stanford Ranch.....	47
Stowe, C. A.....	47
Stratton, W. A. T.....	43
Sullivan, W. F.....	47
Sure Hatch Incubator Co.....	44
Swett & Son, John.....	42
Teague, R. M.....	—
Temple Pump Co.....	—
True, T. J.....	43
Tuttle's Elxlr Co.....	—
Van Der Nallen, A.....	45
Vermont Farm Machine Co.....	—
Wagner, J. B.....	43
Waite, Thos.....	47
Western Meat Co.....	39
Willson, F. C.....	42
Wright Brothers.....	42

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

### DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## BUFF ORPINGTONS

Largest clean legged bird in the list, lay the year around, and bring a dollar each and more when turned to market. Postal will bring you prices and our show record.

### W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
State V. P. Nat. S. C. B. O. Club.



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

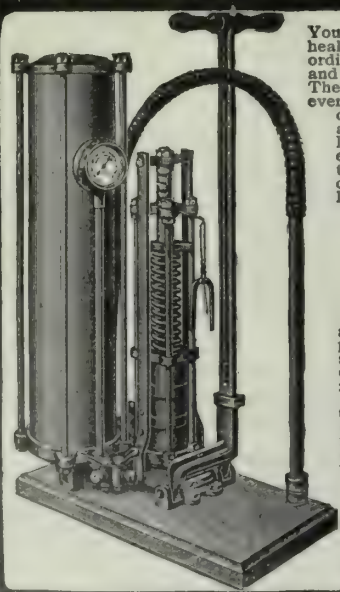
WRITE US

# PLACER NURSERIES

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.

## MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a **Bean Magic Spray Pump**. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

### Bean Magic Spray Pumps

are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name **BEAN** on a spray pump or appliance is a guarantee that it is the best that money and brains can produce.

The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you can not afford to be without a Bean Magic Spray Pump. Write for our special offer, also free illustrated catalog.

**BEAN SPRAY PUMP CO.,**  
163 W. Santa Clara St., San Jose, Cal.

## HOYT'S TREE SUPPORT

PATENTED NOV. 26, 1901.  
PATENTED SEPT. 22, 1903.

### A USEFUL THING IS A JOY FOREVER

The Propless Prop that Properly Props a Tree



Hoyt's Tree Support on the Tree.

Over Three Million Sold Since Introduction in 1903

After your trees have broken down, overloaded with fruit, don't howl about your hard luck. The preventive is **CHEAP, EFFECTIVE, PERMANENT.**

For Full Particulars and Descriptive Booklet write

## MacDONALD & SONS

WATSONVILLE, CALIFORNIA

General Agents for the HOYT TREE SUPPORT COMPANY.

## PEAR-BLIGHT

We can CURE IT

Our Work has Extended  
Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR BLIGHT REMEDY COMPANY



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 4.

SAN FRANCISCO, SATURDAY, JANUARY 25, 1908.

Thirty-eighth Year.

### Pruning Young Vines.

Those who are now growing young vineyards in California will be greatly helped by a publication just issued from the University Experiment Station at Berkeley. It is Bulletin No. 193, and was written by Prof. F. T. Bioletti, who has unfortunately just retired from the public service to plant a commercial vineyard in San Benito county. We take from this bulletin a few pictures and brief notes, which will help beginners in the development of a good stump for a short-pruned vine.

The way the vines are to be pruned will depend altogether on the growth they have made. If the growth has been small all the canes are removed entirely, except the strongest, and this is cut back to two buds. Any vines which have made a strong growth and possess at least one cane of which a sufficient length is well ripened may be pruned for tying up. All the canes are removed entirely, except the strongest, and this is cut back to 10, 15, or 18 inches, according to the height at which it is intended to head the vine (see Fig. 1, a). In no case should two canes of any length be left, and in all cases where it is impossible to obtain the full length of well-ripened wood for tying up, the cane should be cut back to two buds. It is very bad practice to leave some of the canes of intermediate length, as this causes the vines to head out at various heights, and produces an irregularity of shape which can never be remedied. The idea to be kept in mind is to cut back each winter nearly to the ground—that is, to two buds—until a cane is produced with a length of well-ripened wood and good buds equal to the height at which the vine is to be headed.

The treatment during the second and third spring and summer is of great importance to the future welfare of the vine. A little judicious care at this period will avert many troubles in later years. It will be necessary to go over the vineyard four or five times to do the suckering, topping, and tying which are necessary.

The shoots starting from the vines which have been cut back to two buds should be thinned to a single one. This thinning should be done as soon as possible in such a way that it is never necessary to remove a shoot more than three or four inches long (see Fig. 1, b). A few weeks after the first thinning, the single shoot which has been left will have grown 10 or 15 inches. At this length it should be tied up to the stake (see Fig. 1, c). Strong growing vines should be topped within one or two inches of the top of the stake, if the stakes have been chosen and driven so as to indicate the height chosen for heading the vines (see Fig. 1, c). This will insure the growth of laterals just



FIG. 1. Treatment of an average vine during second season.  
a. Winter pruning.  
b. Spring pruning—removal of suckers (S) and thinning of shoots (W).  
c. Summer treatment—tying to stake and topping.



FIG. 2. Treatment of average vine during the third season, or of a vigorous vine during second.  
a. Vine pruned to one cane and tied to stake.  
b. Removal of suckers (S) and lower shoots (W) in spring.  
c. Vine in summer at time of pinching.

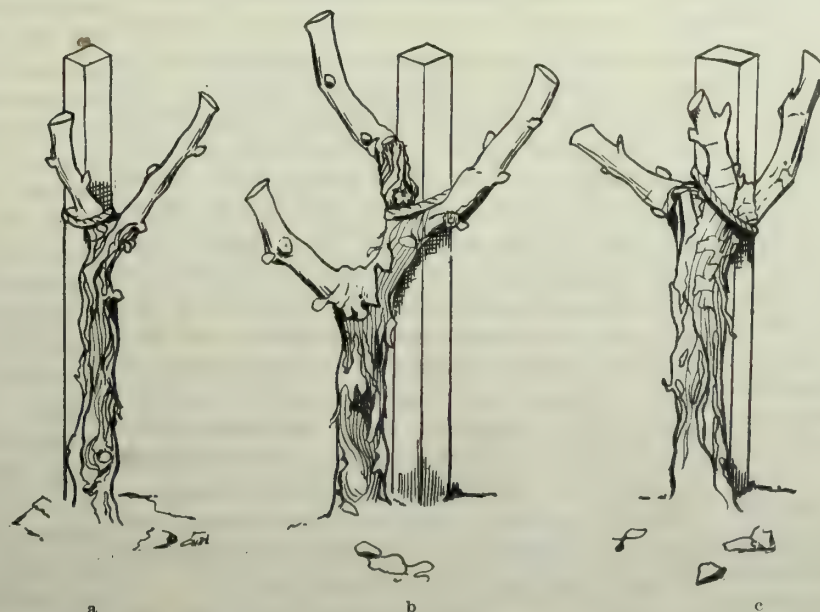


FIG. 3. Three-year-old vines after pruning.  
a. Average vine with two spurs.  
b. Vigorous vines with three spurs, the lowest of which is to be removed the following year.  
c. Vigorous vine with three spurs.

where they are needed for the next winter pruning. As a rule, all shoots between the ground and the middle of the stakes should be taken off. Fig. 2 gives hints as to the treatment of the vine during the summer after tying up.

The shoots coming from the upper half of the cane are to form the spurs for the following winter pruning, and can often be left to grow without further treatment.

If the growth is very rapid and succulent, however, it is necessary to pinch them, or the first heavy wind may break them off (see Fig. 2, c).

Pinching consists of the removal of one or two inches of growth at the extreme tip of the shoot. This delays the growth in length temporarily. Pinching should be repeated at least once.

After the leaves have fallen at the end of the third summer, every vine should have a well-formed, straight stem with two, three or more canes growing from the upper part, and the formation of the 'head' or crown should commence. Any vines which have not been brought to this condition must be pruned like two or one year old vines, as the case may be.

If the work up to this point has been well done, the formation of the head is a simple matter. It consists in leaving two, three, or four spurs, arranged as symmetrically as possible near the top of the vine. The stronger the vine, as evidenced by the number, length, and thickness of the canes, the larger the number of spurs and buds that should be left.

A spur consists of the basal portion of a cane, and normally of two full internodes. This leaves two buds besides the base bud. The number of buds to leave on a spur depends on the strength or thickness of the cane from which the spur is made. A thin, or weak, cane should be cut back to one bud or even to the base bud. A strong cane, on the other hand, should be left with three buds besides the base bud.

The pruning of each vine requires judgment, and it is impossible to give an inflexible rule to follow. The ideal of a perfect vine should be kept in mind and each vine pruned as nearly in accordance with this ideal as circumstances permit. Fig. 3 represents nearly perfect three-year-old vines consisting of two or three symmetrically placed spurs of two buds each near the top of the stem.

Sometimes it is necessary to leave a spur lower down (see Fig. 3, b). This spur will be removed the following year after it has produced two or three bunches of grapes. Sometimes a vine may be very vigorous but have only two canes properly placed for making spurs. In this case the spurs should be left longer—three buds and even in extreme cases four buds long.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

We have to speak again of sulphur and the relation of its horticultural use to the fruit interests of California. In common with all to whom these interests are of vital importance, we have hoped continuously for more than half a year that study and investigation would convince those who are entrusted with the administration of the new and beneficent pure-food laws that the rational use of sulphur as a proper agency for preventing discoloration, fermentation and insect invasion would be accepted as one of the most important and valuable industrial processes of the day, and that the fruit growers of California would find in these administrative officers most powerful allies in promoting the proper use and preventing the abuse of such an agency. For, like most other good things, this agency has its abuses. The attitude of the producers has been clearly this, from the beginning of the controversy: "Teach us how to use this agency aright; help us to prevent a wrong use of it which transforms a benign agency into a cloak to conceal unwholesomeness and fraud."

The keenest disappointment and the most depressing apprehension now prevail throughout California, as there is reason to fear that those who promulgated a regulation, which was defenseless because those who made it proceeded without demonstration of its character and effects, are disposed to arbitrarily adhere to their preconception of its character and to deceive themselves as to its effects by idle suggestions of changed processes which are not only impracticable in themselves but an insult to the intelligence of California fruit growers, since these suggestions manifest such an utter lack of the most elementary knowledge of the natural agencies and economic conditions which are involved in the great dried-fruit industries of California.

Current report, through press telegrams and many letters from Californians now in Washington, is that the regulation-making power of the pure food legislation proposes to prohibit the use of sulphur either by direct condemnation of the product or, by making it hateful or an object of suspicion, to render it largely unsalable. As a compensation for this destruction of an industry, which it has required the best work of Californians a quarter of a century to build up, these regulation-makers offer a great discovery of theirs, viz., that the fruit be cured in steam evaporators, and this they claim to believe would be of great advantage to California. This is a proposition so fresh and rank in its verdure that Californians, who were only hurt and fearful six months ago, are now losing their temper, as, clearly, insult is being added to injury.

To consider the matter as calmly as possible, which is surely the proper thing to do, even in the face of so great an offense, there are several things which must be said, because, perhaps, some people do not know them. The contentions of the California fruit growers include the following:

1. Properly sulphured cured fruits are wholesome.
2. The use of sulphur is fundamental in the preparation of products which have made California famous.
3. The use of sulphur is not only preservative and protective, it is sine qua non in productive enterprises which are characteristically and uniquely Californian.
4. The use of sulphur enables Californians to minister to trade and consumption which is and will be thus satisfied and not otherwise.
5. The use of sulphur is not only the sheet anchor of commercial safety in vast aggregate production but enables individual fruit growers to realize, with almost nominal investment, profit from cured fruits which may not at the time command such value in a fresh state.
6. The use of sulphur makes it possible not only to safeguard value in the finest fruits, but justifies investment in large acreage, for which the production of cured fruits is the primary purpose.
7. Thus it is no exaggeration to claim that there is in the disturbance over the use of sulphur a serious menace to the present prosperity and future development of California which only those who know our industrial processes intimately and accurately can at all appreciate. The final adjustment of the matter should be reached by an unbiased tribunal which would receive and consider all evidence presented to it, and pursue such original investigation as it deems wise.

Let these several propositions be briefly explained and supported:

1. California fruit growers support the theory and practice of the pure-food laws most zealously. They expect to secure from them protection against falsification, at home and in distant States, which has debased pure Californian products by adulteration and displaced them by inferior products under California labels. They also have the highest regard and loyalty for the public health. If they believed that any of the California processes made human food unwholesome they would abandon them without protest at whatever cost. If the abuse of any of these processes results in unwholesomeness, they urge the prohibition of such abuse. But they believe just as sincerely that wise use of sulphur in the curing of fruits promotes wholesomeness and does not menace it. They have a profound conviction that the opposition to such wise use of sulphur is a preconception, arbitrarily and unreasonably adhered to, because of ignorance and prejudice. They do not accept any alleged unwholesomeness of properly sulphured fruits as satisfactorily demonstrated. They do not accept any evidence of the unwholesomeness of sulphites which has yet been brought to their attention as relevant to the condition of California cured fruits because in the culinary treatment of such fruits such sulphites are not eaten. They demand that tests for the presence of sulphites or sulphates or of the free acids of sulphur, shall be made in the fruit as it is formed for consumption and not otherwise. They contend that properly sulphured fruit is cleaner, freer from undesirable fermentation and from disgusting insect life than is fruit cured in any way without sulphur, and therefore the proper use of sulphur during the curing process as employed by honorable and conscientious growers, is impelled by the spirit of the pure-food law and in no way in opposition to it.

2. Before the employment of the sulphur process, California cured fruits were suitable only to

the lowest culinary uses. They were of undesirable color, devoid of natural flavor, offensive by content of insect life. They had no value which would induce production and no discernible future. Placing the trays of freshly cut fruit in boxes or small "houses," in which were the fumes of burning sulphur, made it possible to preserve its natural color and flavor during the evaporation of its surplus moisture in the clear sunshine and dry air of the California summer. It also prevented souring, which is otherwise not preventable in such open air drying, and it protected the fruit from insect attack during the drying process. The present effect of such use of sulphur is a production of cured fruits, for which sulphur treatment is desirable, to a total valuation of about fifteen million dollars. It is practically impossible to continue such production without sulphuring, and the growth of the industry, which has been advancing at the rate of about one million dollars per year on the average, is also cut off. By the use of sulphur and by no other agency has it been possible to lift the production of cured fruits of certain kinds from a low-value hap-hazard by-product to a primary product for which Californians have planted orchards, constructed packing houses and made a name in the world's markets.

The action of sulphuring is not alone to protect the fruit, it facilitates evaporation so that about one-half less time is required therefor. Not the least important bearing of this fact is the feasibility of curing fruits in larger pieces. The grand half-peaches, half-apricots, half-pears of the California cured fruits are a corollary of the sulphur process. Without it the fruit must be cut into small sections or ribbons, which in cooking break down into an uninviting mass, while, with the sulphuring, it is ordinary practice to produce the splendid halves with their natural color so preserved that they lie in cut glass dishes in suggestive semblance to the finest product of the canners, secured at a fraction of the cost. This is the great horticultural and economic achievement which Californians will not abandon without a struggle.

3. But, according to the correspondence from Washington, California is to be forced to abandon what it has taken a quarter of a century to develop and to fit out with world-connections and for which its name is glorified in all parts of the globe which have climates that enable them to grow our fruits and employ our methods and is to be taught a better way. It is even seriously suggested that we disregard the fact that our sun and air favor open-sky evaporation, build drying-houses and insult the god of day with the smoke of machine evaporation, as people are compelled to do in countries of summer rains and moist summer air. This silly suggestion makes Californians furious, because a third of a century ago they tried all these artificial devices and abandoned them as wholly lacking in capacity and economic operation, which are essential to a great cured-fruit industry. No recourse is now had to them except in a small way in stress of unusual weather conditions, and they are only installed in a few places. The cost of such arrangements and their operation would place the curing of fruits out of reach of thousands of our growers who now can make splendid products with home-made sulphur boxes and the God-made sun, free to all. But this is not all. It is perfectly easy to make some of our most unique and characteristic cured fruits in the sunshine and exceedingly difficult to make them in a machine-drier. The apricot is a particularly rebellious fruit in a drier, and unless they



can be successfully sun-cured the trees will go for firewood. The half-peach is more responsive, but few will take the risk of investment for machine-curing it. Apples of course take to the machine, but apples are not largely for us and that only as a by-product to save waste, and not as a primary product.

4. We expect to be told by these fruit-drying reformers that the natural colors of our fruits need not be preserved; that something a few shades darker will be just as good or better. We have but few words for that impracticable suggestion. It is the customer who fixes that matter. He simply will not buy dark-colored fruit; he never did in any quantity and he never will, and the attempt to force him to do so will ruin this generation of producers in any event. Is it any wonder that those who have their capital and their livelihood at stake grow impatient at such suggestions? They cannot forget the decisions of the Germans who, in response to agrarian pressure, raised an anti-sulphuring embargo against California cured fruits, and then removed it because German consumers demanded what German chemists pronounced innocuous. To have such an experience abroad and to be menaced with prohibition in their own country of a food-product of unparalleled beauty and trade favor, makes it almost impossible to listen calmly to suggestions of changing the style which has been developed with so much effort and commercial success.

5. The important economic relation which the sulphured product bears to the whole fruit interest of California and to the success of individual producers, has already been suggested in other connections. There are usually three avenues of disposition open to California growers: Fresh fruit shipments, sales to canners, curing at home. The third is obviously the regulator of the first and second, for it is always in competition with them. Since the sulphur process has secured such a fine and valuable product the grower has been independent of unfavorable conditions which might arise in sales to shippers or canners.

6. It is not merely a question of saving what is unsuitable or is rejected. The price commanded by well cured fruits holds the minimum price for other uses at a good figure, and is also so good that planting for this purpose alone is considerable. This not only could not occur if it were merely a waste-saving proposition, but it can no longer exist at all if the placing of this highest grade fresh fruit in the cured form which the world's trade demands, is in any way seriously interfered with. There is no hope of shipping in a fresh state nor of selling to canners even the present output of certain fruits. They must be sun-cured or the trees must be uprooted.

7. California fruit growers do not impugn the motives or doubt the sincerity of purpose of those who have thrown the cured-fruit industry into its present condition. They are, however, quite sure that those who have made the first attempt at regulating the use of sulphur have no adequate knowledge of California practices and the effects produced, nor have they the point of view from which the process must be finally judged. The growers are disposed to insist that some higher tribunal should pass upon all matters involved, after receiving the showing of the framers of the regulations and of those also who consider their industries unjustly affected by these regulations. For these reasons the California growers are

likely to hail with satisfaction the telegraphed announcement that President Roosevelt has decided to obtain expert information regarding certain questions of chemistry involved in the application of the pure-food law. He has written to the presidents of Yale, Johns-Hopkins, Northwestern University, University of Illinois, University of Virginia and University of California, requesting that they submit names of several practical scientists, from which he proposes to select a board of five to consider the regulations which have been made by the Department of Agriculture regarding the use of sulphur in preserving fruit, the use of benzoate of soda in the preservation of catsup and other food products, the use of glucose in syrups, besides several other chemical questions. The President indicated that he had taken this course to please Representatives Needham, Hayes and Smith, of California, who called at the White House to protest against the sulphur regulations. They regard this manner of settling the controversy as entirely satisfactory, and we believe the California growers will also approve it.

Californians are getting ready to place their side of this question before commissioners, executive officers, legislative committees or, in fact, any constituted authorities whatever. They are most emphatically in earnest. A notable meeting was held in this city on January 16, under the auspices of the State Board of Trade, at which the attitude of the growers was very strongly set forth. A committee consisting of Gen. N. P. Chipman, W. A. Schaeffer, Mrs. L. P. Bancroft, J. C. Daly, W. H. Brailsford, and F. H. Babb, after due consideration reported earnestly in favor of organization of growers and energetic work to prevent the enforcement of existing regulations through sending a representation to Washington to urgently present the matter to the Government. This action was enthusiastically taken, and the following were chosen to act as they see fit as representatives of the growers: Arthur R. Briggs, C. C. Royce, J. C. Daly, E. D. Pettitt, B. E. Hutchinson, W. H. Brailsford, George W. Pierce. Since this action was taken, President Roosevelt has decided upon the commission mentioned in the previous paragraph, and it may be that the work of the committee may be addressed to the commission. They will be ready, however, to act in any way that seems wise, and they are men full of knowledge, strength and tact. They may be trusted to do the best that can be done.

## Queries and Replies.

### One Should Be Taken, the Other Left.

To the Editor: Enclosed find leaves of a lemon tree from my place. The tree does not thrive. It looks worn and broken up, with leaves as you see them. I have tried different kinds of washes. About fifteen feet away is another lemon tree in full bearing, which has over 300 lemons on it, fine, healthy and bearing for the last six years. Please tell me what I can do with the poor one, as I am going to plant more, and want the right kind of advice. The tree I am asking about has no life, and looks dead, or near it.—Reader, Santa Cruz.

The lemon leaf which you send is covered with smut, the smut being a fungus growth upon the honey-dew exuded from the scale insects which are present upon the higher leaves. This leaf shows that you have the "soft orange scale," and this particular scale can be cleaned off by diligent use of kerosene emulsion.

Whether the work of this scale is to be credited wholly with the condition which you describe is

very doubtful. The trouble with this particular tree may be in the soil, or in the fact that the water settles around the roots, or to other conditions which one cannot tell from a leaf. It may be another kind of a lemon. It would be interesting for you to experiment by grafting from the lemon which bears well and graft over the unsatisfactory tree, after cleaning it of scale, although from what you say of its behavior it might be better to dig out the tree, make a good hole to see whether you are over a rock or over a gravelly bed, and, if not, put in fresh soil and start a new tree. These are things which you must exercise your own judgment about, as it is impossible to tell from a leaf specimen exactly what to do.

### Killing English Sparrows.

To the Editor: Will you please publish some effective method of poisoning sparrows. I and my neighbors have had our orchards much injured by them. A large colony shelters in some olive trees, and in the spring they eat all the blossoms off the neighboring prune trees. Would wheat and cornmeal, soaked in, dissolved and sweetened strychnine, be an effective means of destroying them? or would bird seed or chopped meat be more attractive to them?—PRUNE GROWER, Morgan Hill, Cal.

We recently published a formula for poisoning of wheat and barley for squirrel killing. The same grain will kill sparrows, so long as they can be persuaded to take it. Sometimes powdered strychnine mixed with coarsely ground cornmeal will be attractive to them, and sometimes the use of strychnine dissolved in water is very effective in bird killing in the dry season, but will not be so attractive to them in the winter. Most poisoners, however, conclude that a double-barreled shotgun with fine bird-shot is the best recourse against English sparrows, because of the danger of killing other more desirable birds by the use of poison.

### A Striped Ladybird.

To the Editor: I send you some bugs found on a small palm set out last spring. During the summer I noticed some of these bugs on the leaves but made no investigation as no damage was apparent. On looking closely the other day we found in the blue grass at the foot of the palm literally thousands of these fellows. My wife scooped up nearly two gallons of them. Never saw them here before and are suspicious, but they do not seem to have done the palm any injury. Please give them a certificate of character so that we may know how to treat them.—FARMER, Dos Palos.

The insects which you find in such abundance are ladybirds, quite different from the conventional type of a ladybird because they look rather more like the striped squash and cucumber beetle, or Diabrotica, which are such pests in the garden. The proper name of the insect is *Megilla vitigera*. It seems to have the same method of collecting in large masses for hibernating purposes which the common reddish and yellowish species do. So far as it is of any agricultural account it is presumably beneficial.

### Post Hoc Sed non Propter Hoc.

To the Editor: When our lemon trees were covered with black scale they were otherwise healthy and we had good crops. Since the scale was destroyed by the enemy the trees have gradually dwindled and are now practically dead. Do you suppose there is any connection?—AMATEUR, Haywards.

The failure of your lemon trees has nothing to do with the disappearance of the black scale. They were simply stricken with some other trouble. The most dangerous, perhaps, would be dying back, caused by collection of water about the roots, such as might result from seepage or from too liberal application.

### Bearing of the Bartlett.

To the Editor: Will you kindly inform me through your valuable paper whether the Bartlett pear will produce well when planted in a single row—as, for instance, around the edge of a vineyard?—READER, Stockton.

The Bartlett is generally self-fertile in California.



## Forestry.

### Creosoting Perishable Wood for Posts and Stakes.

There is so great demand for fence posts and vine stakes that any way of rendering perishable wood durable is of interest. The use of creosote has been favorably reported by the Forestry Service. Whether a creosoted stake can be safely driven down among the roots of a vine has still to be determined.

The U. S. Forestry Service has just issued Circular 117, by Mr. Howard F. Weiss, on "The Preservative Treatment of Fence Posts," from which we take facts which seem locally most interesting.

The material employed is creosote, or dead oil of coal tar. In the making of coal gas, coal is subjected to high heat without the presence of sufficient air to permit combustion. The process gives two main products—illuminating gas and coal tar. The coal tar is then distilled and separated into the light oils, the dead oils (creosote), and pitch. Creosote can be obtained by the barrel in many of the larger cities of the United States.

**APPARATUS USED.**—In the experiments at St. Louis and at Ellwood, Santa Barbara county, California, the apparatus used consisted of a cylindrical tank made of  $\frac{3}{16}$ -in. sheet iron, about 4 ft. in diam. and 4 ft. in depth, with a perforated iron plate in the bottom. The tank was built on the side of a hill in order to facilitate the handling of the posts, and was set upon brick piers so that a fire could be built under it. Creosote was then poured into the tank and the posts were placed in it. The total cost of such a tank is about \$45.

The essential requirements are that the creosote shall be heated in the vessel to about 215° F., and that the butts of the posts shall be submerged up to about six inches above their ground line. In special cases, where a thorough top treatment is necessary, the vessel should be of sufficient size to allow the whole post to be submerged.

**RESULTS.**—The Forest Service has so far experimented with 18 kinds of wood cut for fence posts. In the accompanying table the species are arranged in five groups, according to the manner in which they absorbed the creosote during the experimental treatments. The posts, in all cases, are peeled. By hot creosote is meant that which has a temperature of about 215° F.

#### RESULTS OF TREATING FENCE POSTS.

[All the posts were round, except the sycamore and cottonwood, part of which were split.]

Species.	Condition.	Hours in hot creosote.	Hours in cold creosote.	Resulting penetration, in.
Blue gum.....	Green	2	0	*
Red gum.....	"	2	0	*
Sugar gum.....	"	2	0	*
Iron bark.....	"	2	0	*
Willow.....	"	4	12	0.3
Elm.....	Seasoned	4	12	0.4
Maple.....	"	6	12	0.5
Douglas fir.....	"	5	12	0.7
Quaking aspen.....	"	5	12	0.8
Black walnut.....	"	5	12	1.2
Sycamore†.....	"	2	12	1.5
Cottonwood†.....	"	2	12	1.5

\*In posts of the eucalyptus the creosote will be found principally in the pith rays and the tubes called "vascular ducts." It is best to stand these posts butt up after treatment, so that the free oil in them will run toward the top.

†Quaking aspen, willow, maple, sycamore, and cottonwood, should also be given top treatment.

The heartwood of sycamore and cottonwood takes treatment readily and posts of these woods may be either round or split.

A post may be top-treated by simply plunging its top into hot creosote, or by applying creosote with a brush, like paint. The former method, however, is better, because it allows the creosote to penetrate all the season checks, and any surplus creosote runs back into the tank and is used again. The brush form of top treatment should not be given while either the wood or the air is cold, because the creosote will then simply harden upon the surface instead of penetrating into the wood. If the decay in the top is very rapid, as in the loblolly pine posts in the South, the best results are accomplished by impregnating the whole post with creosote. In such cases the heating tank should be of such size that, when filled with creosote, the posts will be completely submerged.

The results of a series of tests show the effect of the temperature of the hot creosote and of the duration of the baths in hot and in cold creosote. The hotter the creosote the greater the absorption and penetration. Within fixed limits increased duration of the bath in hot creosote (other factors being equal) gives greater absorption and penetration.

There is no exact relation between penetration and absorption. A detailed discussion of the causes for this or the determination of the controlling factors would be chiefly theoretical and not included here.

**COST OF TREATMENT.**—The total cost of treated fence posts varies so much in different regions that general figures are out of the question. Since the

users of fence posts in various parts of the country know the cost of untreated posts, only estimates on the cost of treatment must suffice. If the determining factors are known the cost of treatment in any locality can be easily estimated.

The cost depends upon the cost of the apparatus, the price of labor, the number of posts treated per day, the absorption of creosote per post, and the cost of creosote.

The cost of the apparatus may be merely nominal if an old boiler is used. An apparatus like that used in the experiments costs from \$30 to \$45.

The price of labor varies with the locality. It can be easily ascertained.

The number of posts that can be treated per day depends upon the size of the tank and the size and form of the posts. In general, a tank with a bottom 12 square feet in area will hold between 40 and 50 posts 6 inches in diameter at the butt. With such a tank, this number of posts would be the daily capacity, except with lodgepole pine posts, with which two runs per day can be made.

The absorption of creosote per post differs widely for the species: Eucalyptus, green,  $\frac{1}{10}$  gal.; elm and maple,  $\frac{1}{10}$  gal.; fir, aspen and walnut,  $\frac{1}{10}$  gal.; willow,  $\frac{3}{10}$  gal.; sycamore and cottonwood,  $\frac{1}{10}$  gallon.

The price of creosote varies at present from 10 cents per gallon in the East and Middle West to 27 cents per gallon in the Rocky Mountain States. On the Pacific coast it is about 16 cents per gallon.

If a man does the work himself or in co-operation with his neighbors, the cost per post will, of course, be much less.

In general, the cost of treating a post will vary from 4 to 15 cents, depending upon the factors just given. In order to get the total cost of a treated post, the cost of treatment must, of course, be added to the cost of the post. A post properly treated should give service for at least twenty years.

**CONCLUSIONS.**—The resistance of all treated posts to decay is alike, regardless of the kind of wood used; hence only the cheaper woods should be used, and the more valuable kinds saved for other purposes. Since sapwood can be impregnated better than heartwood, posts with much sapwood are the best.

Posts cut from woods whose heartwood cannot be treated are best left round. When the heartwood takes treatment readily either round or split posts may be used.

Posts should be air dry before they are treated or set. They should be cut at least a month before treatment. Wood dries fastest in the spring or summer, but with those species which check badly, such as the oaks, cutting is best done in the autumn or early winter.

Even the inner bark should be removed before the posts are treated or set, especially from that part of the post submerged in the creosote. Bark reduces the penetration of creosote into the wood, besides itself absorbing the creosote without increasing the durability of the post.

The tops of posts should be cut slanting, preferably with an ax, so that rain water will not remain on them. When they are cut with a saw the pitch should be greater, especially in posts where there is a marked difference in hardness between the springwood and the summerwood.

If butt treatments in the open tank can not be given, and yet some preservative method is desired, plunge the butts of the posts into a vessel of hot creosote or carbolineum, or apply either liquid with a brush. Application of any of the methods mentioned will tend to make the posts more durable than they would be if set green.

Whenever possible use an apparatus similar to the one described for open-tank treatments.

Use as heavy a grade of creosote as can be obtained.

Aim to get the creosote to soak as far into the posts as possible. With woods having shallow sapwood (about one-half inch deep) treat all the sapwood. With woods having deep sapwood, or with heartwood that takes treatment readily, secure a penetration of at least 1 inch. The heartwood of very few species can be treated. For this reason round posts are better than split posts, since a penetration is obtained entirely around them. Species with a deep sapwood, like lodgepole pine, will absorb much more creosote than species with shallow sapwood, like chestnut.

A long bath in hot creosote, followed by a shorter one in cold creosote, will probably give best results. Usually, woods with a porous structure, like the poplars, can be treated more readily than dense woods, like oaks, and hence need not be left in the creosote for so long a time.

Never heat the creosote above 250° F. In most cases a temperature just above the boiling point of water is best. Heating the creosote above 250° F. weakens the wood and causes a large amount of creosote to vaporize.

Never brush-treat posts when the air or the post is so cold that the creosote simply solidifies on the surface of the post.

Keep the posts as dry as possible before treatment, and keep rain and snow out of the tank by roofing it, if necessary.

## The Field.

### The Value of Burnet.

To the Editor: I should like to add my personal experience with potentilla or burnet as now called to the already numerous recommendations it has received.

Early in the spring of 1904 I received from Mr. Howard Overacker, Jr., one head of seeds of the plant, which I planted in a neighbor's garden where the seeds could be properly irrigated and cultivated. It made a fine vigorous growth. In July the plants were two feet high and in blossom when a cow broke into the garden and ate the plants to the very ground. As the cow ate nothing else in the garden and was chewing away at the largest stalks when her owner found her, the evidence is very strong that she preferred the potentilla to garden truck.

The roots from the plants from which the cow ate the stalks threw up new shoots and a crop of seeds was collected.

The following spring I tried the seeds thus collected in dry ground. The earth where a brush pile had been burned was cleared and the seeds lightly raked in. I planted two patches about 20 ft. square, one with an eastern exposure and one with a western exposure. I covered the patches with brush. The young plants came up promptly and continued to grow all through the dry summer. The cattle trampled down the brush and ate the plants as closely as they could, still the potentilla was vigorous and growing, thus showing how well it grew and thrived under adverse conditions.

These two personal experiences show conclusively that potentilla or burnet is eagerly eaten by cattle and that it will grow on the dry hillside without water or cultivation.

J. S. BOYNTON.

St. Helena.

### Cantaloupe Growing in Imperial Valley.

We have had many references to the comparatively new industry of cantaloupe growing in the new south-east county of the State, Imperial. The following outline of the commercial aspects of last season's results was recently given in the New York Fruit Trade Journal by Mr. L. M. Lyon, president of the firm which handled the output of the Brawley Cantaloupe Growers' Association of Brawley, Cal., last year and which has a new contract for 1908.

One of the striking features of the statement made by Mr. Lyon is the large average made for fancy standards, \$2.50 per crate, and choice standards averaged \$1.61. Fancy ponies averaged \$1.74 and choice \$1.08. These were the Crown brand, principally grown by the Association. Jumbo, fancy, averaged \$2.43, and choice, \$1.59. Mr. Lyons states that there were only 24 members of the Association, and he paid them net \$146,918.93.

In speaking of the conditions in the Imperial Valley, Mr. Lyon said that naturally the big returns which growers received last season greatly encouraged the cantaloupe industry, and that there would be more cantaloupes grown there next year than ever before. The Brawley Cantaloupe Association will have 75 members next year instead of 23 as last season, and the acreage will represent about 2,500 acres. The Brawley Association, as is known, grow the Crown brand cantaloupes, and they will also grow Crown brand grapes, tomatoes, watermelons, etc.

## Fruit Preservation.

### Prune Problems in Oregon.

Mr. P. R. Escott writes to the Portland Oregonian some things about prunes in Oregon which are interesting if not directly pertinent to prune handling in this State. The references are of course to machine-dried prunes and therefore different from ours. Mr. Escott writes:

If it is true, as reported from the East, that Oregon prunes were rejected by the buyers because they were moldy and 'off-count,' the Oregon prune industry has suffered an injury from which it will take a long time to recover. There is the possibility, of course, that buyers who were caught by the financial stringency have sought with a microscope for enough mold to justify rejection of a carload of fruit, and have split hairs in weighing out a pound of prunes with such exactness as to discover a mistake in the count. This, however, is not probable. Prune packers on the Coast have too much at stake to let contracts be canceled unless there is in fact a material basis for objection to the fruit. It is fair to assume, therefore, that



Oregon prunes have been found moldy and too small in size and that the buyers had good grounds for turning down the goods when received.

**WITH THE PACKER.**—The fault lies unmistakably with the packer and upon him the fruit growers of Oregon should fix the responsibility. The injury must be borne by the grower as well as packer, for the result must inevitably be a lessened demand for Oregon fruit and a closer scrutiny of future shipments. While it is true that the cause of moldy fruit can in general be traced back to the grower, it cannot be traced to any grower in particular. The packer is the man who had the opportunity and the duty of preventing the marketing of prunes that would mold, and, if he has failed in this respect, his responsibility can be fixed beyond question by the brand upon the box of fruit when it is opened in the East.

Those familiar with the prune business know that the chief cause of moldy prunes is poor drying. A prune properly cured will keep indefinitely if kept dry. One under-dried will mold almost before it can be packed. It is also well known that prune packers make a practice of putting water on dried prunes before packing them and that an excess of water will produce mold. Since the packer inspects the fruit before receiving it from the grower, he has the opportunity to reject any that may be under-dried. He also has the exclusive control of the watering of the fruit in the process of packing. Upon him, therefore, must rest the responsibility for fruit that will not keep.

**TEMPTED TO UNDERDRY.**—Growers are tempted to underdry their fruit because they can reduce expense in that manner and in addition increase the weight of their produce. An underdried prune is larger in size than one thoroughly dried and brings a larger price. The same circumstances tempt the packer to put in too much water, increasing the weight of each prune and of the total. The price varies according to the number of prunes required to make a pound, the smaller the number the greater the price. By too close grading, the packer sometimes fails to make his fruit count correctly in the test and in consequence suffers a rejection in the East because the fruit is 'off-count.'

We have in this State a law which forbids the packing of infected fresh fruit and one which requires the placing of the name of the grower and the packer upon every box of fresh fruit, the purpose being to prevent marketing of diseased fruit and injury to the reputation of our fruit product. The law is a good one, for experience has shown that growers, as a whole, must be protected from those individuals who would sell inferior goods. Apparently we shall need a similar law to protect the industry from those packers who put up prunes in such a manner that they will mold before they can be shipped from Oregon to the Atlantic.

If the prunes were not moldy, the packers owe it to themselves and the State to establish that fact by insisting that the fruit be accepted and paid for according to contract. If they were moldy, the responsibility should be fixed and the irresponsible packers exposed.

## Horticulture.

### Apple Growing in the Willamette Valley.

From an address by Mr. M. O. LOWNSDALE of Lafayette, Oregon, at the California Fruit Growers' Convention.

The growing of apples in the Willamette valley was one of the first industries undertaken by the old Oregon pioneers. To these adventurous souls, these crusaders to a holy land, the great valley with its fertile soil, abundant moisture and delightful temperature, seemed the natural home of fruits that were the joy of childhood days. The planting of apples resulted at first in a tentative way by the trial of seedlings. The remarkable productiveness of these seedlings was everywhere noted and soon led to the introduction of grafted trees. In the fall of 1847 the first grafted apple trees were planted in the Willamette valley, and were the first grafted trees to be planted on the Pacific Coast. Other sections may appropriate, other sections may imitate, but the Willamette valley will always be the true, the original "land of big red apples."

The varied industries of farmers in the fertile valley where so many lines of industry thrived caused the orchards of those early days to be neglected, forgotten, and they soon passed into ghostly semblance of their primal glory. But we of a younger generation, believing somewhat in a reincarnation of souls, propose to give a new life and vigor to these old orchards by cutting them back to the ground, allowing them to grow a year and top grafting into Yellow Newtowns. Then by stringent legislation to compel owners to keep these rejuvenated trees from pests.

There is practically an unlimited market in England for Yellow Newtowns to which we propose to cater.

This variety is a very low grower in our valley and needs just the virile root-system of these old orchards to give it thrift and vigor. However, it is not upon these pioneer orchards that the Willamette valley depends for the maintenance of fame as the "home of the big, red apples." Large commercial orchards have been planted in various sections of the valley and are annually producing great quantities of fruit that in each succeeding year bring higher and higher prices in Eastern markets. The work of growing apples for these sensitive and hypercritical markets has become a specialty with many Oregon orchardists.

The extreme care necessary to produce Spitzenbergs, for instance, running 72 and 80 to the Oregon box, all of high color and without blemish, fruit that brings from \$2 to \$5 per box, makes orcharding an operation of delicate exactness and of constant watchfulness. The cheaper grades of apples like Baldwins, Ben Davis, Rome Beauties, etc., do not need to command such extreme prices to be profitable. Yet the best orchardist is he who tries to approach as nearly as possible the standard in everything he grows, and so there is great rivalry in the specialty work of apple growing in Oregon.

We of the Willamette valley claim to produce the highest type of Spitzenbergs grown on the Pacific Coast—which means in the world. To bring the radiant Spitzenberg to her greatest perfection a moist atmosphere is desirable—an abundance of moisture in the soil is imperative, and a valiant sweep of a temperate sun to soften the asperity of the autumnal frosts necessary. Dry climates or soils that lose their moisture rapidly are not to be trusted with the bringing up of a Spitzenberg family. Trees of this family are hard drinkers and also lose more moisture by transpiration than almost any of the standard varieties of apples. They require double the cultivation that would suffice for Baldwins, and varieties should be so interplanted as to allow of the extra cultivation of the thirstiest trees.

The worst enemy of the apple grower in the Willamette valley is apple scab, as the very condition that produces the high flavor and lusciousness of our fruits—an abundance of moisture in the air—furnishes the best medium for the development of the scab fungus. As yet we have not thoroughly mastered the obstinate fellow though we have a strong hold upon him and keep him in fair subjection. In the handling of these fungoid diseases we find that local conditions, atmospheric and otherwise, are often unique, and are always so variant in different localities that it is impossible to formulate a universal rule for the treatment of such troubles. For instance, winter treatment of the scab fungus seems to be of no value in our valley and we are compelled to dodge the rain storms of late spring and in a moment, as it were, dose our trees with syrups of Bordeaux mixture or similar fungicides. As soon as the blossoms drop we are out combining with Bordeaux one of the arsenicals for the many beetles and measuring worms that inevitably make their homes in an apple orchard. No effort is made to fill the calyx with poison for codling moth, as in other apple-growing districts. Moths do not appear in the Willamette valley before June 25 and it is useless to attempt to hold the poison in the calyx cup until that time. The poison is taken up in the process of fruit evaporation, or is dissipated by dews, fogs, and rains so that it disappears in about three weeks after an application, which would be considerably before the appearance of the moth in our valley.

The labor of thinning begins as soon as the little apple-children begin to show the blessed precocity of youth. In the best practice we thin to about eight inches, and for better protection against moths and blemishes of fungus, we cut away all foliage that touches the fruit or obstructs the coloring rays of the sun. It is this infinite solicitude, this tender care for the nursling, that gives the immediate vigor, the energy to push fruit along to the special high grade our finicky market demands. Size, form, type, the ability to color well under the proper impulses, are all given when the little fruits are in swaddling clothes, as it were. Neglect at this time will cause a slow development, an inability to throw off fungoid diseases, and will leave many footholds for the attacks of apple worms and beetles. Weak pollinators, or so-called self-sterile trees like Spitzenbergs and Gravensteins, will often carry unfertilized fruit to a fair maturity if given such an extra impulse just as the same begins to increase in size.

The paraphernalia of a large apple orchard and the elaborate processes of handling fruit are as spectacular in their operation as in any of the great orange groves of the south. Of late years trees have been groomed as faithfully as are thoroughbred horses in great racing establishments. It is by attention to detail that fruit is brought to that perfection that enables us to get the highest prices paid in the world today for apples. As you have all learned years ago, the haphazard leads to the brush heap and every detail of our specialty work is the result of much study and experience.

Study with pruning knife and microscope, study of the physical characteristics of a tree with the same minute attention the physician or surgeon gives to the human system—study of the needs of this market and of

that, of new and attractive methods of packing, study of even more abstruse subjects than these, all require an expert attention and demand that the large orchardist shall seldom go fishing. Exactness in the matter of spraying, heedful both of time and thoroughness; exactness in the matter of cultivation, of thinning and watching the summer development of the fruit; exactness in allowing no foliage to touch the fruit, nor two apples to touch each other; such care in picking as is known to no other apple-growing section; the thorough washing and careful sizing of fruit with specially constructed machinery before it is stored in warehouses; the storing on ventilated trays; the control of drafts among the stored fruit—these are some of the requisites that go to make the growing of high grade apples a specialty proposition today and are methods used by the best growers in the Willamette valley.

### To the Credit of Ben Davis.

Mr. Louis Erb recently gave the Missouri Board of Horticulture some facts and fancies about the Ben Davis apple which we quote in part, because there are many Pacific Coast growers who think more of Ben than his current reputation at the East would seem to justify. Mr. Erb said:

Now what are the facts about Ben Davis? You all know that it is as beautiful as a Kentucky horse and as useful as a Missouri mule. It is one of the most attractive apples to the eye, and if grown at Cedar Gap, Mo., a most delicious apple to the taste. Commercially it is considered the most profitable grown in all this southwestern country. As a showy stand apple it is gaining favor every year, and the export demand for it is continually increasing. For cold storage purposes it has no superior, and can be kept in a good cold storage house in perfect condition till late in spring. I say a good cold storage house advisedly, because a bad one is worse than an old woodshed.

Now these are the general facts about this king of apples, and no man of sense, unless he is a crank and surcharged with prejudice, will deny them. But there are some facts, and one fact in particular, about Ben Davis, which is of far more importance to some of us commercial growers than all the rest, namely, we are not getting enough money for it when there is an average crop of apples in the country.

There is no good reason why Ben Davis apples should sell as they did last year all over the southwest, from 75 cents to \$1.25 per barrel packed, and thus leave the growers without a profit on their investments. Irregular as apple crops are in the southwest, No. 1 Ben Davis should never be sold under \$2.50 per barrel to make apple growing profitable. Any man who says he can grow Ben Davis for a dollar a barrel and make money is talking through his hat. It can't be done, and I know it, and those of you who keep books know it as well as I do.

Take an average of five years after the trees get into bearing, put on your specs and figure, if you know how to figure, and you will find that you can no more sell No. 1 Ben Davis at \$1, or even \$1.50, per barrel packed and make money than a man can grow strawberries at 50 cents per crate and be prosperous.

### Planting and Care of Young Trees.

We have many new readers who are doing their first tree planting in California this year. They will be greatly helped by a discussion of such operations in the Fruit World, prepared by Mr. Leonard Coates, of Morgan Hill, one of our best informed fruit growers and nurserymen:

To begin with, when the trees are received the bundles should be at once opened and the trees spread in a trench so that the roots are all covered with fine earth. Let the trench be shallow, so that in case of rains coming on the roots will not be in a soggy, water-logged soil. As the bundles are opened the roots of every tree should be noticed, and anything doubtful or showing any sign of knot or other disease should be laid aside for further attention. Any diseased or injured tree is not sent from the nursery intentionally by a reputable nurseryman, who, if he loses his reputation, loses his all. If any farmer will for a moment remember that with a lot of men—ten, twenty or a hundred—be they white or colored it is absolutely impossible to prevent an occasional tree getting into a bundle which should have been thrown on the brush pile.

It should also be remembered that in no State in the Union are the conditions for handling trees more adverse than in California. This I say as a result of over 30 years' experience here, and some knowledge as to how things are done elsewhere. It is not often that the digging and shipping season in California can be well started much before January 1. That is the beginning of the rainy season, with fair prospects of half the month at least being too wet for outdoor work, and by the middle of February almond and apricot trees are in bloom, springtime having come. During that time



100,000 to 1,000,000 trees and shrubs have to be dug, sorted out, packed and shipped or heeled in ready for shipment; new land has to be plowed and subsoiled and planting of seed and seedlings commenced, to which may be added grafting, cultivating and a host of other details which may be imagined rather than described.

In the East the season begins with October, when digging is done, some trees being shipped early, but mainly stored; the cold weather stops outdoor work, which is resumed in the spring and continued long after the time allowed in California, as we are shipping ripe cherries in April.

**PLANTING.**—The holes should be wide rather than deep, not less than 2 ft. in diameter and 1½ ft. in depth and 6 in. added both ways would be better. The bottom of the hole should be convex, and the roots should be spread in a natural manner. Do not trim the roots except to remove dead or bruised parts. The 'String-fellow' method, however good it may be elsewhere, is worse than useless in California. I have seen it tried faithfully, but with disastrous results. This plan is to cut both root and top practically to a stump. Firming the soil about the roots should be done with caution. If the soil is dry or sandy, the firmer the better, but if too moist, heavy, or adobe, care should be exercised that it be not pressed so that it will pack or become baked and hard in the spring. A little fine top dirt may be found to press around the roots with the hands, which should be done in any case.

**SHADING.**—Immediately after planting the trees should be pruned, which consists mainly in cutting off the top about 18 or 20 in. from the ground, the tree being planted so that the point of union between bud or graft and root is well covered. The amount of top removed must depend upon the tree, for it is necessary that there be good wood buds below the cut. For this reason a small or medium sized tree is more preferable to large, overgrown or sappy trees, in which the strength has been forced to the top, there being no good buds at a foot or two from the ground. The extremes should be avoided in having no trunk at all, which is the result when a tree is topped too low, and in having an old-fashioned 'standard' tree with 3 to 5 ft. of trunk.

When this topping is done, the trees should be shaded either by using some patent 'tree protector,' or by wrapping with burlap. I much prefer the latter plan. Cut old sacks into strips 2 or 3 in. wide and wind around the tree, beginning at the bottom an inch or two below the surface and to within 6 or 8 in. of the

U

**CLEAN SKIMMING**  
**EASY RUNNING**  
**LONG WEARING**



**UNITED STATES CREAM SEPARATOR**  
**HOLDS WORLD'S RECORD FOR CLEANEST SKIMMING**

It turns easy—users say easier than others.  
Time has conclusively proved its durability.

Has many other exclusive advantages, all fully described in our big, handsome, new catalogue. Write for free copy today—do it now while you think of it. Be sure to ask for "Catalogue number 148," and address the

**VERMONT FARM MACHINE COMPANY, Bellows Falls, Vt.**  
EIGHTEEN DISTRIBUTING WAREHOUSES 473

U

S

**PROMPT DELIVERY ASSURED**

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE.  
No Delays. Address all Letters to Bellows Falls, Vermont.

S

top, where it is sewed and prevented from slipping down with the help of a sack-needle and twine. Burlap will last at least two years, so the cost is almost nothing except for the labor. It has advantages in being porous and, therefore, cool in its pliability, by means of which, as soon as branches are formed or when trees have been planted a year, the sacking is loosened and extended up above the first branches, where it is again secured by a stitch with the needle. This point or crotch is a critical one, where sunburn and consequent borers will often occur. This is where a stiff protector, such as those made of paper or tube, is not so good. The only objection raised to the use of burlap is that it harbors insects. As these consist largely of ladybirds and spiders, the former deserving protection and the latter at least harmless, the objection is overruled. A tree with its trunk thus protected for three or four years will have no bark disease or borer, and even the inexperienced observer cannot fail to note the difference in the appearance of the bark of a tree so wrapped and one not properly protected.

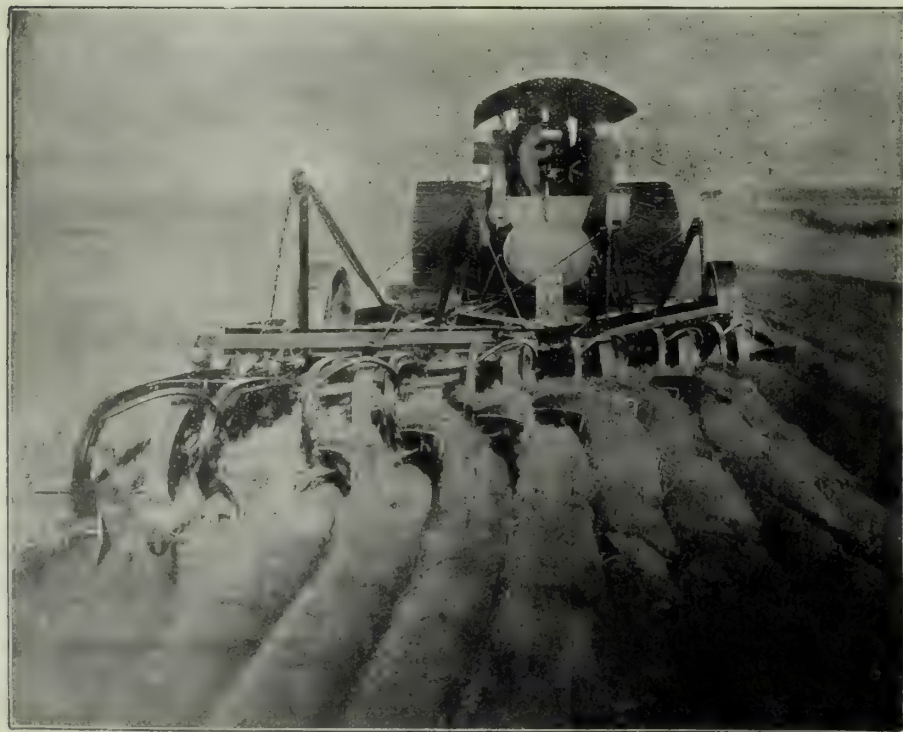
Young trees should be sprayed as a preventive measure. Use the Bordeaux mixture in November on peach trees for peach blight, and on all trees early in the spring before buds open to prevent mildew, curl leaf, scab, etc.

**PRUNING.**—Let everything grow the first year, except suckers from below the ground, and at the first pruning, one year from planting, select two or three

of the strongest shoots situated several inches apart, and not in the form of a V or crotch, and cut them back to three or four buds, removing all other growth. Also bear in mind that trees should always be pruned when young so that more growth is left on the side of the prevailing wind during the summer or growing season, usually on the west. The reason for this is obvious if one will notice the leaning condition of many orchards, which might easily have been avoided. If the winds are very strong, it is even best to lean the trees a little towards the wind when planting. In all after pruning when trees are young, care should be taken that there be not too many main limbs left, and that they do not start from the young tree too close together, which causes a weak superstructure, and also a point where gum will often exude.

At least let the owner do his own pruning for the first few years, if he will be willing to learn how to do it, rather than trust to hired men. To start right is more than half the battle.

ALL-THE-YEAR-ROUND demand for oranges has increased to such an extent that California growers have found it necessary to propagate more very early and very late varieties, until now there is hardly a day in the year in which citrus fruit shipments are not made from this State. The bulk of the crop, however, is handled between January 1 and July 1.



The above cut shows in actual field operation our 32 H. P. Cross-Compound Engine and 12 Bottom Flexible-Frame Steam Plow.

**WILL PLOW ANYTHING ANYWHERE**

**Write for Catalogs and Full Information.**

WE CARRY SUPPLIES, AND OUR CALIFORNIA TRAVELERS MAKE HEADQUARTERS AT STOCKTON.

# REEVES & COMPANY

Western Branch  
**DENVER, COLO.**

Factory  
**COLUMBUS, INDIANA**

## Plow! Thresh!

### WITH REEVES MACHINERY

#### Nothing Experimental

Our engines are of the double-cylinder type only, locomotive-style boiler, and when so ordered are specially equipped for pulling a combined harvester. :: ::

Our special catalogue will also tell you about our Compound Grain Separator.



## DANGEROUS

as well as painful

Backache Neuralgia  
Lumbago Rheumatism  
Stiff Joints Sprains

### Gombault's Caustic Balsam

WILL RELIEVE YOU.

It is penetrating, soothing and healing and for all Sores or Wounds, Felons, Exterior Cancers, Burns, Boils, Carbuncles and all Swellings where an outward application is required CAUSTIC BALSAM HAS NO EQUAL. Removes the soreness—strengthens the muscles. Price \$1.50 per bottle. Sold by druggists or sent by us express prepaid. Write for Booklet L.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

## AGRICULTURAL REVIEW.

### ALAMEDA.

Pleasanton Times: H. A. Betten-court learned that horses could be made to eat poor hay with great relish if it were sprinkled over with a little cheap molasses and water. He tried it and has made a great success. The horses no longer waste the hay but clean up every wisp of it that is thrown in the manger, and they look well. This has been tried in the southern part of the State, where hay is scarce and where cheaper qualities of food have to be used.

### BUTTE.

Sacramento Bee: John Moreland and R. J. Hunter of Gridley propose to plant an extensive berry farm and as a rather unusual adjunct to berry farming will grow eucalyptus trees on a portion of the place. They plan to plant ten acres of berry vines and ten acres of eucalyptus. About 1000 to 1200 trees will be planted on an acre, and it is believed by the owners that they will be able to cut ties and poles within five or six years, after which the crop will be inexhaustible, for, as fast as the trees are cut down they will start up from the roots, and by the time the last of the original planting of trees has been cut those cut first will be replaced by merchantable timber.

The Diamond Match Co. has plans under consideration for the establishment of a big plant at Chico or Stirling City for the manufacture of turpentine, wood pulp, and paper.

It is claimed that the district immediately north of the Marysville or Sutter Buttes is eminently adapted to almond orchards. For some reason the trees bear when all the other orchards of the Sacramento Valley fail. The great pile of volcanic rocks seems to influence the local climate to the extent that frosts do not nip the early blooming almond trees. An Eastern man is looking into the matter, and is negotiating for a tract of 1000 acres which he intends to plant entirely to almonds.

### EL DORADO.

Advices from Shingle Springs state that farmers are having hard times with their grain. The grain must have been killed by a carbon preparation used by the warehouse men to kill the rats in the storerooms. The farmers not only lose the cost of the grain, but their time, labor, and the cost of putting it in. The land is too wet to sow the second time, so the farmers will be compelled to lose the use of the ground this year.

### GLENN.

S. R. Johnson, who recently arrived from Canada, has taken a contract to plant 1000 acres more of land to alfalfa on the Boggs ranch near Princeton. Three hundred acres of this land will be planted at once and the other will receive attention in the spring. All this land will be irrigated from the river canal, which belongs to the Central Canal Co.

### NEVADA.

Bee: The farmers in the vicinity of Lovelock are alarmed over the presence of millions of black mice which are devastating the alfalfa beds by destroying

the roots. The farmers are trying all known means of exterminating the pests but so far without success. The mice breed with astonishing rapidity, and it is stated that one year ago very few were found. At the present time, however, the fields are literally alive with them, and the meadows are all honey-combed by the burrows made by the little pests. Hundreds of gulls from Honey Lake have come to the valley and are feeding on the mice, and the coyotes also destroy them, but they multiply much faster than they are destroyed.

### PLACER.

The Southern Pacific is tearing down the temporary experimental pre-cooling plant erected at Roseville last summer. As it was a greater success than expected, men are now at work on the immense plant that will pre-cool twenty cars at the same time in order to have the plant ready in time for the next fruit season.

### SAN BERNARDINO.

Citrograph: Oranges are now going East at a lively rate, more than ten per cent of the crop having already been marketed up to January 10. The shipments total 2550 cars, as against 1792 last season, an excess of 758 cars. At the rate oranges are going out the season will be ended much sooner than last year. Prices do not look good yet, although the market is slowly stiffening.

### SAN LUIS OBISPO.

BERRY PLANTING.—Tribune: A new berry farm, located in Templeton, is a late undertaking. Dan Gambel and Monroe Gillis are at the head of the enterprise. They bought the north sloping side hill in the Templeton addition and have cleared the same of the oaks that were on it, and set out 1000 loganberry and blackberry plants. Templeton soil has been proven to be well adapted to berry culture. The location chosen is an ideal one. Several other farmers are putting in berry plants this year in considerable quantities.

### SISKIYOU.

CALF BY EXPRESS.—There was received at the local express office, consigned from Sabina, Ohio, to a rancher between Fort Jones and Greenview, a calf. The calf was in a large crate, and looked to be an ordinary creature, but proves to be a thoroughbred. It was about five months old, and would ordinarily bring about \$12 or \$15 at the butcher's. The express charge from Ohio to this point alone was \$65, and it will cost another \$10 to ship him on to his destination, which will make \$75 for transportation charges.

### SOLANO.

LARGE SHIPMENT OF PRUNES.—Republican: The J. K. Armsby Co., owning packing houses at Suisun and various other towns in northern and central California, is now engaged in filling one of the largest orders for dried prunes ever received by California packers. The order calls for 1000 tons of this fruit to be shipped to New York. About 450 tons will be shipped from the packing establishment here and the rest from San Jose and other points where the company has houses in operation. A large force of packers has been at work on this order for the past month and nearly enough fruit has now been packed to fill it. Much of the fruit shipped from Suisun has been transported to San Francisco by water and some of it by rail. The fruit is being shipped to New York by means of ocean vessels.

### STANISLAUS.

GRAIN PROSPECTS ENCOURAGING.—Herald: Supervisor Davison states that grain prospects are better now than they have been for several years past. The ground is in the finest possible shape for plowing and seeding, and early-sowed grain, which is coming up, is be-

### Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.

# BEEF SCRAPS

Guaranteed 65 per cent Protein

# RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

South San Francisco, San Mateo County

### C. C. MORSE & CO.

Plants SEEDS Trees

41 Jackson St.  
San Francisco



This picture represents the cover of our handsome new catalogue done in colors, showing the flowers and fields true to life.

Send us your name and address and we will mail this new 1908 Catalogue free.

Send us \$1.00 and we will send one each of these three fine roses (strong 2 year old roots): Frau Karl Druschki, Mildred Grant, Madam Caroline Testout. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea—Florence Morse Spencer.

ginning to look fine. There has been just enough rain to put the ground into shape, and the cool, foggy weather is keeping it in condition, as well as affording the best conditions for the sprouting grain. Indications are that the acreage planted to grain this year will be far in excess of the acreage planted in any of the last three years. The season is beginning to "look mighty good" to the grain men, and a bumper grain crop next season, coupled with the returns from orchard and vineyard, which is just coming into bearing, from the creameries and from the Oakdale and Modesto canneries, will bring a flood of gold into the county.

### TRINITY.

SHEEP TAX CASE.—The celebrated sheep tax case, brought by the sheepmen of Tehama county against Trinity county, was decided in favor of Trinity county in every particular. The suit involved about \$2000. The sheepmen have signified their intention of appealing the case.

### 9 CORDS IN 10 HOURS



BY ONE MAN. IT'S KING OF THE WOODS. Saves money and backsache. Send for FREE illus. catalog showing latest improvements and testimonials from thousands. First order gets agency. Folding Sawing Mach. Co., 158 E. Harrison St., Chicago, Ill.

### SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada., Pa.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.  
FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

### DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.



## The Home Circle.

### Old Mothers.

I love old mothers—mothers with white hair,  
And kindly eyes, and lips grown softly sweet  
With murmured blessings over sleeping babes.  
There is something in their quiet grace  
That speaks the calm of Sabbath afternoons;  
A knowledge in their deep unfaltering eyes  
That far outreaches all philosophy.  
Time, with caressing touch, about them weaves  
The silver-threaded fairy shawl of age,  
While all the echoes of forgotten songs  
Seem joined to lend a sweetness to their speech.  
Old mothers! As they pass with slow-timed step,  
Their trembling hands cling gently to youth's strength;  
Sweet mothers! As they pass, one sees again  
Old garden walks, old roses, and old loves.  
—Charles S. Ross, in the Century.

### Song of the Pilgrim Soul.

March on, my soul, nor like a laggard stay!  
March swiftly on, yet err not from the way  
Where all the nobly wise of old have trod,  
The path of faith made by the sons of God.  
Follow the marks that they have set beside  
The narrow, cloud-swept track, to be thy guide;  
Follow, and honor what the past has gained,  
And forward still, that more may be attained.  
Something to learn, and something to forget;  
Hold fast the good, and seek the better yet,  
Press on, and prove the pilgrim hope of youth—  
The deeds are mile-stones on the road to truth.  
—Henry VanDyke.

### The Triumph of Opposition.

"If," said the young man, "we could only tolerate one another."  
"Instead of hating each other," agreed the girl.  
"I don't exactly hate you," he said, generously; "it is only the idea of being forced to associate with you constantly that is repugnant to me."  
"Well, I hate you, anyhow," said the girl. Apparently she meant it.  
"When I said I didn't hate you," amended the young man suddenly, "I was only sparing your feelings."  
"Thank you," said the girl, scornfully.  
"When I marry," she continued, "it will be a man who is going to make a name in the world."  
"You mean," suggested the young man, "one who tells you he is. I could say it myself, come to that."  
"You!" she cried.  
"I don't see that it's so absurd," he said, shortly.  
"Naturally you wouldn't."  
"The girl I shall marry," he announced aggressively, "will be one who is capable of thought; a clever girl."  
"That's what you say; whereas you'll probably marry a girl who thinks you clever."  
"Well?" he demanded.  
"Nothing," she said; "that's all."  
"I suppose," he suggested, after a moment of intense thought, "you think that's smart."  
The girl nodded brightly.  
"Whereas," he pointed out firmly, "it's merely rude."  
"The truth," said the girl, with a far-away look in her eyes, "would naturally appear rude to some people."

The young man leant back in his chair with a sneer and lit a cigarette.  
"Anybody could talk like that," he remarked at length, "if they didn't mind much what people thought of them."  
"Well, I don't mind what you think of me," said the girl, honestly.  
"I suppose not," he assented. "When a girl's been thrown over—"  
"You haven't thrown me over," she cried, a trifle breathlessly. "I've thrown you over."  
"Excuse me," said the young man, coldly, "who proposed the marriage?"  
"Of course," she said, "if you blame me for my uncle's actions."  
"I'm not blaming you at all," he stated, "I'm simply pointing out facts."  
"Uncle is a perfect idiot!" she burst out.  
"Oh, well," demurred her companion, "it's only natural he should want to see you happy. You've been like a daughter to him."  
"That's where he's an idiot," said the girl, blandly. "He wants me to be happy and yet marry you."  
"Don't you find," suggested the young man mildly, "that it is just as easy to be polite as rude?"  
"No," was the decided reply.  
"I'm glad," was the genial comment, "you're doing it because it's easier. I was thinking perhaps you thought it was clever."  
There was a long pause.  
"I dare say that some girls might like you," said the girl reflectively.  
"That must be a fearful strain on your imagination," suggested the young man.  
"Because," she went on conclusively, "even our curate's married."  
"That's a pity," said the young man, vindictively, having seen both the curate and his wife; "otherwise there might yet be hope for you."  
"If you weren't my guest!" cried the girl, rising.  
"Pardon me," he protested, "I'm not your guest."  
"Oh!" she gasped, gazing round helplessly.  
"I'm here as a prospective part owner," explained her cousin. "If I marry you we shall share it between us."  
"If you marry me!" cried the girl, controlling herself with an effort.  
"I think that was what uncle said."  
"You mean if I marry you!" she cried, stormily.  
"Comes to the same thing," he argued.  
"You needn't look so upset," he went on. "You'll be all right. Horace is bound to suit you."  
"What is he like?" she inquired, curiosity overcoming her anger.  
"Oh—h, all right. Bit soft, you know. Doesn't smoke or drink, or—fact is, he doesn't do anything much."  
"And you think he'll suit me?" she said, slowly.  
The young man nodded.  
The girl jumped to her feet.  
"You're a horrid, mean cad!" she cried.  
"Seems to me," said the young man, aggrievedly, "I'm only wasting my time when I try to be nice to you."  
"If you have been trying to be nice," she said, emphatically, "you are."  
With a vindictive glance she made for the door.  
"Where are you off to?" he demanded.  
"I'm going to tell uncle that I hate, loathe and despise you," she said deliberately.  
"Tell him you won't marry me?"  
"I shall let him—er—deduce that," she said, as she slammed the door behind her.  
\* \* \* \* \*  
"So," said the uncle after dinner that evening, "nothing will induce you to marry?"  
"That's about it," said his nephew.  
"I'd sooner beg my bread from door to door," cried the girl.  
"An unsatisfactory means of getting a livelihood," commented her uncle.  
"Horace will be down tomorrow," he continued, "so there will be no need to confine yourself to a bread diet for a few

days. I may say, candidly, that I'm very pleased at the decision you've come to. Horace will be a much more suitable match for you, Millicent. You may regard my suggestion as to you—er—coming to some arrangement with John as withdrawn. Even were you to alter your mind I should refuse to consent."  
"Milly is of age," said the young man, suddenly. "You couldn't stop her if she wanted to."  
"Quite so. I meant that my will would be altered in favor of Horace and the Home for Imbeciles. This decision naturally removes any reason for a match between you two."  
"Just so," said the young man. "I see what you mean."  
The girl stole a glance at him.  
"Yes," she agreed, "that would remove any—reason."  
One afternoon, about a week later, the young man threw down his tennis racket with a sigh.  
"Just after lunch, too," he said, with a gasp.  
The girl gave a smile.  
"Care to come on the river?" he asked.  
"I promised to go out with Horace," was the reply. "He's dressing himself, I believe, for the occasion."  
"Right—oh," he agreed, carelessly.  
"Well, I'm off tomorrow," he added casually.  
"Tomorrow?" cried the girl. "I thought you were staying another week?"  
"Yes, but you see—"  
"Because of Horace?"  
"We—get on each other's nerves, so, of course, I'm off. You needn't pretend to be sorry."  
"I shouldn't think of pretending to be sorry," she said, indignantly.  
"I suppose," began the young man, doubtfully, "you don't really mean you—Hello! here's Horace."  
"Quick!" she cried, darting around a clump of laurels.  
"What's the matter?" called her cousin, who was close on her heels.  
"Nothing; only I—well, the river will be cooler."  
In the boat the girl grew reserved again.  
"Well, what do you think of Horace?" inquired her cousin.  
"He—he's very nice," said the girl, vaguely.  
"We're not a bit alike, are we?"  
"Good gracious, no!" she cried.  
"One's quite enough in a family."  
"One of whom—Horace or me?"  
The girl dabbled her hand in the water.  
"Oh, one of each," she replied, ambiguously.  
"Do you know," said the young man, curiously, "if I didn't know you so well I should almost think you meant to be nice."  
"Really!" she said, with a laugh.  
"Of course—of course, you do know me?"  
"Well, rather," was the confident assertion.  
"It's a great gift," she murmured, with a half glance at him, "to be able to judge people so easily."  
The young man modestly applied himself to the sculls once more.  
"What will Horace say to you when we get back?" she asked sullenly, after a long pause.  
"Say? Nothing."  
"Oh!"  
"What would you say if you were he?"  
"Punch my head," said the young man curtly. "I mean punch his—that is—punch the fellow's head who was with you."  
"Would you?" She surveyed him with some interest. "Do you mean really punch?"  
"Yes," he said stoutly, oblivious of the injustice of such a proceeding.  
"How lovely!" sighed the girl. She looked at him dreamily.  
"Why?" she asked at length. "No, you needn't tell me," she cried, hurriedly, as the young man rested on his oars.  
"Because," he said, disregarding her

protest, "life wouldn't be worth living when you weren't with me, and—"  
"You mustn't," she cried desperately. "I told you not to."  
"You shouldn't have asked at all if you didn't want to hear," he said sulkily.  
For a while she leaned back in her seat with closed eyes, while he continued to pull stubbornly at the oars.  
"What was the other reason?" she murmured at length.  
With a few strokes the young man turned the nose of the boat toward the bank, and shipped his oars.  
From a window which looked on the lawn the old man interestedly watched a retriever sidle up to a bone which lay unregarded by the side of a dozing Irish terrier.  
His eye wandered across the lawn to the boat house. Just then the young couple came from the landing stage across to the house.  
Most unembarrassedly they walked hand in hand. They were in a world where they were the only inhabitants.  
A sudden growl again drew his attention to the Irish terrier, now wide awake and now gnawing his bone with relish, while the detected thief slunk hurriedly away.  
"H'm!" said the old man, with a curious smile.—F. Harris Deans, in the Sketch.

### Emergency Suggestions of the Home.

In every household where there are children accidental hurts will require treatment, and every housekeeper should be prepared for such emergencies. Very simple applications are usually effective, and the following suggestions will be found reliable:  
Slight burns and scalds can be relieved by wrapping the parts in a soft cloth saturated with a strong solution of borax. A dressing of carbolyzed vaseline, olive oil, or white of an egg are all excellent to exclude the air from a burn. If blisters have formed they should be opened by pricking and dressed at once to protect from the air.  
A cut should be cleaned by washing with warm borax water, the edges drawn together and kept in place with strips of court plaster.  
Bruises resulting from falls or blows should be bathed in hot water and a cloth wrung out of very hot water applied to them.  
Earache may be relieved by the application of dry heat over the ear, such as a heated hop pillow, a hot water bag or a heated flannel cloth. The heart of a roasted onion put in the ear, or a drop or two of warmed sweet oil and arnica may be used with a certainty of easing the pain.  
Stings of bees and other insects may be healed with a number of simple remedies, the best of which are a piece of raw beef, a slice of onion, a solution of ammonia, vinegar and salt, or borax moistened with lemon juice.  
A cloth dipped in turpentine and applied will relieve cramps in the limbs.

### A Fortune Spent for Picture Post-Cards.

Cheap as the price of a single post-card may be, however, the aggregate amount of money that is expended in purchasing them during the year is something enormous. As an example one may take the New York City postoffice, where an average of 100,000 cards are handled every day. Basing one's calculations on the cheapest cards—the two-for-five and three-for-five varieties—this would represent an original expenditure of fully \$750,000, while the British postal authorities have estimated that the value of the cards mailed and delivered by them during 1906 was in excess of \$5,000,000.—From "The Picture Post Card," by John R. Meader, in the Bohemian for January.

The deepest hole in the earth ever dug is in the coalfields of Paruschowitz, Upper Silesia. It extends to a depth of 6570 ft., or 1½ mile.



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

### PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

### Pith, Point, and Pathos.

It is funny how certain a woman is to ask a man about the thing he was most certain she wouldn't.

Christmas is one season of the year when a man fully realizes how many relatives he has.

When a man gets wisdom and looks it, it is a signal for his neighbors to grow suspicious about him.

A real friend is one who understands you thoroughly and yet stands for your vagaries.

The best way to please a woman is to make her think you are going to entrust her with a secret.

The difference between hope and expectation is that expectation generally has a working basis of fact.

No woman ever fully understood why a man is so eternally prejudiced against overshoes.

It is wonderful how so many of our friends think of the same gift for you at Christmas.

Regrets would vanish from the world if there was only a way to make conscience work in advance.

These are the days when the bachelor revels in neckties and easy slippers.

It is funny how certain the relative you forget is to send you the costliest gift.

This is the season of year when friendships are made, even if only for the present.

Most married men will find after today that the annual honeymoon season has ended.

The way of the transgressor is hard unless he happens to have a pretty good bank account.

You can tell if a woman thinks herself homely by the way she clings to the mistletoe.

A truly modest woman is awfully puzzled as to whether it is nice to hang up her stocking.

The poets can manage now to get rid of the majority of those unsold volumes they have on hand.

The average woman isn't half so surprised over the gift you send her as the one she expected, but which you didn't send.

Men have to go around and tell their friends they would have sent them something if they themselves hadn't had so many relatives.

### Some Extremes.

The coldest place on earth inhabited by man is Verkhoyansk, above the Arctic circle, in northeastern Siberia. The thermometer there drops to 90° below zero in January, but sometimes rises to 86° above zero in the shade in July, dropping, however, to the freezing point on the warmest summer nights.

The hottest place in the world is the interior of the great Sahara desert, in Africa, where the thermometer rises to 122 degrees.

The wettest place is Greytown, Nicaragua, where the mean annual rainfall is 260 inches.

The place of least rain is Port Nolloth, in South Africa, where less than an inch sometimes falls in a year.

### Baby.

Where did you come from, baby dear? Out of the everywhere into the here.

Where did you get those eyes of blue? Out of the sky as I came through.

What makes the light in them sparkle and spin? Some of the starry spikes left in.

Where did you get that little tear? I found it when I got here.

What makes your forehead so smooth and high? A soft hand stroked it as I went by.

What makes your cheek like a warm white rose? I saw something better than any one knows.

Whence that three-corner'd smile of bliss? Three angels gave me at once a kiss.

Where did you get that pearly ear? God spoke and it came out to hear.

Where did you get those arms and hands? Love made itself into bonds and bands.

Feet, whence did you come, you darling things? From the same box as the cherub's wings.

How did they all just come to be you? God thought about me, and so I grew.

But how did you come to us, you dear? God thought about you, and so I am here.

—George Macdonald.

### Freckles.

Freckles are like "riches,"—some people are born freckled, while others have freckles thrust upon them. Freckles, or what the skin specialist calls lentigo, are generally found affecting people of fair complexion and lymphatic temperament, but especially those who have auburn or red hair and very white skins, and thus they appear to be produced by an unequal distribution rather than by an excessive development of the pigmentary matter of the skin. Freckles are congenital, or appear during childhood in the permanently freckled; but spots, ranging from a bright saffron-yellow, through tawny, to a reddish brown, which in no way differ from congenital or infantile freckles, are produced in certain persons on exposure to the sun's light, and appear mostly in summer. They occupy most commonly the face, and to a less extent the hands, but in persons of outdoor occupations, whose arms and chest are habitually bare—the agricultural laborers, for example—freckles are common on the forearms and exposed part of the chest. Those who are permanently freckled are especially liable to ephemeral freckles, so that freckling is intensified during the summer. The congenital or infantile stains generally last for life, and there is no cure for them, but sometimes they disappear during adolescence. Those caused by the rays of the sun generally disappear when their cause ceases to operate, and thus, as is generally the case, freckles are more easily prevented than cured, and those with a predisposition to freckling, should, as far as possible, avoid exposure to the sun, or a veil or shade of some sort should be worn. As to the cure, there are many local remedies employed—sulphuretted potash, sulphate of zinc, acetate of lead, sub-carbonate of potash, and weak spirituous and acid lotions—but the remedy of the 'beauty doctor' is a solution of perchloride of mercury (one grain to the ounce) in spirit and rose water.—Hawk.

A curious barometer is used by the remnant of the Araucanian race, which inhabits the southern-most province of Chili. It consists of the cast off shell of a crab. The dead shell is white in fair dry weather, but the approach of a moist atmosphere is indicated by the appearance of small red spots. If the moisture in the air increases sufficiently, the shell becomes entirely red.

### Hints to Housekeepers.

If the clock needs cleaning, put a piece of cotton saturated with kerosene on the floor of it, and the fumes arising will loosen the dirt and give the wheels a new lease of life.

In poaching eggs, stir the water till it is whirling rapidly. Then drop your egg in quickly, and the edges will be round and smooth.

For insomnia a glass of hot milk, or better still, hot malted milk, taken just before retiring, will often have the desired effect.

Try dipping your pork chops and pork tenderloins in flour before frying them, and see how delicious they are.

In pickling alum helps to make the pickles crisp, while horseradish and nasturtium seeds prevent the vinegar from becoming muddy.

Stone jars for bread and cake boxes should be scalded twice a week in the summer weather, sunning, if possible, to keep mold from gathering.

Lamp wicks can be prevented from smoking by soaking them in vinegar and drying thoroughly.

A cloth wrung out in very-hot water and often renewed will remove discoloration from bruises.

Benzine rubbed on the edges of carpet is a sure preventive of moths.

All of the combs and hair brushes should be washed weekly in a quart of warm water in which a teaspoonful of ammonia has been placed. Place only the bristles in this solution as the water will loosen the glue in the back of the brush if it is submerged. Wipe well and place in the air to dry.

To make a cup of coffee almost as nourishing as a meal, stir into it an egg well beaten. First beat the egg in a cup, add a little cream, then the sugar, and lastly the coffee poured in gradually. When adding the coffee beat constantly with a small egg-beater.

In preserving fruits the syrup used for juicy fruit should be rich and that for fruits which are rather dry and require long cooking should be rather thin. The proportions of a rich syrup are one pint of sugar to half a pint of water, the two ingredients to be boiled together for a quarter of an hour.

### Curing Ham and Bacon.

The average hog at the time when killed on most farms weighs around two hundred pounds. For curing the hams and bacon of such an animal about 1½ gallons of salt will be needed. Add a tablespoonful of saltpetre to the salt and heat the mixture in an iron kettle. Then spread it over the salting block and lay the meat upon it to rind down. Then cover the meat with the rest of the hot salt and let it remain a week or ten days. Then scrape off the salt, turn the meat over and salt with the same mixture. After another period of eight days the meat may be smoked, placing it in muslin sacks and using a smoke of hickory wood or other suitable fuel.

### Lesson for Husbands.

The late Mary A. Livermore liked to tell a story of a young friend of hers in Melrose, for she believed that in this story lay a lesson for husbands.

Mrs. Livermore's friend was passing a month alone, her mate having been summoned to Europe on a business matter.

"And you are very lonely without your husband now?" the elder said to the younger woman one morning.

"A little lonely," was the qualified answer.

"But surely," said Mrs. Livermore, "you miss your husband very much, now he is away."

"Oh, no," she said. "At breakfast I just stand his newspaper up in front of his plate, and half the time I forget he isn't there."

### Chaff.

Yeast—What would happen if some people could take their money with them into the next world, do you suppose?

Crimsonbeak—Why, it would burn in their pockets!

"With \$100,000," said the man of expansive ideas, "I could make a fortune in Wall Street."

"Yes," rejoined the piker, "but whose fortune will you make?"

Sunday School Teacher—Willie, do you know why the Bible was written?

Willie—Well, I'm not sure, but ma uses it to keep rent receipts in.

"Would you like to take a chance?" she asked sweetly.

"No, thank you," he replied, "I've already been married three times."

Daughter—Father went off in a good humor this morning.

Mother—My! That reminds me. I forgot to ask him for any money.

Fond Mother—Why don't you like your roommate at college, Reginald? The professor told me he would be a good companion for you, because he studies so hard.

Young Collegian—But, mother, he uses so many sesquipedalian words.

Fond Mother—That settles it, my son. I don't want you to be contaminated by association with anybody who uses such dreadful language.

Stern Female Customer—I don't want any of these ribald comic opera songs in my house. Is this music you are recommending entirely of an irreproachable character?

Astute Salesman—Madam, that music is of such a high character that it should not be played on any but an upright piano.

"He seems to be making quite a lot of money now. Is his system of physical culture a good thing?"

"Well—er—everyone who pays for it is."

Boyce—They say that large bodies move slowly.

Joyce—That depends on whether they slip on a banana peel or are riding in a hack.

New Tenant—Can you tell me to whom to apply for my heat? Our rooms are very cold.

Imposing Personage—I have no idea, I'm the janitor.

The whale had become entangled in the ocean cable.

"Well," he remarked, as he thrashed himself loose, "I hope this wireless business isn't one of Marconi's dreams."

"Accept me," cried the lovelorn youth, "and I shall smother you with kisses."

"And if I refuse?" exclaimed the maid.

"Beware! If you refuse I shall go to the ends of the earth?"

"And then?"

"Why, I will smother you with souvenir postal cards."

THERE is a German dairyman and farmer whose place is not far from Philadelphia, who greatly plumes himself upon the absolute superiority of his products above all others in the vicinity. On one occasion he personally applied to a Germantown housekeeper for a transfer of her custom to himself: "I heard dot you haf a lot of drouble mid dot eggman of yours," he said: "Yust you gif me your gustom und dere vill be no drouble!" "Are your eggs always fresh?" asked the woman. "Fresh!" repeated the German in an indignant tone, "Let me dell you, madam, dot my hens nefer lay anyding but fresh eggs!" —Exchange.

Polish women are engaged at work as navvies on the dams now being constructed near Bredstedt, Schleswig, Prussia. They are said to work as well as men and for less money.











## MILK CANS ROB YOU

Look through a microscope at milk set to cream in pans or cans and you'll see how they rob you. You'll see the caseine—the cheese part—forming a spider web all through the milk. You'll see this web growing thicker and thicker until it forms solid curd. How can you expect all the cream to rise through that? It can't. This



caseine web catches a third to half the cream. You stand that loss just as long as you use pans or cans for they haven't enough skimming force to take out all the cream. But, just the minute you commence using Sharples Dairy Tubular Cream Separator, you stop that loss.

Sharples Dairy Tubular Cream Separators have 10,000 times more skimming force than pans or cans, and twice as much as any other separator. They get all the cream—get it quick—get it free from dirt and in the best condition for making Gilt Edge Butter. Caseine don't bother the Tubular. The Tubular is positively certain to greatly increase your dairy profits, so write at once for catalog I-131 and our valuable free book, "Business Dairying."

**The Sharples Separator Co.**  
West Chester, Pa.  
Toronto, Can. Chicago, Ill.

## Fruit Marketing.

### Co-operative Strawberry Selling.

We read that the past year has been one of the most successful in the history of the strawberry growing in the Glendale and Tropic district of Los Angeles county. There are about 450 berry growers in the Berry Growers' Association, and about half of that number are members who represent about 1200 acres of strawberries and 400 acres of raspberries. The total gross business transacted by the members of the Association alone this year was \$256,000, while the net business was \$211,663.73.

There has been handled through the warehouses the past 12 months more than 6,312,815 baskets of berries, which hold about 1/4 lb. each. The average price received for these berries was almost 3 1/2 c. per basket. Out of the tonnage of berries handled by the Association this year 848 tons were sent to the Los Angeles canneries at the times when the Los Angeles markets were overcrowded.

Branch packing houses are being conducted in Burbank, Whittier, and Arcadia, and at each place the houses are kept busy during the berry season.

Quite a large number of acres have been set to raspberries the past season, and although the season is short for this product it has been found profitable. It is understood that the acreage planted to this berry will be considerably increased.

### WANTED

Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306,  
Riparia x Rupestris 3308, Riparia x Rupestris  
106-8 and Mourvedre x Rupestris 1202. Address

**FANCHER CREEK NURSERIES**  
Fresno, California.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds  
for New York.

337 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.

## Fertilizers and Fertilization

### Figures on Manures.

Mr. E. L. Koethen, of Riverside, who has made a close study of the practice of fertilization for many years, answers in the Fruit World some questions which have been asked him about the value of barnyard manure, as compared with commercial fertilizers. In making such a comparison, it is necessary to assume that we are reckoning with the excrement of the animal, and not a material composed of straw in the major portion of its make-up. So that in this computation, after all is said, you will have a comparison of horse manure with tankage, rather than the inferior article usually sold on our market for manure, and due allowance should be made for it.

The Department of Agriculture is authority for the following analysis of well-kept horse manure, which has been kept from fire fang and treated from time to time with gypsum, to retain its ammonia. It includes both solid and liquid excrement, and was protected from leaching:

Nitrogen, 49%; phosphoric acid, 29%; potash, 48%. Figuring these at the rate of 17c. for the nitrogen, 7c. per lb. for phosphoric acid, and 7c. per lb. for potash (which is about the present retail rate for plant foods), it gives a value of \$2.73 per ton for horse manure. As it takes about 75 ft. to make a ton, and as the usual price for horse manure delivered in the orchard is 4c. per ft. at this time, the purchaser pays \$3 for what is worth at the above figures just \$2.73.

Now let us get at it in another way. Say we are to put 10 ft. of stable manure per tree, on a 10-acre ranch. This will require 10,000 ft. at 4c., equals \$400.

Ten thousand feet is equal to 133.35 tons, or 266,660 lb. Multiply this by 0.0049%, in order to get the number of pounds of nitrogen in the manure for the 10 acres, and we get an aggregate of 1306.6 lb., which, at 17c. per lb., is equal to \$222.12. Likewise multiply by 0.0048 to find the number of pounds of phosphoric acid, and we have 683.3 lb., which, at 7c., is equal to \$47.83. So also with the 1279.9 lb. potash, at 7c., equals \$89.59. This, added, sums up to \$359.54.

Now let us apply the same calculation to a good grade of tankage which sells in the retail market for \$38 per ton, in 10-ton lots.

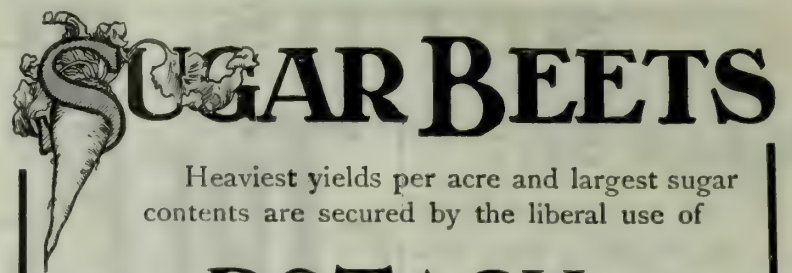
Say the grower uses 20 lb. to the tree, which is a liberal application, more liberal than is usually applied, but no more than enough for good results among old trees. Ten tons equal \$380.

Suppose the analyses to be 10% phosphoric acid, and we will have 3800 lb. phosphoric acid to the 10 tons, which, at 7c., equals \$266.

Now let us have the nitrogen content from an analysis of 4.95%, which is equal to 990 lb., which, at 17c., is valued at \$168.30. The sum of these is \$434.30.

We now find that \$400 (first cost) worth of manure is \$359.54. While at the same rate for the elements, \$380 worth of tankage is \$434.30. In other words, supposing that the manure was of equal high grade (which it is not) as the tankage, one is sold to you under a guarantee of analysis, and the other is not; the grower who uses the tankage is \$74.76 to the good in the outlay. This, of course, presupposes that the grower will obtain his humus and nitrogen from the cover crop, in a large measure depending upon the tankage to balance up the ration. Now it can be proven that the cover crop will cover its cost to the grower in the other advantages to the orchard without considering the humus and nitrogen, namely, the loosening of the subsoil, the preventive of winter wash, and the greater abundance of humus than one can possibly obtain from 10 ft. of stable manure.

From these figures, it will readily appear, good tankage and cover crop is a much cheaper method of keeping up the fertility of an orchard than by barnyard manure alone.



Heaviest yields per acre and largest sugar contents are secured by the liberal use of

## POTASH

It is essential that the fertilizer contain at least 10% Potash.

Send for "Farmer's Guide," a book which we shall be glad to send you free. You will find it packed with money-making information. Address

GERMAN KALI WORKS

New York—93 Nassau Street, Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.



268 MARKET STREET  
San Francisco

MANUFACTURERS OF

## Special Fertilizers for all Crops

Our New Catalogue

"The  
Farmer's  
Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.

## WHEAT GROWERS!

SPEND \$1.00 PER ACRE

for the unsurpassed cereal phosphoric acid fertilizer, SUPERPHOSPHATE, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvelous results as applications of superphosphate."

GET PARTICULARS FROM

**The Mountain Copper Co., Ltd.**  
150 PINE ST., SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

**FRANCIS SMITH & CO.,** Manufacturers of



FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum.

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinion as to Patentability and Infringements  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco



## Robber Hens

Over-fat and lazy fowls—always ready to eat, never ready to lay—take the profits out of your hen business. Put such by themselves, reduce the feed a few days, and then begin the use of Dr. Hess Poultry Pan-a-ce-a once a day. This course will soon turn robber hens into profit-paying fowls.

## DR. HESS Poultry PAN-A-CE-A

is the prescription of Dr. Hess (M.D., D.V.S.) himself an expert poultryman, and was formulated with the express purpose of providing something to strengthen the fowls' digestion and compel the largest possible assimilation of nutriment. That it does this is the testimony of poultry men in all the United States and Canada. It holds bitter tonics, iron for the blood and cleansing nitrates to purify the system. Makes laying a habit and helps young chicks grow fast. It is also a great preventive of disease. Costs but a penny a day for 80 fowls.

Sold on a written guarantee.

1½ lbs. 35c; 5 lbs. 85c;

12 lbs. \$1.75; 25 lb. pall \$3.50

Send 2c for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio.

THE PETALUMA INCUBATOR CO.,

Petaluma, Cal.,

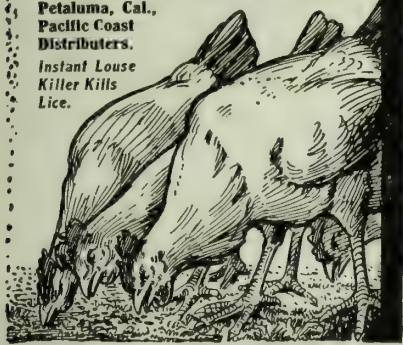
Pacific Coast

Distributors.

Instant Louie

Killer Kills

Lice.



## The Poultry Yard.

### Raising Chicks.

Mr. J. F. Smallman writes for the Petaluma Poultry Journal his way of raising chicks, and it would be an ungrateful chick which would not raise under such treatment:

On the morning of the twenty-first day light the lamp or fire in your brooder, and be sure that the brooder is running right and keeping an even temperature. Have the floor of the brooder covered with one or two inches of hay, chaff or cut straw. Over this lay two thicknesses of burlap. Keep your brooder running all night at a temperature of 95°, at which temperature the brooder should run the first week. On the morning of the twenty-second day remove the chicks from the incubator. Toe-mark them and at the same time cull out the weaklings and cripples, as such chicks take up room that a good strong chick should have. It will save you trouble and disappointment later. Give the chicks nothing to eat or drink whatever on the twenty-second day. Keep them in the brooder and keep it as dark as possible. On the morning of the twenty-third day put before them warm water. The water should be clean and kept where the chicks can get it at all times. If your drinking dishes are white, so much the better. A good way to make a drinking fountain for little chicks is to take a shallow saucer; then take a small can, wash clean, fill full of water, place the saucer on top of the can and then turn bottom up and be quick in doing so. Place where the chicks can get at it. Then sprinkle on the surface of the water a little fine charcoal. The chicks seeing these black specks on the water in their saucer, of course they get the water too, learning how to drink very quickly without much trouble to you. In the afternoon, say about three o'clock, put before the chicks—that is, in front of the brooder—a board on which sprinkle some fine chick-size grit with

some fine charcoal mixed and keep it before them till dark. As darkness comes on you must be with your chicks and see that they all return to the brooder.

If you see during the day or any time till the chicks are a week old that they are trying to get under one another, it shows that they are getting cold. Then you must gently run them to the brooder. Do not pick them up, but let them learn their way, and this you must teach them. On the morning of the twenty-fourth day they get their first meal, this being a cornmeal cake, made of equal parts cornmeal, bran, and middlings. This must be well mixed with milk if you have it, not too wet nor too dry. If you have any infertile eggs from the incubator, mix them in, shells and all. Bake it well in a hot oven. If the cake is burned a little, so much the better, as it will do no harm and lots of good. Feed the chicks in the morning about 8 o'clock, and one more meal in the evening at 5 o'clock. See that they all get their share and that there is no chick in the brooder. Clean the brooder on the twenty-fourth day for the first time, and every day after that. Every night put in clean straw and clean burlap. Then your chicks have a good clean bed. In the morning remove the burlap, which takes out all the droppings, and leaves the straw clean, which must be taken out in the evening and more straw and clean burlap put in. The burlap you used last night wash well, and you can use it tomorrow. The first feeding day the chicks can be fed twice, the second day three times, and the third day four times; from then on every two hours till six weeks old, and then feed four times per day till ten weeks old. At that age they can be removed from the brooder. Feed just what they will eat up clean in three to four minutes. Keep clean fresh water before them at all times. Change the water three or four times per day, washing their fountains each time; also have plenty of charcoal, grit, and shells before the chicks all the time.

When the chicks are four days old you can start feeding beef scraps or finely cut green bone. Feed the beef scrap every two or three days in the feed till they are five weeks old. Then feed a small feed every day. About two teaspoonfuls to fifty chicks at a feeding is plenty. Two or three times per week mix in their feed charcoal, grit, and fine bone meal. The cornmeal cake must be ground fine in a hand mill. Mix enough charcoal, grit, and bone to last all day. Feed it to the chicks on a board kept for this purpose. This board must be taken up when the chicks are done eating and put where it will not get soiled. Green feed must be fed every day if there is none in the runs. On the floor of the brooding house spread one or two inches of cut straw, cut about one inch long. This straw must be removed when the chicks have been in the house a week and the house should be washed out every three weeks. In the litter on the floor the chicks must be fed their grain feed. This can be any of the prepared chick foods or it can be one part each cracked wheat, corn, and steel-cut oats. A small handful between meals, and the last meal at night should be grain, fed in the litter. During the night when you make your round, you can throw a handful in the litter, so the chicks will have something to scratch for in the morning. The first thing to do in the morning is to get your water warm and give it to the chicks. Be sure to give them water before you give them the first meal. If you notice any bowel trouble among the chicks, give them a feed of boiled rice. To every quart of boiled rice add four teaspoonfuls of cinnamon. Feed one feed a day of rice and cinnamon till the trouble is over.

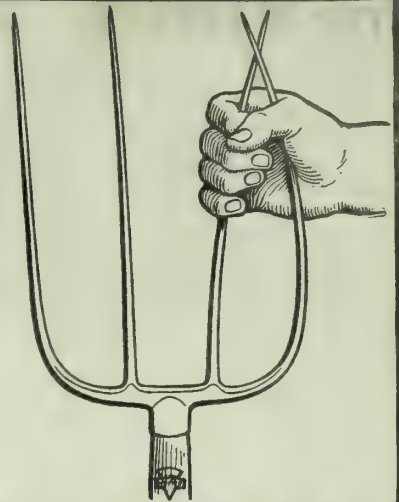
Keep the brooder at a temperature of 95° the first week, 90° the second, 85° the third, and about 75° from then on.

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

## The Temper of a Fork

Try the temper of a Keen Kutter Fork—spring it, twist it, pry with it. After you've tried it you'll be willing to work with it.



## KEEN KUTTER



farm tools don't break—each has a fine oil temper which makes it withstand strain and keep a good edge or point. The Keen Kutter trade-mark covers Forks, Hoes, Rakes, Scythes, etc. as well as all bench tools—Axes, Hammers, Saws, Planes, Adzes, Chisels, Augers, Bits, Braces, Gimlets, Bevels, Squares, Drawknives, Gouges, etc.

If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons.  
Trade Mark Registered.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.



RHODES DOUBLE CUT  
PRUNING SHEAR

Pat'd June 2, 1903.

Dept.  
24

RHODES MFG. CO.,  
GRAND RAPIDS, MICH.

THE only  
pruner  
made that cuts  
from both sides of  
the limb and does not  
bruise the bark. Made in  
all styles and sizes. We  
pay Express charges  
on all orders.  
Write for  
circular and  
prices.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded  
Patent Continuous

### WOOD PIPE

Made from California Redwood  
or  
Selected Puget Sound Yellow Fir.

404 Equitable Savings Bk. Bldg.  
Los Angeles

268 Market St., San Francisco

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

You will find when the chicks are in the brooder that the temperature will raise. Then, of course, you must turn down your light—that is, when they are three and four weeks old—and relight it the first thing in the morning. Be sure they have plenty of heat to keep them comfortable through the night. Keep the brooder warm all day. At seven weeks no heat is needed at any time unless the weather is very cold. To keep the chicks free from lice is very troublesome to a great many. When you make up your mind that you are going to get rid of the pests you can do it. Put on the floor of the brooder three or four moth balls under the burlap in the litter in front of the brooder, and keep them there all the time. Do not use moth balls in the brooder before the chicks are two weeks old. For a good spray on the walls inside of the brooding house take one gallon of coal oil and one pound of moth balls. Mash the balls up fine and mix well with the oil. Spray the walls of the house well, once a month, and you will never see any lice on your chicks. Do not put more than 100 chicks in one lot if you want to raise many of them.

I write this from my own experience, and no one else, and I had good hard work to learn it. I hope it will do many good. It may seem to some that this style of raising chicks is too much work; but when I can get \$4 per dozen for chicks at the age of nine weeks, raised by this method, I think it pays well to work a little.

The worm isn't the only thing that will turn; even a hair will turn gray.

## Glenn Ranch GLENN COUNTY, CALIFORNIA For Sale in Subdivisions

This famous and wellknown farm, the home of the late Dr. Glenn, "The Wheat King," has been surveyed and subdivided. It is offered for sale in any sized Government subdivision at remarkably low prices, and in no case, it is believed, exceeding what is assessed for county and State taxation purposes.

This great ranch runs up and down the west bank of the Sacramento river for fifteen miles. It is located in a region that has never lacked an ample rainfall and no irrigation is required.

The river is navigable at all seasons of the year and freight and trading boats make regular trips.

The closest personal inspection of the land by proposed purchasers is invited. Parties desiring to look at the land should go to Willows, California, and inquire for P. O. Elbe.

For further particulars and for maps, showing the subdivisions and prices per acre, address personally or by letter

F. C. LUSK,

Agent of N. D. Rideout, Administrator of the Estate of H. J. Glenn, at Chico, Butte County, Cal.

### WANTED

By an experienced middle aged man, a position as manager of a large ranch. Address Box 36, care of Pacific Rural Press.



## THE MARKETS.

SAN FRANCISCO, Jan. 22, 1908.

## WHEAT.

Wheat values in general are lower than last week, the decline on most grades being about 2½c. from top quotations. Eastern and foreign markets are also lower, and receipts at Chicago have been heavy. The eastern market is dull at present, with buyers holding off for a further decline. There is little demand for shipment this week. The speculative market here is weak and dull, and the cash grain is also quiet, though there is rather more inquiry than before the decline. One feature that prevents buying is the fact that milling grades of California wheat are still firmly held at former prices, and as this is the only line for which there has been any marked demand here, the movement is still limited.

California White Australian..	1.75 @ 1.80
California Club.....	1.67½ @ 1.70
California Milling.....	1.70 @ 1.72½
California lower grades.....	1.60 @ 1.65
Northern Club.....	1.65 @ 1.70
Northern Bluestem.....	1.67½ @ 1.75
Northern Red.....	1.60 @ 1.62½

## BARLEY.

Barley is still very dull, and now shows a decided weakness, with a decline all round on both future and spot grain. While arrivals have not been excessive, the demand is very poor, and there is considerable pressure to sell, even at concessions. There is some poor northern feed on the market, which brings low prices, as the demand for all feed grades has fallen off. Shipping and brewing grades also remain quiet, with little inquiry.

Brewing .....	\$1.55 @ 1.60
Chevalier .....	1.75 @ 1.85
Good to Choice Feed, per ctl..	1.50 @ —
Common to Fair .....	1.47 @ 1.48½
Shipping.....	Nominal

## OATS.

There is less demand for all feed grades of oats than formerly, and the movement of some descriptions for seed purposes has also largely fallen off. A fair demand is reported for choice red, but black are neglected, and show a decline. Under these conditions there is little activity, speculative business being again quiet in this market, though there is some activity in the north. Prices show no tendency to decline, as stocks on hand are not excessive, and all supplies in the north are firmly held.

Clean Black for seed.....	\$2.50 @ 2.75
Choice Red, per ctl.....	1.85 @ 1.90
Gray.....	1.52½ @ 1.60
White.....	1.52½ @ 1.70
Choice Red, for seed.....	1.90 @ 2.00

## CORN.

So far the consumption of corn here is small, and the demand is light, with no particular feature. There have been few arrivals from any quarter, and no important transactions. Prices are as last quoted.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @ —
White .....	Nominal
Western State sacked Yellow, new.....	1.60 @ 1.65
White, in bulk.....	1.49 @ —
Mixed, in bulk.....	1.47 @ —
Brown Egyptian.....	1.40 @ —
White Egyptian .....	1.35 @ —

## RYE.

Prices on rye show absolutely no change, the movement being so small as hardly to establish quotations at present. With no particular inquiry, stocks on hand are extremely small.

California .....	\$1.45 @ 1.47½
Utah .....	1.40 @ 1.45
Oregon .....	1.45 @ —

## BEANS.

Activity continues to increase on the bean market, and shipments are now going forward from growing centers which have been practically out of touch with the market for several months. There is a stronger feeling here on pinks and whites, though there is no quotable change in values on any description. There is now a good steady inquiry from

the eastern markets, and extensive lines are being shipped to various western points.

Bayos, per ctl.....	\$3.15 @ 3.25
Blackeyes .....	3.75 @ 4.00
Butter .....	4.50 @ 5.00
Cranberry Beans .....	3.00 @ 3.25
Garvanzos.....	3.75 @ 4.00
Horse Beans .....	2.75 @ 3.00
Small White .....	3.50 @ —
Large White .....	3.35 @ 3.45
Limas.....	4.75 @ 4.85
Pea .....	3.50 @ 3.75
Pink .....	3.15 @ 3.25
Red .....	3.40 @ 3.50
Red Kidneys.....	3.25 @ 3.50

## SEEDS.

The demand for seeds continues to improve, especially in miscellaneous garden varieties, though there is a continued active business in the various descriptions of alfalfa. Prices on all lines are firmly maintained according to last appearing quotations, and stocks on hand are about sufficient to supply the current demand.

Utah Alfalfa .....	18 @ 19 c
Turkestan alfalfa.....	18 @ —
Alfalfa .....	17½ @ 18 c
Broomcorn Seed, per ton .....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3½c
Canary.....	4½ @ 4½c
Flaxseed.....	Nominal.
Hemp.....	4½ @ 4½c
Millet.....	3 @ 3½c
Timothy.....	7 @ 7½c
Yellow Mustard.....	5 @ 5½c

## FLOUR.

Local and northern flours are quoted steady at former prices, but offerings of Kansas and Dakota stock on this market show a slight advance. The demand is still quiet, but the movement keeps about up to the average in a local way. There is no shipping business worth mentioning from this market.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras .....	5.40 @ 5.65
Superfine .....	4.20 @ 4.50
Oregon and Washington, Family .....	4.75 @ 5.25

## HAY.

The hay market is weak with a tendency toward lower prices all along the line. This is due chiefly to the increased supplies which have been met with no increase in the demand. The arrivals this week have totaled 3180 tons, a considerable increase over last week. Most of the hay in second hands is being held back in the hope of better prices later on. In the opinion of many, the arrivals can not continue at the present range of prices, as these are too low to afford a profit to the growers. Alfalfa has been arriving in rather small quantities and this does not show the same weakness that is manifest in other varieties. The same is true of straw, which continues in good demand at the former figures. Fancy grades of wheat are also holding up fairly well as arrivals of strictly fancy have also been light. The greatest weakness is in the ordinary grades of grain, and especially of volunteer hay.

Choice Wheat, per ton .....	\$16.00 @ 17.50
Other Grades Wheat .....	11.00 @ 15.00
Wheat and Oat.....	11.00 @ 15.50
Tame Oat.....	11.00 @ 15.00
Wild Oat.....	10.00 @ 12.50
Alfalfa .....	9.00 @ 13.50
Stock .....	8.00 @ 9.50
Straw, per bale.....	50 @ 90c

## MILLSTUFFS.

The tendency in miscellaneous feed-stuffs is now downward, after a long period of firmness. This is probably a result of increasing green feed, causing a smaller demand. Rolled barley is dull, with a decline of \$1.50 a ton, corresponding to the drop in the raw grain. Supplies of bran, shorts and middlings are still very small, and prices on these lines are not affected. In fact, middlings are still in fair demand, and show another considerable advance.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing .....	23.00 @ —
Bran, ton .....	28.00 @ 29.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00 @ —
Jobbing .....	26.00 @ —
Corn Meal.....	37.00 @ —
Cracked Corn.....	38.00 @ —
Mealalfa.....	22.00 @ —

Jobbing.....	23.00 @ —
Middlings.....	32.00 @ 35.00
Mixed Feeds.....	22.00 @ 24.00
Oil Cake Meal, per ton.....	38.50 @ 39.50
Rolled Barley.....	33.50 @ 34.50
Shorts.....	29.00 @ 30.00

## POULTRY.

Three cars of western chickens came in Monday, and liberal supplies since then, in addition to considerable native stock. Choice western stock, however, still finds a steady demand, and prices are very well held, with nothing lower than last week, and some lines showing an advance. Little attention is paid to native stock, in view of the liberal supply of western. Receipts of turkeys are becoming lighter, and most of the dressed stock is taken up by a few large retailers, who are willing to pay up to 20c. a pound. Squabs are firm and higher.

Broilers .....	\$4.50 @ 5.50
Small Broilers.....	3.50 @ 4.50
Ducks.....	4.00 @ 7.00
Fryers.....	5.50 @ 6.00
Geese .....	2.00 @ 2.50
Hens, extra .....	7.00 @ 9.00
Hens, per doz.....	5.50 @ 6.50
Small Hens.....	4.50 @ 5.00
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	6.00 @ 7.50
Pigeons .....	1.00 @ 1.25
Squabs .....	3.00 @ 3.25
Hen Turkeys, per lb .....	— @ — c
Gobblers, live, per lb.....	18 @ 18 c
Turkeys, dressed.....	18 @ 20 c

## BUTTER.

The market for fresh butter is weak, and shows comparatively little change on extras, which advanced ½c. under light supplies late in the week. Offerings are now plentiful, but the market is active, and clearances are readily effected. Seconds are considerably stronger, standing for some time at 30 cents. Storage goods are freely offered at low prices, but find little market, as the decline on fresh stock has turned the demand in that direction.

Cal. (extras) per lb.....	34½c
Firsts.....	30 c
Seconds .....	22 c
Thirds .....	—
Fresh Eastern, extras.....	—
Fresh Ladles, extras.....	—
Fresh Ladles, firsts.....	—
Storage, Cal., extras.....	24 c
Storage, Cal., firsts.....	23 c
Storage Eastern, extras.....	24 c
Storage Ladles, extras.....	20 c

## EGGS.

There is another sharp decline in fresh eggs, which sold down to 29c. last week, and this week opened with strong pressure to sell, as it was generally believed that the rain would cause a great increase in the production, and large receivers are anxious to keep as closely cleaned up as possible. In spite of a better demand for fresh extras, this heavy selling has caused a further decline to 27½c. There is still more pressure on local storage stock, as holders are very anxious to unload, and prices are much lower. Eastern storage are weak, and probably sell below quotations.

California (extra) per doz.....	27½c
Firsts.....	26½c
Seconds.....	24 c
Thirds .....	22½c
Storage, Cal., extras.....	18 c
Storage, Eastern, extras.....	20 c

## CHEESE.

Eastern storage stock is weak, but at unchanged price, and no new eastern is offering. Fancy California flats have advanced to 15c., with some improvement in the demand, but firsts are still low.

Fancy California Flats, per lb....	15 c
Firsts.....	13½c
New Young Americas, Fancy.....	15 c
Storage, do.....	15½c
Eastern, New.....	Nominal
Eastern, Storage.....	17½c
Cal. Storage, Fancy flats.....	15 c
Oregon, Fancy.....	15 c

## POTATOES.

Potatoes were rather quiet at the beginning of the week, as all dealers were liberally supplied after the active buying of last week. The market is well cleaned up on the best grades, however, and firm prices are the rule. Lumpoc stock is now a leading feature, being of superior quality.

Oregon Burbanks.....	\$1.00 @ 1.25
Burbanks, Salinas, ctl.....	1.00 @ 1.25

# LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best for the West—all other sorts being discarded. Why experiment, why take chances? You can absolutely depend on **LILLY'S** seeds. Our catalogue for 1908, consisting of 112 pages, 16 colored pages made from actual photographs, with full cultural directions, is yours for the asking. You'll also find that **LILLY'S** seeds are

**SOLD BY DEALERS**  
The Chas. H. Lilly Co.  
Seattle, Portland, San Francisco.

Lumpoc Burbanks.....	1.30 @ 1.40
Burbanks, River, bag .....	65 @ 1.00
Sweet Potatoes, per ctl.....	2.75 @ —

## VEGETABLES.

Onions are again higher, and find an active demand, liberal supplies being readily cleaned up at the advance. Receipts of green produce from the south are larger, and some lines show a decline. Mushrooms are plentiful and weak. Some rhubarb is now offering, but moves slowly.

Garlic, per lb.....	5 @ 7c
Green Peas, per lb.....	5 @ 7c
Green Peppers, per lb.....	5 @ —
Cabbage, per ctl.....	75 @ —
Onions, per ctl.....	2.50 @ 2.70
String beans, per lb.....	12½ @ 15c
Tomatoes, crate.....	2.00 @ 2.50
Marrowfat Squash, per ton.....	10.00 @ 15.00
Carrots, sack .....	75 @ —
Hubbard Squash, ton.....	10.00 @ 15.00
Summer Squash, ½ box.....	1.00 @ 1.25
Celery, crate, small.....	1.00 @ —
Egg Plant, lb .....	10 @ 12½c
Rhubarb, box.....	1.75 @ —

## FRESH FRUITS.

Trade in apples has been very fair, in spite of rainy weather. There is a good steady demand, and prices on fancy stock are well maintained. Southern strawberries have been plentiful, and choice goods bring up to \$1.50 a half-crate, though most of the arrivals are poor and hard to move.

Apples, fancy .....	1.50 @ 2.50
Apples, common to choice...	60 @ 1.00
Pears.....	—
Winter Nelsis.....	2.00 @ 2.25

## CITRUS FRUITS.

The movement for the local trade is very dull, with the regular dealers taking only small amounts. The rain prevents much movement in a peddling way, and the market would be at a standstill if it were not for a good demand from towns around the bay. Orange prices are very weak, and there is a bad overstock. Grapefruit is easily disposed of. Limes and lemons show no change.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.00 @ 2.50
Standard .....	75 @ 1.25
Limes.....	3.50 @ 4.00
Oranges.....	—
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.75
Tangerines, large box.....	1.00 @ 1.25
Grape Fruit .....	2.25 @ 3.00

## DRIED FRUITS.

A weaker tone to dried fruits is again reported in the eastern market. There is, however, no change in quotations here, and packers generally are firm in their ideas. It is reported that certain packers are trying to corner prunes, but this is naturally denied. Nothing new is reported in regard to raisins.

Evaporated Apples .....	8 @ 9 c
Figs, black.....	23 @ 3 c
do white.....	3 @ 4 c
New Apricots, per lb.....	18 @ 21 c
Fancy Apricots.....	21 @ 22 c



Peaches	10 @12 c
Prunes, 4-size basis, 1907 crop.	4 @ 4½c
Pitted plums.	Nominal.
Pears	10 @12 c
RAISINS.	
2 Crown	4½@—
3 Crown	5½@—
4 Crown	5½@—
Seeded, per lb.	7½@ 7½c
Seedless Sultanias	5½@ 7½c
London Layers, per box	\$1.25@1.40
London Layers, cluster.	1.30@2.00

NUTS.

Nuts are still quoted at last week's figures. There is comparatively little inquiry from any quarter, and the market is quiet. All offerings, however, are strongly held, and no further decline is looked for.

Almonds, Nonpareils	15 c
I X L	14½c
Ne Plus Ultra	14 c
Drakes	13 c
Languedoc	12 c
Hardshell	8 c
Walnuts, Softshell No. 1	14½c
Softshell, No. 2	12 c
Italian Chestnuts	10 @12½c

HONEY.

Some honey is still coming in, but it is said that most stocks held back by growers have now been disposed of. While there is more on hand than a month ago, stocks of the best grades are still light, and no decline is looked for.

Water White, Comb	16 @17 c
White	15 @—
Water White, extracted	8 @ 8½c
Light Amber	7 @ 7½c
Dark Amber	6½@ 6½c

WOOL.

The movement of wool continues very small, with no movement except at concessions, and present quotations are accordingly nominal. The prospect, however, is said to be improving.

Humboldt and Mendocino, year's staple	22 @23 c
Fall clip: Northern free, mountain	8 @11 c
do. defective	6 @ 8 c
San Joaquin and Southern	5 @ 8 c
Fall Lambs, Northern	9 @11 c
Fall Lambs, Southern	7 @ 9½c
Nevada	12 @16 c

HOPS.

Prices on last year's crop are slightly higher, though the market shows no great activity. There is a fair demand in the north, where the better grades are becoming scarce.

1906 crop	2 @ 3 c
1907 crop	5 @ 8½c
1908 (contracts)	10 @11 c

MEAT.

Heavy hogs are weak, with large supplies. Dressed cows, heifers, and lambs show a slight advance. Spring lamb is now offering at firm prices.

Beef: Steers, per lb.	7 @7½ c
Cows	6½@ 7 c
Heifers	6½@ 7 c
Veal: Large	7½@ 9 c
Small	9 @10 c
Mutton: Wethers	10½@11 c
Ewes	9½@10½c
Lamb	12 @13 c
Spring lamb	15 @16 c
Hogs, dressed	10 @11 c

LIVESTOCK.

Steers, No. 1	8½@ 9 c
No. 2	7½@ 8 c
No. 3	6½@ 7 c
Cows and Heifers, No. 1	6½@ 7 c
No. 2	6 @ 6½c
Bulls and Stags	3½@ 4 c
Calves, Light	5 @—
Medium	4½@—
Heavy	3½@ 4 c
Sheep: Wethers	5 @ 5½c
Ewes	4½@ 5 c
Lambs	6 @ 6½c
Hogs, 100 to 200 lbs	6 @ 6½c
200 to 300 lbs.	5 @ 5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## Cocoanut Oil Cake

THE BEST FEED

FOR STOCK, CHICKENS AND PIGS.

FOR SALE IN LOTS TO SUIT BY

EL DORADO OIL WORKS

2404 Broadway, San Francisco, Cal.

MORE POULTRY MONEY.

The Sure Hatch Incubator Company has been compelled to get out another edition of the book on "Poultry Profits" to meet the many calls for free copies that keep coming in from people all over the United States. This book contains the experience of hundreds of the most successful poultry raisers in the country. It tells how to get best results from the use of the incubator. How to build chicken houses. How to feed and care for chickens. How to destroy vermin, etc. It tells the secrets of poultry raisers' success.

The Sure Hatch Incubator Co., box 151, Fremont, Neb., or Dept. 151, Indianapolis, Ind., is claimed to be the largest incubator concern in this country, and its "Sure Hatch" Incubators are wonderfully successful. They are built of California Redwood, and fitted with the most scientific hot water heating system made.

CONTROLLING NATURE.

It is indeed a battle to keep strains of plants pure and up to the standard they have already attained, let alone any improvement. The practical results are accomplished by man operating largely for love of the work, like Luther Burbank in California, and Eckford in England, as well as by the greatest seed merchants, D. M. Ferry & Co., of Detroit, Mich., who are not only eternally vigilant to hold what ground has been gained, but have a corps of trained specialists backed by ample means to conduct new experiments. The results of their experiences can be found in their 1908 Seed Annual, which they will send free to all applicants.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### POULTRY.

BROWN LEGHORNS AND BARRED PLYMOUTH ROCKS. Eggs for hatching a specialty; cockerels for sale. Walter Curry, R. D. No. 21, San Jose, California.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

### ATTENTION, DAIRYMEN!

We would like to furnish you with a young registered **Holstein Bull**, from 12 to 27 months old, grandly bred at the low price of \$100. Write us and tell us what you want. Do it to-day. We will send you pedigrees and markings and records of ancestors.

PIERCE LAND & STOCK CO.,

Phone Main 1597. Stockton, Cal.

### FOR SALE

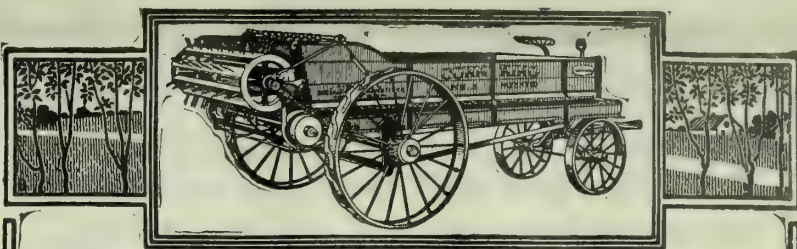
A few thoroughbred registered Poland China service boars.

Registered Holstein Friesian service bulls and bull calves from Advanced Registry Stock.

STANFORD RANCH, Vina, Cal.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## Make the manure bring you \$4 a ton

### Thousands of Successful Farmers Are Doing It

There is no charm or secret about it. You simply spread it with a machine, and thus make it go twice as far, get twice as much good from it on the first crop, do your land more permanent good, and save half the time and labor of handling.

Manure is generally estimated to be worth \$2.00 a ton handled the old way. There is no doubt that it is worth twice as much to the farmer who spreads with a machine.

Three of the most practical and valuable machines manufactured for farm use to-day are the **Corn King, Cloverleaf, and Kemp 20th Century manure spreaders**. They are each made in a number of sizes.

These machines differ somewhat in construction and operation, but all three are right working and of great durability.

They are proven machines. They embody the best mechanical ideas, the materials used in construction are the best for the purpose, they are made as simple as possible, and they handle manure in all

conditions to the perfect satisfaction of users. Proof of all this is to be found in the record each machine has made in the field.

Is it not to your interest to own and use one of these spreaders on your farm?

Figure out for yourself and you must agree that it will be a paying investment, even if you do not have over twenty-five loads of manure to spread in a year.

You can't help but be pleased with the work, the easy handling, the light draft and the substantial making which saves you the annoyance of breakage and repairs.

Call and see these spreaders with the local International agent. He will gladly point out to you the superior features of these machines, as well as supply you with catalog, colored hanger or other information.

If you cannot do this, write nearest branch office for catalog.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah,  
Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

(Incorporated)  
Chicago, U. S. A.

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L.	58
Bean Spray Pump Co.	64
Beckman, Geo. V.	63
Blake, Moffitt & Towne.	63
Bosanko Medicine Co., Dr.	55
Breeders' Directory.	63
Coates Nursery Co., Leonard	58
Croley, George H.	63
Curry, Walter.	63
Cutter Analytical Laboratory.	55
Deming Co., The.	58
Dewey, Strong & Co.	55, 60
Disbrow, F. H.	58
Driver, E. S.	63
Eachus, R. P.	58
El Dorado Oil Works	63
Fancher Creek Nurseries.	59, 60, 63
Ferry & Co., D. M.	59
Folding Sawing Machine Co.	55
Fresno Agricultural Works.	55
Fresno Nursery	59
German Kali Works.	60
Glenn, Estate of H. G.	61
Golden Rule Nursery	58
Gregory & Son, J. J. H.	59
Hart, Ed.	63
Hess & Clark, Dr.	61
Holcombe & Co., R. A.	60
Hopkins, G. H.	58
Howard Cattle Co.	63
Hoyt's Tree Support Co.	64
Hunter, R. J.	58
Jackson & Co., T. W.	60
Lawrence-Williams Co.	55
Lilly Co., Chas. H.	62
Lister, Henry B.	60
Live Stock and Dairy Journal Experimental Farm	59
Ludemann, F.	58
Lynch, John	63
McClanahan, E. E.	—
Meacham, Frank A.	—
Mills, A. A.	59
Minnewawa Vineyard.	58
Morse & Co., C. C.	55
Mountain Copper Co.	60
Myers, Wm. S.	58
National Wood Pipe Co.	61
Oakland Poultry Yards.	63
Orange County Nursery & Land Co.	59
Oregon Nursery Co.	59
Pacific Coast Business College.	57
Pacific Guano & Fertilizer Co.	60
Pear Blight Remedy Co.	64
Pierce Land & Stock Co.	63
Reeves & Co.	4
Rhodes Mfg. Co.	61
Roeding, Geo. C.	63
Scheldecker, A. F.	58
Seeds and Plants	58, 59, 64
Saulberger, J.	59
Shaw, Henry	58
Sharples Separator Co.	60
Silva & Bergholdt Co.	64
Simmons Hardware Co.	61
Smith, Francis	60
Snow, D. A.	58
Stanford Ranch	63
Stewart, W. A.	58
Stowe, C. A.	63
Stratton, W. A. T.	59
Sullivan, W.	63
Sure Hatch Incubator Co.	—
Swett & Son, John	59
Teague, R. M.	59
Temple Pump Co.	—
True, T. J.	58
Trumbull Seed Co.	59
Tuttle's Elixir Co.	58
Van Der Naillen, A.	63
Vermont Farm Machine Co.	54
Wagner, J. B.	58
Walte, Thos.	63
Western Meat Co.	55
Willson, F. C.	58
Wright Brothers	63

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

WRIGHT BROTHERS,  
Riverside, Cal.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination  
Assay, \$25; Blowpipe Assay, \$10. Full Course of  
Assaying. Established in 1864. Send for circular.

## BUFF ORPINGTONS

Largest clean legged bird in the list, lay the year around, and bring a dollar each and more when turned to market. Postal will bring you prices and our show record.

W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
State V. P. Nat. S. C. B. O. Club.

## For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED

Address  
Fancher Creek Nurseries, Fresno, California.



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

**OUR STOCK**

Comprises all profitable commercial sorts of

PEACHES,	CHERRIES,
PLUMS,	ALMONDS
PEARS,	APRICOTS
APPLES,	and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

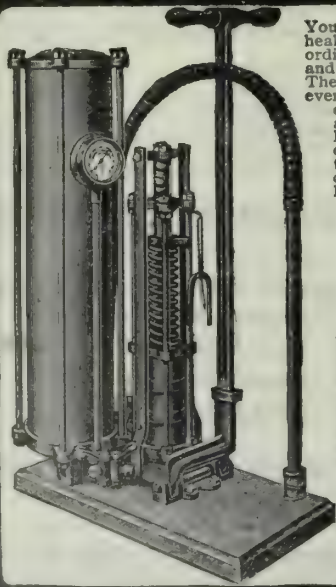
WRITE US

**PLACER NURSERIES**

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.

## MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a **Bean Magic Spray Pump**. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

### Bean Magic Spray Pumps

are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name **BEAN** on a spray pump or appliance is a guarantee that it is the best that money and brains can produce. The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you can not afford to be without a Bean Magic Spray Pump. Write for our special offer, also free illustrated catalog.

**BEAN SPRAY PUMP CO.,**  
100 W. Santa Clara St., San Jose, Cal.

## PEAR-BLIGHT

**We can CURE IT**

Our Work has Extended  
Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR BLIGHT REMEDY COMPANY**

## HOYT'S TREE SUPPORT

PATENTED NOV. 26, 1901.  
PATENTED SEPT. 22, 1903.

### A USEFUL THING IS A JOY FOREVER

The Propless Prop that Properly Props a Tree



Hoyt's Tree Support on the Tree.

Over Three Million Sold Since Introduction in 1903

After your trees have broken down, overloaded with fruit, don't howl about your hard luck. The preventive is **CHEAP, EFFECTIVE, PERMANENT.**

For Full Particulars and Descriptive Booklet write

**MacDONALD & SONS**

WATSONVILLE, CALIFORNIA

General Agents for the HOYT TREE SUPPORT COMPANY.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 5.

SAN FRANCISCO, SATURDAY, FEBRUARY 1, 1908.

Thirty-eighth Year.

## IN TROPICAL MEXICO.

In our reference to Mr. Rickard's 'Journeys of Observation' three weeks ago we alluded to the author's appreciative way with whatever forms of life and action fell beneath his eyes as he journeyed. Of course he was impressed with the plant growth of tropical Mexico and we shall invite him to comment upon it for us in connection with the suggestive pictures on this page which are reduced from the work. Writing of the journey from Vera Cruz to the City of Mexico, Mr. Rickard says:

At thirty miles from Vera Cruz, near Soledad, the foothills are reached and in this well-watered tract the tropical vegetation is luxuriant in the extreme. The ridges of lava that mark the base of Orizaba are absolutely smothered with rich verdure from foot to crest, and in the cañadas or ravines now visible, as the train emerges from successive tunnels, there is a foliage of increasing gorgeousness. Between Camaron and Cordoba the botanical wealth of the tropics is lavishly displayed; nature, stimulated by warmth and moisture, has clothed the earth with splendor. There are the scarlet hibiscus, purple bougainvillea, the lavender plumbago, crimson oleander, pink azaleas, the yellow and red flags of the coleus, even magnificent orchids, with creepers of every shade of green festooning the forest.

Soon the train passes coffee plantations. The wild undergrowth has been cleared, but the larger trees are left in place, so as to give shade to the coffee shrubs (five to six feet high), which are planted between them. The young coffee shrub is delicate and must be protected from the direct rays of the sun for at least two years; maturity is attained in the fourth year. The plants live 25 years and require comparatively

little care—less than sugar, for instance. Speaking of these matters, it may be noted that chocolate is indigenous to Mexico and the word itself comes from the Aztec "chocolatl."

Shade is imperative for the young coffee plant; in many cases it is cultivated under the protection of banana palms. This is the practice also in Ecuador, Peru, and Brazil. It is said that the best coffee in the world comes from the famous Youngar valley, in Brazil, where it is grown in an old cemetery under bananas. The yield is only

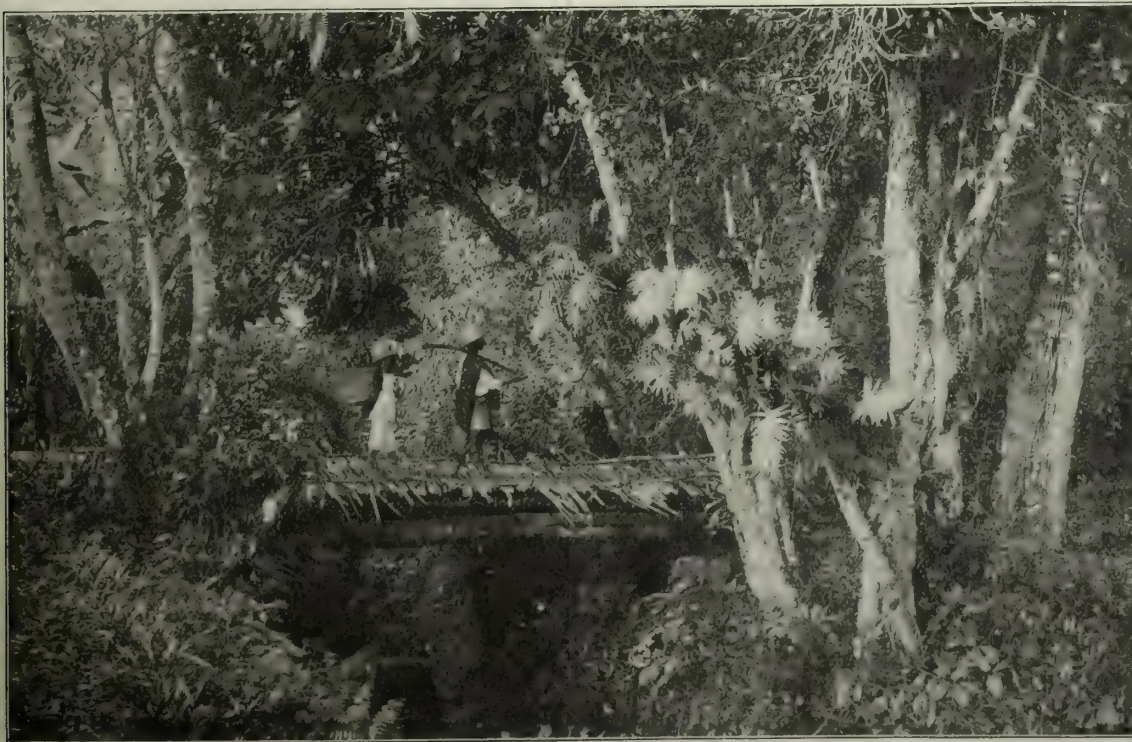
a few quintals per year, but this coffee fetches enormous prices. As a rule the small berries (Caracolillo) are preferred, but the Youngar coffee is of large grain. Owing, however, to rankness of verdure, many of the Mexican plantations looked so overgrown as, by reason also of the trees retained for sheltering the coffee, to seem like the bush primeval.

Soon we saw the yellow gleam of oranges and limes amid dark foliage; picturesque hamlets appeared, with red-tiled roofs and thatched houses, and white-clad peasants. At the railway stations there was always a crowd of fruit-sellers; bunches of roses and magnificent bouquets of gardenias were purchasable for a song. But the panorama of life and color suffered eclipse as the darkness of the tropical night came suddenly, without any intervening twilight.

In the town of Orizaba most travelers have a perfect cup of coffee made from berries grown near the neighboring town of Cordoba. Early breakfast in the patio (courtyard) bowered by bougainvillea, to the music of a fountain, gave the bracing morning air a perfume and a fragrance long to be remembered. Orizaba mountain is visible from the town, but the view is not impressive. On resuming the train journey, we were soon climbing a heavy grade, circling the famous Maltrata valley and ascending 4000 feet more in a distance of 30 miles. One looks down over precipitous slopes of vivid green along narrow gorges that lead to a valley cradled among the onlooking mountains and checkered with squares of cultivation. The little huts and the clusters of trees look like the playthings of a doll's house, infinitely far away and quite detached from the busy life that throbs through the train with every effort of the locomotive.



In a Coffee Plantation at Cordoba.



Tropical Vegetation in the Region of Vera Cruz.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

We have to say sulphur again this week because according to the telegrams, Dr. Wiley of the U. S. Department of Agriculture told a congressional committee that a dip in salt water may be substituted for sulphur vapor and therefore the sulphur issue could be averted by this change in California practice. Dr. Wiley exhibited apples dried after brine-dipping, and they were, according to his idea, of desirable color. In answer to this claim it must be noted that experiments were tried about fifteen years ago and the recourse to brine-dipping was pronounced unsatisfactory for several reasons. While salt does prevent oxidation and discoloration to a certain extent, it does not produce the light shades the trade demands. While it may be strongly claimed that in the case of dried apples a light brown may be better than a pallid white, producers cannot afford to undertake to reform purchasers' tastes. Producers must please purchasers in esthetic points or abandon their production.

Though for apples and possibly for pears, where both are cut in rings or small sections, the salt dip may be found practicable from a producing point of view, the salt dip will not do at all for peaches, nectarines, apricots, nor for apples and pears cut in halves, because the dip in salt water retards subsequent evaporation instead of advancing it, as the sulphur treatment does. The result is that this large-cut fruit becomes very dark by prolonged exposure in drying and is apt to ferment in the center of the large pieces before the juice is made dense enough by loss of water to preclude fermentation. In this way the proposed salt-water dip either perverts or prevents the characteristic California methods of curing fruits in large pieces to preserve as far as possible the natural form.

Again, a liquid dip is objectionable because of its tendency to become abominably dirty by frequent use, for it concentrates dust and other impurities as it is progressively used, and becomes soon a method of befouling freshly cut fruit surfaces, instead of a cleansing agency. The suggestion that this could be avoided by constantly renewing the dip with fresh salt and water should be considered in connection with the cost of providing a large water supply in connection with drying grounds, which cover acres of land even in the case of individual producers, and the cost of handling the fruit through a water-dipping process. For these reasons, in addition to the fact that the brine-dip does not produce the results desired, the recourse to water-dipping is impracticable.

If it should be urged that a liquid dip is now largely used for prunes, and capacious machinery has been devised to render it practical and economical, the reply would be that prunes are treated as a whole-fruit, and the pulp is protected by an unbroken skin. For this reason the pulp is not affected by a dip as freshly cut peaches, apricots, etc., are. No analogy can be drawn between the

handling of fruits which are cured in natural form and those which are cut into sections.

We called the other day at the office of Deputy Horticultural Commissioner Edward M. Ehrhorn in the Ferry building and were greatly interested in the bad things he had in alcohol representing various pests which had been stopped at the threshold of California by the horticultural quarantine service. It is a very interesting and instructive exhibit for anyone. According to a report which Mr. Ehrhorn recently made to State Horticultural Commissioner Jeffrey, there was a much larger amount of diseased fruit, vegetables, and trees received at San Francisco during 1907 than in 1906, officers of the commission having to destroy 15½ per cent of the shipments last year, as against only 2 per cent the year previous. This, says Mr. Ehrhorn, was due to the finding of a new pest in the apple shipments from the Puget Sound country, a new disease in onions, and the condemnation of all Japanese oranges infested with *cladosporium citri*—a fungus which causes ugly blemishes on the skin. One shipment of 6005 boxes of apples from Bellingham, Wash., was shipped back, and in one instance 2424 boxes of Japanese oranges were carried out to sea and dumped. A number of other shipments had to be destroyed for one cause or another. The report shows that during 1907 there were received at San Francisco from 250 steamers 61,642 boxes, crates, packages, etc., of fruit and vegetables and 616 of trees and plants; 3458 cases, crates and boxes came by rail, and 1180 loose lots were examined. Of the total number 10,329 were destroyed.

The Hood River apple growers are certainly among the most energetic and wide awake of the Pacific Coast, if indeed they do not actually lead therein. They are pushing their Oregon apples into the most distant markets. A Hood River grower passed through San Francisco the other day on his way to Shanghai and Hongkong to complete the sale of between 10,000 and 20,000 boxes of Hood River apples, the first to go to the Orient. In Oregon as in California, some of the most aggressive work is being done by professional and business men who had no previous experience on a farm until they took up large-scale commercial fruit-growing.

The second "dry-farming congress" was duly held in Salt Lake last week, and if some of the transactions thereof, as they come in our exchanges, seem to have edification for California dry farmers, we shall haste to set them forth. Dry farming is, however, an old California way, and was discovered at the moment that American homemakers in the State determined that the old Spanish system as practiced at the missions was not the only way to grow things in this State. The question in California is not one of a "novelty" in dry-farming, as some of our own people are disposed to look upon it, but simply whether any of the new methods of dry-farming are in any respect better than the way we know. They may be better than we do in most cases, because we do not begin to do as well as we know, and there may be a spur or incitement in what is being done elsewhere in the old line. From this point of view it is interesting to note that the Salt Lake Congress opened with 282 delegates in attendance, and closed with nearly 600. It created a permanent salaried secretaryship, inaugurated a system of annual dues and life memberships, and established a bureau of information which will instruct the membership in all discoveries and develop-

ments in the science of arid land culture. The next annual meeting will be in Cheyenne, Wyoming. The Salt Lake meeting was very moderate in its requests for legislation. A law increasing the acreage of homesteads in the arid region from 160 to 320 acres; the establishment of more experimental farms in the States, and the boring of experimental wells at State expense, are the principal boons asked from the lawmakers. The congress refused to be drawn into the warfare that has arisen over the forestry policy of the Government, although an attempt was made to bring the matter up for debate. These are the matters mentioned in the telegraphic reports which have been received. We hope fuller advices will give us more about how to make profitable crops with minimum rainfall, for without that all machinery of organization will be an empty show.

We rejoice in everything which gives opportunity to set forth the point of view of the West. Not that we believe that the West is infallible, or its contentions unimpeachable; far from it. But it is necessary, not alone for the West, but for the unification of the whole country, that the Western point of view should be recognized and appreciated for what it is worth. For this reason we hear with interest of the progress of an organization known as the Rocky Mountain Club of New York, an organization of Western men in the East, which started a year ago with seven members and now has 386. The object of the club is to promote good fellowship among Western men in the East, and to furthering the interests of Western States in the East. The club will not only maintain a social headquarters, but will cooperate with all the commercial organizations in the Western States, and will assist them in furthering the interests of the respective Western communities. It is expected that within another year the membership will reach 700, and that the club in five years will become one of the leading organizations of New York. If the great plateau region can do so well, the Pacific Coast ought to make itself known in the metropolis in a similarly broad way. We believe California is already organized there, chiefly on the social side.

## Queries and Replies.

### Walnut Grafting Again.

To the Editor: I am desirous of knowing the best manner of grafting the English walnut on the common black, when to do it, and the height at which trees from six to twelve inches in diameter may be cut. In about what time after grafting may trees of above sizes be expected to begin bearing?—Reader, Stockton.

With such large trees we should graft in the branches above the forks, unless they are altogether too high from the ground. We have seen trees grafted in the branches at a height of ten or twelve feet from the ground, producing satisfactory results. The trouble with cutting off large trunks is that it is practically impossible to keep the old wood from decaying between the grafts, and although the growth may be satisfactory, the trunk is liable to decay and the branches to be blown off by the wind. Working in smaller branches above the forks obviates this danger.

The speed with which grafts on old stocks will come into bearing will depend something upon the rate of growth. Exceedingly vigorous wood-growth postpones bearing. In the third year you might, however, expect to have fruit—possibly even in the second. In grafting walnuts you can use some form of side graft very successfully, or a split graft on one side of the pith, being careful



to wax thoroughly to prevent entrance of moisture. Such grafting can be done just before the growth starts, or even later.

#### Not Very Good Hay Crops.

To the Editor: I write for information regarding "Hairy Vetch" and "March Rape." Please tell me the time to plant these? We want something that will yield heavily and something from which we can make hay. We have deep red soil and some water for irrigation. Is it necessary to irrigate "Hairy Vetch" or "March Rape"?—Beginner, Tuolumne county.

Neither hairy vetch nor March rape would probably give you any satisfaction as a hay crop. Barley or oats must probably be your main reliance for hay, unless you can grow alfalfa or red clover with irrigation. The vetch and rape give green pasturage during the winter season, and for this reason are very desirable in places where the temperature does not fall too low for them to grow well. The "sand," or winter vetch is perhaps as good as the hairy vetch, and is being quite successfully grown in Shasta county and elsewhere.

You will have to do a little experimenting with all these new plants to see whether they are really of any value in your location. One cannot judge by the published descriptions, which may be true enough in the places from which they emanate. You can learn a good deal by observation of the operations of your neighbors, both what to do and what not to do, and will also be profited by such experience as they may describe to you—observing ordinary rules for the judgment of evidence, etc.

#### A Bitter Squash.

To the Editor: Under separate cover I am sending you a "cooked squash" which is peculiar in the fact that it is so bitter that one who tasted it thought she was poisoned. We went through all the other squashes and found them sweet, and I thought that possibly there was some peculiar condition which it would be beneficial to know. I have never noticed this in squash before. Can you explain it?—Reader, Oakland.

The bitterness which one is apt to encounter in single specimens of vegetables of different kinds, particularly those of the squash and melon family, is believed to be due to some hardship in growing conditions which prevents the proper development of the plant. Exceptional bitterness often results in cucumbers, cantaloupes, etc., from insufficient water supply, and so one plant may produce a bitter product while perhaps others in the same field may produce normal and desirable products. Sometimes a similar effect is produced by other agencies which prevent the satisfactory growth of the plant. It is not surprising then to find that one out of many fruits may be quite different from the rest and show this bitter flavor. This conclusion would do for general purposes. Of course, such bitterness, if ill-results should be experienced from the eating, or there were other circumstances to indicate that poison might have been applied for some reason, would suggest careful chemical examination and pursuit of such poison; but we apprehend that in your case no such conditions arise.

#### Shavings in Manure Again.

To the Editor: I would like to ask for information. I have hauled some manure on my orchard, and it was mixed with some pine shavings which had been used for bedding. I would like to know if pine shavings injure or do any harm to the land.—Farmer, Kingsburg.

You need not expect any poisonous effect from a moderate amount of pine shavings upon the

roots of trees, but you will have to be careful about introducing too much of this material, because it does not decay readily and its presence will make the soil so light and loose that it will dry out too rapidly. If you are working on a sandy loam this effect is quite likely to occur; if, on the other hand, you have a heavy loam, or clay soil, the introduction of a certain amount of fine shavings will not be objectionable.

#### A Little Too Apprehensive.

To the Editor: I am sending you by this mail three cuttings from a Satsuma plum tree. From U. S. Bulletin No. 17 on peach yellows, I think they were badly attacked by the rosette last summer. I have dug out and burned most of them, but have three of the best ones that I would like to save if I can. Was told a while ago that I might save them by cutting back and cutting off the worst buds and touching the spots where cut off with crude carbolic acid. I have partly done so with one, and find I can not cut back much without cutting off all the new growth that have good buds. On these three most of the limbs have made a satisfactory growth of new wood the past summer. One of the cuttings shows the old growth that is attacked and the largest of the new growth. I have adjoining about forty fine peach trees that are in bearing. Don't think they were ever sprayed until now. Last summer the leaf curl attacked a couple of them, and I sent leaf to you and found out what it was, and in a week or two it was over, as you said it would be. I will spray again for curl about middle of February. Would you advise me to give them any other sprayings during the summer if nothing attacks them and they seem to do all right. I am afraid the peach will next be attacked by the rosette, and want to do everything possible to prevent it. Had rather loose all my other trees than the peach, for canned peaches from our own trees are half of our living this winter.—Amateur, Los Angeles.

You must not be angry if we respectfully state that you are very much in the position, with reference to horticultural troubles, that the ordinary person is with reference to physical disabilities after he has been indulging in copious reading of doctor books. You are recognizing things that you do not have. We never had any reason to think that the "rosette" was in California at all, and if it were here we should not expect to have it attack the plum tree. It is probable that some unfavorable soil or moisture condition, or possibly too high temperature for a stone fruit, induced the bunched growth of leaves which you describe.

The Satsuma plum is one of the freest bearing and most satisfactory for southern California, and we should certainly give the trees another year's trial, with good cultivation and as much water as might be needed if you find the soil becoming very dry. At the same time, guard against too much water, which will certainly bring the tree into distress. You will keep your peach trees healthy with the use of the Bordeaux mixture, and if the foliage is good do not do any summer spraying at all.

#### Grafting Over Prunes.

To the Editor: We have an orchard of about twenty acres of almonds grafted to prunes. The almonds did not bear well. The trees were thrifty and the grafts took well, with unions so complete that a novice would not notice the fact of graft. The prunes are not satisfactory. The trees are vigorous. The almond trees were cut down low when grafted, and roots are about thirteen years old. We want to either graft to peaches or set out peaches between the rows of trees. Which is the better? Would you graft into the prune wood or cut below the old union? Will the union be good on prune wood? For drying would you commend Lovell or Early Muir or Late Muir?—Grower, Kern county.

We would certainly put peach grafts into the

prune branches above the forks, so as to get the advantage of all the strength there is in the frame work of the tree as it now stands. To go below this and put grafts into the old almond trunk will give a growth exceedingly difficult to keep in shape, and likely to blow out or bend out with the weight of the top growth. The peach is sometimes not successful on the prune, but we should expect a good growth under the conditions you describe.

For drying we would put in all the varieties you mention, so as not to have all the fruit ripening at the same time.

#### Too Late to Start With Burr Clover.

To the Editor: Would it be too late to plant in an orchard a crop of burr clover now, and plow it under late in the spring?—Subscriber, Sacramento.

It is now too late to sow burr clover to advantage. It should have been sown two or three months ago. You could not now get enough growth before the early plowing under, which must be done in order to get the land into good condition for summer cultivation, to make it worth while. The best thing to do would be to plow under such of the volunteer growth as you can, and try the burr clover experiment next fall.

#### Muir Seedlings Are Still Seedlings.

To the Editor: I have purchased a lot of peach trees grown from Muir pits, which have been neither budded nor grafted. The parties who sold them to me tell me they will produce Muir peaches true to name.—I wish you would tell me if such is the case, or must they be budded or grafted to insure the fruit grown on them to be Muir peaches true to name.—Reader, Kings county.

The Muir peach comes quite true from seed, much more so than other peaches, but still you are likely to encounter so much variation that you could not call them Muirs. The only way to get a Muir true to name is to bud, as in the case of other peaches.

#### On Deck or Below?

To the Editor: I wish to treat my lemon and orange trees with about two pounds per tree of sulphate of potash, and I would like you to tell me whether or not it is intended to be used as a top dressing, like nitrate of soda, or to be plowed in deep? My trees are now fifteen years old.—Orchardist, Sanger.

Although sulphate of potash is quite soluble and could be used on the surface like nitrate of soda, it is not so likely to go off in the drainage water as the nitrate of soda is, and it would be perfectly proper to plow it in for trees as old and having as wide-spreading roots as yours should have.

#### The Bottle Tree.

To the Editor: Will you be kind enough to give me the botanical name of the bottle tree, not the bottle bush (*Metroedrus*), but the shade tree called Bottle-tree. We have a few in this locality, and they make a very nice street tree.—Villager, Porterville.

The bottle tree is *Brochychiton rupestris*, an Australian tree, which is proving very desirable in this State.

#### Non-Suckering Elm.

To the Editor: I would like to plant a few elm trees in my bluegrass lawn, and would like to know if there is a variety that does not send out rootlets which interfere with the growing of the grass as some varieties of the elms do, in fact, ruin a nice lawn.—A Subscriber, Modesto.

Our observation is that the cork bark elm is the worst offender, and that the American or Eastern elm behaves itself in this regard.



## The Dairy.

### SOME RELATIONS OF THE DAIRY INDUSTRY IN CALIFORNIA.

Accepting your kind invitation to address your convention, I desire first of all to tender sincere thanks to the California Creamery Operators for their earnest and persistent support of the measures which have secured for the Agricultural Department of the University of California the possession of this grand farm as an addition to its equipment for instruction in policies and practices which minister most directly and surely to success in the rural industries of California. As the law prescribes, the University Farm will advance in equipment until it is "producing the general crops of the State and as many as may be of all the crops and products successfully grown in California."

In the various branches special instructors will be provided who will be expert in knowledge and apt to teach. Professor E. W. Major and Mr. E. H. Hagemann are now at work on equipment in dairy lines and Dr. Leroy Anderson will soon return to the service of the University after his most successful and creditable work in building up the California Polytechnic School at San Luis Obispo. These men, and others who will assist them, will carry the special instruction in various phases of dairy production, and in due time announcement will be made of the details of the undertaking. It is timely for me, perhaps, to present a few general considerations in favor of dairy promotion, and to claim that dairy advancement rests largely upon special efforts in research and instruction, which it is the duty of the University to put forth. My subject, then, will be "Some of the Relations of the Dairy Industry in California."

**Relation of the Dairy to State Development.**—The annual output of products of an estimated value of twenty-two millions of dollars constitutes the dairy industry, one of the leading agricultural interests of California. The fruit products are thrice as great, and the grain crops have, in years good in price and yield, been twice as great; but fruits and grains have attained their pre-eminence along avenues of export. Our dairy products are almost wholly consumed within our own State lines, and though expansion through export seems attainable, it has thus far been realized only in a very small degree. It is fair to claim that what has thus far been accomplished in the development of dairy husbandry in California is but a promise of future greatness, and that present opportunity is vastly greater than achievement. This fact has been clearly perceived for several years, and commendable effort has been continually put forth by dairy proprietors and their skilled employees to lift their work to the exactness of practice and uniform excellence of products which are attained by faithful adherence to modern dairy principles and methods. Without such advancement the industry can only remain provincial and must suffer within its own territory by competition with high-class dairy products brought from other regions, many of which are less favored naturally. So long as we are buying butter, cheese, and pork products by the million dollars worth from the producers of other States, it is of very great advantage to the State to promote dairying upon the lines of the best methods and the highest quality of products, because it will cancel the great tribute we are paying to other States for what we can produce ourselves, and because it will enable our people to easily pay taxes upon an increased home valuation instead of really paying taxes here upon the increased valuation in other States, as they are now doing.

**Relation of Dairying to Land Values.**—I have spoken of the increased assessed valuation of California through the extension of the dairy interest as desirable and of the taxes as easy to pay. This is true because the dairy if properly conducted will make productive and profitable much land which is now almost a burden to the owners. Our grain lands are coming close to the line of actual loss because of the reduced product per acre. With our cheaper methods of seeding and harvesting, grain growing would still be profitable

if larger crops could be had. The dairy will render profitable much land which is not well adapted to other agricultural specialties. Fruit trees and vines have been planted on thousands of acres upon which they will never yield profit. The sooner these lands are turned over to some proper line of animal industry, the better it will be for the owners and for the State. These lands are of several kinds, and they are found all over the State. There are dry lands which produce small fruit and stunted trees which, if properly handled, will yield rich winter pasturage; there are low lands which are too frosty for fruits, or too wet in winter for the health of the trees, which need only good farming to secure immense yields of summer pasturage or silo crops. There are also large areas of lands capable of reclamation, upon which large herds of dairy stock could be very profitably maintained. All these directions of making scantily profitable lands yield satisfactory income constitute the dairy of distinct and important value to the State.

**Relation of the Dairy to Soil Fertility.**—A dairy by-product which is seldom figured is the manure. Careful experimentation has shown that the excreta of a dairy cow are worth about 8 cents per day, computed at the standard valuation of the plant-food substances which they contain. This for a year would be \$29.20 per cow, and for the 405,616 milch cows which the Department of Agriculture credits to California in January, 1907, the total value would be \$11,843,987. The worth of manure is conditioned upon the character and amount of the food supplied to the animal and the current estimates of value may be based upon higher feeding than California dairymen practice. Suppose then we discount the above total one-third, we would still have about \$8,000,000 as the value of manure as a by-product of California dairying. This by-product is not sold. If the dairying is properly done, every possible part of it is restored to the soil, not only maintaining but increasing its fertility. The dairy is, in fact, not only restorative, but productive of new plant food in the soil. If then it is claimed that the value of the manure should not be counted, because it is not sold but is restored to the land and used in subsequent production of dairy products, the answer is that the dairy must be credited with this value because it is doing what other leading agricultural industries do not do. Our fruit industries make no adequate return for what they take from the soil, and fruit growers are each year paying a larger part of their gross receipts for commercial fertilizers. Our hay and grain and other field crops are robbing the soil until its poverty is becoming conspicuous, and still very few growers can command knowledge and courage enough to be generous with the soil. The dairy, if at all properly conducted, is a great conservator, and returns to the State continually more than it takes. On this ground alone the dairy industry is of great value to the State, and its improvement and extension are matters of the clearest public benefit.

**Relation of the Dairy to Mixed Farming.**—Another element of value in the dairy lies in the fact that the cow is the cornerstone in successful mixed farming. It is becoming more manifest each year that there is greater safety and prosperity in developing in each region, and in many cases on each farm as well, certain related lines of production to which the conditions are suited. The dairy is a leading factor in diversification, because it is capable of intensive culture and it returns a high-priced product upon which much labor and investment can be profitably bestowed. Not only is this of great help in making single farms profitable and their owners prosperous, but it distributes its benefits all through communities, it gives regular employment to thousands, it stimulates local trade and builds up towns and villages and assists in the development and progress of all good enterprises.

Proper rotation of cropping and pasturage will restore the grain yield to better figures and it will bring into our pockets the millions in value of plant food which our purchase of dairy products leaves to enrich distant supply regions. Wherever dairying has been properly introduced into the grain districts of the State there is to be found abundant testimony to the truth of this claim. Dairy extension will increase our grain product and make it profitable.

### Relation of the Dairy to the Labor Supply.

Although the unsatisfactory labor supply is at present one of the greatest drawbacks to dairy production, the extension of dairying at present prices, which bid fair to be indefinitely maintained, will actually increase the local labor supply because of the attraction which it offers for profitable regular employment. In fact the dairy industry has a clear corrective influence upon what are considered some of the evils in the labor situation in this State. Our present possession of dairy cows employs upward of 20,000 people, and they are continually employed and comfortably housed. In the dairy connected with other crops the hands can give part of their time to other work, as required, and thus the dairy is the key to continuous employment of nearly all farm labor, except in harvest rushes, and will point the way to the better general condition of our farm laborers which is so earnestly desired by all. Thus the dairy becomes a valuable reform agency, ministering not only to the prosperity and comfort, but to the moral welfare of our laboring population.

**Relation of the Dairy to California Agricultural Science.**—Dairy progress is one of the most striking and significant demonstrations of the value of applied science along agricultural lines, and is perhaps the most widely recognized of all the triumphs of agricultural college and agricultural experiment station work. In California there are conditions which suggest opportunities for the enlistment of trained young men and women in the upbuilding of a new dairy interest which shall vastly surpass anything thus far attained in this State.

One thing which is particularly interesting in the dairy industry of California is the great variety of conditions to which local practice must be intelligently adapted. Though there are, of course, lines of policy and practice which are everywhere alike, there are others which are, or should be, strikingly different, and therein lies the opportunity for insight, research, and great aptness in selection of materials and modification of methods. This is true in all departments of dairy work, from the selection of forage plants and the care of stock all the way through the dairy curriculum to the manufacture and care of the product.

There is no such variation on the Atlantic slope as can be found in California, but there is something analogous in Europe, if one includes in this view the dairying of the Alpine valleys, of the moist dyked lands of Holland, of the heated irrigated plains of Italy, and of the coast lands of Normandy with their perennial pastures born of equable temperature, abundant rains and fogs. Close resemblances to all these various conditions can be found within the boundaries of California, and how to secure for each of them suitable forage plants and most productive cattle and types of product which shall best present their distinctive adaptations acceptably to the consumer, is a question of much complexity.

Shall California compare her conditions with those in distant regions which they seem to resemble, and try to borrow wisdom from the results of centuries of old-world experience? That is the method which was tried at first with our fruit products. The utmost effort was made to learn exactly the ways by which the French made prunes. Now California is producing one hundred and thirty-five million pounds of prunes a year in ways the French never thought of, and is exporting a surplus to Europe—even selling some of them in France. The utmost effort was made twenty-five years ago to ascertain just how irrigation was done in Italy, in Algiers, and in India. Now commissioners come from all arid countries to study the California methods of irrigation. There is full reason to think that our dairy development will also proceed along original lines, and it rests with the rising generation of technically educated men and women to master the situation and to invent the methods of advancement which are likely to be characteristically Californian.

**Relation of the Dairy to Special Lines of Research.**—But though this element of originality will mark the methods which are finally adopted as best suiting our conditions, their attainment will be promoted by the same attitude of mind and the same diligence in research and experiment which prevail in all advanced dairy circles. These powers of the trained dairy student have



rich opportunities for achievement in this State, some of which may be suggested:

Which ones of the many dairy breeds will best befit the various regions of California? Many have been brought here, their influence upon the common dairy stock of the State has been good, and we have, as a rule, very creditable grade cattle for dairy purposes. But here, as elsewhere, dairy profits are reduced by feeding cows which do not pay their way. It is also undetermined that the good ones are as good as they may be, or as well suited to the distinctive conditions of the different regions. Experiment and close observation are needed in all parts of the State to lift cow-power to the highest attainable point.

Which are the forage plants which under the influence of local climates and local soils will enable the best cows to reach their fullest production? Ever since the first years of the American occupation alfalfa has been grown in California, and yet its area has increased more in the last five years than in all the preceding forty. We are, perhaps, doing more with alfalfa than any other State or country in the world, and yet we have hardly learned the vast value of the plant and the best ways to use it in feeding practices. Alfalfa probably still contains more potential wealth for the State than any other single member of the plant creation. A priest and prophet of alfalfa has not yet appeared above the common level of mankind. And yet alfalfa has serious limitations and is not adapted to great districts of the State. Other plants must be sought. For twenty years the College of Agriculture of the University of California has been introducing forage plants from all parts of the world to determine by experiment which would thrive under trying conditions in this State, and some notable results have been attained, but the opportunity for enriching the pastures of California and multiplying their production in livestock and dairy lines still remains for devoted effort and close observation.

What foods can be best locally grown or manufactured to profitably supplement pasturage? This is an almost unexplored field of investigation so far as the general dairy practitioner is concerned. Too many are keeping but one cow to four or five acres of land, which should support twice as many if more intelligently administered. This is in part involved in the pasturage, which has already been mentioned, but, beyond that, the production and conservation of supplementary food remains as a wide field for improvement. There is seldom reason why a cow should go a day without succulent food if her owner has the knowledge and the energy to provide it. There is no reason why she should pass a third, or a quarter, of the year in idleness while her inhuman owner robs himself by half-starving her because she is yielding nothing.

There are several hundred silos in the State which conserve succulent forage, as the jar preserves table fruit, and keep the cow up to her fullest production and in the jolliest comfort, though the pastures be bare as the roadway. There should be a hundred times as many, and there will be as soon as their value and plain practicability are better understood. The science of suitable and adequate feeding affords an almost limitless opportunity for advanced research, thought and practice.

Although California has, deservedly, a good reputation for excellence in the butter product, and for such high average quality that "cooking butter" is always scarce, there is still opportunity for improvement. Though we have exceptional advantages in attaining high quality, because of the dryness of the air while the temperature is high measurably prevents unsound fermentation in the milk, it is still true that much of our butter is below the high standard which modern commercial dairying prescribes. We need better conception of quality, better knowledge of how to attain it, and a wider use of the agencies recently devised to secure the largest amount of the best product at the least cost. Here are manufacturing problems than which the whole list of agricultural arts presents none which make such sharp requirements upon the talent and training of the operator. He has to deal with a most perishable material, full of unstable compounds, absorptive of all atmospheric ills, endangered by slight changes of temperature and com-

mercially ruined by any lapse of perception or judgment upon his part, and is required to baffle all adverse conditions and agencies until he has at length imprisoned others light as the fragrance of a flower in a golden solid, pure and permanent and permanent because pure. Our grandmothers did this empirically sometimes, by the roll or firkin: our butter-makers of today must do it day by day, and by the earload. It can only be accomplished by the acutest perceptions ministering to true conceptions of ends to be sought, and attended by the fullest knowledge of the nature of the materials and the efficacy of all agencies employed. To know this problem is to become an advocate of dairy education. It is the only power which can help the industry.

**The Duty of the State to Dairy Improvement.**—The demonstration of great value to the State in the dairy industry places a clear obligation upon the State. Dairy success today is only attainable by the most complete understanding of materials and methods and the most effective protection against impurity, sophistication and fraud. These results can only be accomplished by the most patient investigation in the search for new truth and the most effective instruction of all concerned, so that all work shall be done in the full light of the latest knowledge. The State should make a liberal provision for dairy statistics, and the enforcement of the laws for dairy sanitation and bovine health, upon which dairy progress is clearly seen to rest, and for which other States have used public money freely, with the most significant results and most enthusiastic popular approval. The value which the dairy industry now presents to the State is but a fraction of what it will present in the future, and the resulting benefits will be widely distributed. Dairy ownership, dairy labor, and dairy commerce will all be enabled to contribute more largely to the prosperity and stability of the State, according to the degree in which State aid is generously given and wisely expended in the interest of local dairy development and progress.

#### Doings of a Bunch of Holsteins.

Mr. L. A. Hall of Modesto gives the Dairy Review a report of one year's work of five cows in his Cream Cup herd:

Name of Cow.	Age.	Lbs. Milk.	Av. Test.
Pietertje Bloom	3 yrs.	12,937	3.0 pct.
Petra	3 yrs.	10,362	3.6 pct.
Teake Lyons	5 yrs.	16,495	3.1 pct.
Salambo	3 yrs.	13,184	3.7 pct.
Avon Dare Cloverdale	4 yrs.	13,095	3.6 pct.
Total pounds of milk, 66,075. Average test, 3.40 per cent. Total pounds of butter fat, 2,010.68. Average price per pound, 31 cents.			
Value of butter fat			\$ 623.31
Value of skim milk			200.00
Six calves at \$35			210.00

Total .....\$1033.31  
Cost of feed ..... 325.00

Profit .....\$ 708.31

All of these cows are thoroughbred Holstein-Friesians. I started in with ten head, but sold five of them before they finished the year. I have bought six more to take their places, so in the coming year I will be able to give The Pacific Dairy Review a record of the eleven head.

These cows were fed alfalfa hay, ground barley, and bran the year round, with the exception of three months. They also had some pasture. Some may think I value my skim milk rather high, but I would not sell it for that price, as it is worth more to feed pure bred calves and hogs. The reason for the six calves is that one cow had twins. The cows milked twice a day and every milking weighed and recorded. I did not figure the work myself.

In commenting upon the foregoing, the Dairy Review says: "In the records of the State Dairy Bureau is evidence of the fact that there are in the State the average dairyman has cows that it requires just four to do the work of one of the kind that Mr. Hall reports upon. His cows gave him a gross annual income of \$200 a year. The State Dairy Board found the gross average income of 28,000 cows, many of whose milk realized the high prices secured for milk for city supply, to be \$54. Some one may say that Mr. Hill places too high a valuation on the calves of his cows

which is \$35, but is this too high a valuation for calves from cows producing over 400 pounds of butter fat in a year? The probabilities are that he will sell the males before they are a year old at twice or three times the amount. The valuation of about 30 cents a hundred on skim milk may also seem high, but it is not when you have good, high-class calves, poultry and hogs to feed it to, and when you know how to feed it."

## The Poultry Yard.

### VARIETY IN FEEDING ESSENTIAL.

Mr. Walter Sullivan of Agnews, the well known breeder of Buff Orpingtons, has prepared for the Town and Country Journal an interesting outline of his conclusions about poultry feeding, from which we take the following:

We are all helped by the experience of others and from among the various methods tried fully by others we can find a system for our own needs that will insure the results we seek. Many times we believe one way or another of feeding is condemned by one who tries for the reason he fails to carry out the plan far enough to be sure it is not adapted to his needs; that is, feeds this way a short time, switches to another method before the flock becomes accustomed to the change, and again upsets the birds, which is as bad or worse perhaps than changing from one pen to another every few days, which is, we know, a sure method of decreasing egg production.

**Changes in Feeding.**—These changes in manner of feeding, if it is thought desirable to have a plan altogether different from what has been followed, are usually best brought about by gradual change, increasing the allowance in one direction perhaps and withholding in another until the full ration of the new plan is being put out, often taking two weeks or more for the change, by which time the fowls are being differently fed without being aware of it themselves or showing any change in the egg basket. Again, what seems perfectly satisfactory at one season will not give the same results another, and when such seems to be the case, perhaps with many, it is the too sudden change in system or entire change to different mixture if fed in same manner that keeps the flock in an unsettled condition, giving the owner the impression that neither method has been right, and another is tried, with the final conclusion that the fault lies with the breed or variety, they being less of layers than was expected from statements made when the flock was started.

The writer has tried many methods of feeding, and still tries some advocated by friends and acquaintances, others of his own at times, to find what will answer best from time to time with changes of the seasons, and this would be of little if any help without giving some of his experiences along this line. The dry mash feed is gaining many friends; some I know who have fed this way altogether for three years find it most satisfactory, and the flock—a large one—shows that there is little to be asked for in general appearance, and the statement of the owner that egg yield is satisfactory leaves little room for doubt as to this being the right way for him at least.

**Dry Mash.**—Dry mash composed of four parts bran, three parts middlings, one and one-half parts corn meal, one-half part willow charcoal, one part alfalfa meal, and one-sixth to one-seventh part meat meal—the latter according to amount of animal food to be obtained on range, and seeming needs of the birds at moulting time—is the mixture used by one. This is placed in self-feeding boxes, grain fed at evening all they will clean up just before roost time. Another is about the same, with barley meal substituted for corn meal. Young and tender grass just starting where fowls can have all they want would allow the withdrawal of the ground alfalfa from the mash, and the writer has tried wetting of this alfalfa and feeding in troughs separately, allowing the hens to have such as they wished without compelling them to take a certain amount, and where green food is scarce they eat this readily and appreciate it. Prices of grains at times will necessitate some study for best combination that



will lessen cost. Kaffir corn, while about the same as common wheat, is slightly more fattening, and to overcome this one naturally would feed more meat and be sure of sufficient green food to counteract the effects of a too concentrated diet; overfeeding of meat will cause bowel trouble and other disorders.

Anything that lessens labor increases profits, and we find in the dry feeding of mashers a saving in this; large boxes need filling seldom and where under cover contents are safe for two weeks before any danger of becoming unfit for use, and the mash is fed at one time for the fourteen days, that would mean fourteen trips, and put out in about one-seventh of the time. Moist mashers seem to be the right thing in many cases; one flock near the writer, of upward of 1200 layers, has never been fed differently. With the grain fed in the morning gives good returns, and the man handling them shows returns of over \$1000 per year for his work with them.

**More Meat.**—It is desirable at times to feed more heavily of meat than at others in case of hens, perhaps just before turning to market, as they are at the last of their profitable laying and one wishes to get all there is in them in a short time then perhaps, and probably it is more profitable to feed the mash moist as when given in this form it is one of the full feeds and they are compelled to take a given amount of whatever the mash is composed of. Other plans have been bran, middlings and meat meal alone in hoppers, and grain fed by hand perhaps three times daily where birds were more closely confined, the feeding of three times a day in litter giving the needed exercise, with the meat at hand tempered with bran and midds, to prevent over-indulgence.

As an experiment, there are now something like fifty chicks about seven weeks old, started on dry feed, and these will be fed nothing but dry food until matured. Later we shall have a full report of our success with our plan for this method of rearing.

## The Field.

### Grasses on Trial in Imperial Valley.

The El Centro Press, Imperial county, states that forage plants that thrive in wet and overflowed land are useful to stock raisers below the Mexican line and in some parts of Imperial Valley. Investigations by the Department of Agriculture have resulted in the discovery of several varieties of grass adapted to wet ground, among them a South American plant called Para grass, which endures flooding, grows continuously, yields large crops of hay and is as nutritious as timothy. Para grass has been introduced in southern Texas and Mexico, to the great benefit of stock growers. It grows in favorable ground an inch a day, and yields more than ten tons of cured hay to the acre.

Mr. Horace Metcalf, who has taken great interest in the matter, recently brought 10,000 cuttings of Para grass from Texas and planted them on overflowed lands of the C. M. ranch along the Hardy Colorado. While selecting localities suitable for the plants, Mr. Metcalf found several patches of Paspalum, another grass adapted to the same conditions, which has proved successful in Australia and some parts of Oregon. Whether Paspalum was introduced in the Colorado delta by early colonists, as there is some reason to believe, or was distributed accidentally by the river, is an open question, but the fact that it occurs in small patches along New river indicates that its introduction was not of very recent date.

Paspalum sends runners along the ground, and from each joint spring blades of grass. It thrives in wet ground, and is not injured by being submerged for two or three months at a time. The runners often climb small trees, and along the Hardy it is common to find great masses of cured hay hanging amid the branches of mesquites and cottonwoods. Paspalum makes a heavy growth of succulent grass, and produces fine hay. It does not propagate from seed, but spreads by the carriage of joints in flowing water and their deposit at subsidence of the flood.

## The Vineyard.

### Those Lathrop Zinfandels.

To the Editor: In your issue of January 11th, a grape grower of Lathrop tells of Zinfandel grapes grafted on Rupestris St. George which do not set fruit properly on his best ground (heavy sandy loam); the vines being four years from the graft.

The gentleman can confer a favor by giving further data on this subject. First. How do such vines behave in other parts of that vineyard, and what is the soil and elevation in those other parts? Have others in that neighborhood Zinfandel vines on that stock, and, if so, are they generally a success, or are they a success only on certain soils? How about Zinfandel on other stocks?

The question of what resistant stock is best for the Zinfandel is an important one for this locality, where the Zinfandel has long been a favorite on its own roots. So far as the Rupestris St. George has been used for the Zinfandel here it has generally given good results, but the trials have been on a limited scale, and for a few years only. The soil is generally of but moderate depth, say a foot to eighteen inches, and of variable texture, from clay to gravelly, and underlaid by clay in some places, and by hardpan in others.

Is it possible that the vines complained of at Lathrop are supplied with sap by their stocks too freely? They remind us of a certain lot of Lemon Cling peach trees which we once owned on a creek bottom, that made an enormous growth but were a disappointment as to crops, though Muirs, Orange Clings and Salways bore heavily. The rush of sap seemed to throw the fruit off while yet small.

The owner of these Zinfandels might possibly learn something to his advantage if he would girdle or scarify some of the bearing arms. The French have a special instrument for this purpose, but the experiment can be tried with a pruning knife, cutting just through the bark to the sap wood with a twisting motion to the blade so as to scrape the sap wood slightly on each arm or spur near where it joins the older wood. The usual effect is to produce finer fruit.

Another possible solution of the trouble at Lathrop suggests itself. That heavy sandy loam is likely to be the lowest part of the vineyard, or in a depression at least, and the unusually heavy rains of last March may have raised the water-table and caused the vines to suffer from 'cold feet.' Vines or trees may be set out in such a place and have several seasons with a moderate rainfall so distributed as to favor their development, and then a heavy rain late in the season may produce disastrous results. In that same peach orchard we lost a considerable number of the Orange Cling trees when about two years old, from sour sap. They stood in a sag, and we replanted with pears.

If your Lathrop correspondent on examination finds that drainage is what is wanted, perhaps he may get it by boring through the stratum that holds the water, or blasting it at its lowest point, more cheaply than by ditching.

To return to the adaptation of stocks to soil condition, Prof. F. T. Bioletti says, in Bulletin No. 131 of the University of California Agricultural Experiment Station, pages 14 and 15, discussing the merits of the Rupestris Martin and Rupestris St. George: "Where the soil is somewhat compact the St. George is to be preferred, but neither of them should be planted where, on account of an impervious subsoil or a high water-table, deep penetration of the roots is impossible. Where water is too near the surface, Rupestris is liable to fungus root-rot. \* \* \* For loose, moist soils on northern slopes, and in those situations where a horizontal root development is desirable or permissible, the Riparia Gloire de Montpellier is extremely promising. It should be planted wherever Riparias of any kind have proved to do well, as in certain soils of the San Francisco Bay region, and in the sub-irrigated soils of parts of the San Joaquin valley."

We have also heard high praise for Riparia Gloire on deep alluvial soils near Santa Rosa.

The Riparia Gloire has the additional merit of

making a trunk which nearly equals the vinifera varieties in stoutness.

C. H. Dwinelle.

Fulton, Sonoma County.

## The Garden.

### Gardens and Their Kinds.

Written for the PACIFIC RURAL PRESS  
By PROFESSOR W. L. JEPSON of the University of California.

There may be said to be two kinds of flower gardens—flower gardens in which the plant is the thing, formal gardens in which plants are subordinated to the design. This is not by any means the universal conception of a formal garden but it is the one held to by W. Robinson, the great English gardening and landscape authority, whose most recent book is entitled "The Garden Beautiful," albeit the subtitle, "Home Woods and Home Landscape," better suggests the substance of the book which is published by John Murray, London.

Thirty years ago Robinson declared war and no quarter on the formal garden in England and achieved through the influence of his periodical, *The Garden*, and his books, "The English Garden" and "The Wild Garden," a most notable victory. The formal garden in England today has by his tremendous onslaught been made utterly absurd by his fusillade of ridicule.

The true flower garden, he says, holds a relation to art. The formal garden is a product of the drawing board draughtsman and decorative schemer. The true test of a flower garden lies in the picture. Do we frighten the artist away or do we bring him to see a garden so free from ugly patterns and ugly colors that, seen in a beautiful light, it would be worth his seeing and perhaps painting? There is not and can never be, says our author, any other true test. The work of the true artist is always marked by respect for nature and by keen study of it.

But apart from this we have a great many men who do what is called "decorative" work, useful but still not art in the sense of delight in, and study of, things as they are—the whole class of decorators, who make our carpets, tiles, curtains, and who adapt conventional or geometrical forms mostly to flat surfaces. Skill in this way may be considerable without any attention whatever being paid to the art that is concerned with life in its fullness.

This it is well to see clearly, he continues, as for the flower gardener it matters much on which side he stands. Our gardeners for ages have suffered at the hands of the decorative artist, when applying his "designs" to the garden, and designs which may be quite right on a flat surface, like a carpet or a panel, have been applied a thousand times to the surface of the reluctant earth. And so for ages the flower garden was marred by absurdities of this kind as regards plan, though the flowers were in simple and natural ways. In our own time the same decorative idea has come to be carried out in the planting of flowers under the name of "bedding out," "carpet bedding," "mosaic culture" in which the beautiful form of flowers are degraded to the level of crude color to make a design without reference to the natural form or beauty of the plants, clipping being freely done to get the carpets or patterns true. When these tracery gardens were made by people without any knowledge of the plants of a garden, they were found difficult to plant, hence there were attempts to do without the gardener, and get color by the use of broken brick, white sand, and painted stone. Robert Southey tells of a garden that was a scroll-work cut very narrow, and the interstices filled with sand of different colors to imitate embroidery!

Formal gardening has no great vogue in California and is more conspicuous, perhaps, in public parks than in private gardens. Wherever we see parti-colored 5 or 6-pointed stars or crescents on lawns, or figures in imitation of colored advertisements, calico prints or kitchen-table oil-cloth applied to beds—there the formal gardener luxuriates after the way of his kind.

Lest there be mistaken inference it may be well to say that one may properly have a square garden with square beds and straight walks, for such an arrangement may give the best use of the space, and such a garden may, too, be beautifully planted. To repeat, it is the flower we love, not the design.

The term "landscape gardener," says Robinson, is good because the gardener has to do with the growth and grouping of trees in natural forms, and study of forms of the earth for purposes of beauty. The term, "landscape architect," is bad, implying the union of two absolutely distinct studies, one dealing with varied life in a thousand different kinds and the natural beauty of the earth, and the other with stones and brick and their putting together. The training for either of these arts is wide apart from the training demanded for the other, and the earnest practice of



DR HESS

STOCK FOOD

ATONIC

Animal growth and milk production are dependent for full development upon a healthy digestion. The key to the feeder's problem then, is a suitable tonic to prevent derangement of the digestive organs. Dr. Hess Stock Food is such a tonic. By making the greatest proportion of food digestible, it keeps the animal in health, causes rapid growth and a full measure of production.



Professors Quilman, Winslow and Finley Dun endorse the ingredients in Dr. Hess Stock Food. It is the prescription of Dr. Hess (M. D., D. V. S.) and is sold on a written guarantee.

100 lbs. \$7.00    25 lb. pail \$2.00  
Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

If your dealer cannot supply you we will.

DR. HESS & CLARK, ASHLAND, OHIO.  
Also Manufacturers of DR. HESS POULTRY PAN-A-CE-A and INSTANT LOUSE KILLER.  
THE PETALUMA INCUBATOR CO.,  
PETALUMA, CAL.,  
Pacific Coast Distributors.

the one leaves no time, even if there were genius, for the other.

The most interesting part of this new book relates to home woods. Californian conditions are so utterly different from those of England that the details regarding planting would not, as a whole, apply here, but there are certain fundamental propositions well stated. The home woods are but a noble part of the garden and the planting should always be in mass, because it is here that beauty and profit go hand in hand. For the sake of beautiful woods, for the sake of economy in care, and for the sake of making good timber, never plant scattering trees. With a gift of quiet humor and a keen sense of the ridiculous he gibes the planting of scattered specimen trees as "toy tray" and "dotting work." Plant useless land to trees, he cries, and in mass. Few know the power of evergreen trees to grow on the poorest land. The wood is a mighty worker for man—there is no Saturday night in the woodland.

### Labor Supply.

#### Distribution of Aliens.

To the Editor: There is herewith inclosed a copy of Section 40 of an Act of Congress creating the Division of Information, the object of which is to promote a beneficial distribution of aliens admitted into this country.

We particularly desire to reach those who are in need of farm laborers or are likely to require this class of help in the future. The Division is therefore communicating with the editors of various periodicals devoted to agriculture asking that they publish a news item setting forth our efforts to bring to the attention of admitted aliens and unemployed citizens the need for their services in localities where there exists an actual scarcity of labor. Samples of blank forms are transmitted, and it is respectfully requested that at least the one applicable to "Farm Labor" be

reproduced for the benefit of your readers, and that they be asked to write the Division of Information, Bureau of Immigration and Naturalization, Washington, D. C., if they need laborers or domestics or have farms to rent on shares.

The services of the Division are absolutely free and no money or stamps should be sent in any instance. We desire to know of specific opportunities; what wages will be paid; what chances for advancement exist; whether employment will be permanent; and it is urged that applicants write their names and addresses plainly in order that confusion may be avoided. We will place this information where it will benefit employer and employee.

I trust that you may aid us and that much good may accrue through the medium of your paper, and thank you for any courtesy you may extend.

T. V. POWDERLY.

Department of Commerce and Labor, Washington, D. C.

WHAT THE LAW PROVIDES.

The following is the section of the Act of Congress creating the information agency under Mr. Powderly:

Sec. 40. Authority is hereby given the Commissioner-General of Immigration and control of the Secretary of Commerce and Labor, a division of information in the Bureau of Immigration and Naturalization; and the Secretary of Commerce and Labor shall provide such clerical assistance as may be necessary. It shall be the duty of said division to promote a beneficial distribution of aliens admitted into the United States among the several States and Territories desiring immigration. Correspondence shall be had with the proper officials of the States and Territories, and said division shall gather from all available sources useful information regarding the resources, products, and physical characteristics of each State and Territory, and shall publish such information in different languages and distribute the publications among all admitted aliens who may ask for such information at the immigrant stations of the United States and to such other persons as may desire the same. When any State or Territory appoints and maintains an agent or agents to represent it at any of the immigrant stations of the United States, such agent shall, under regulations prescribed by the Commissioner-General of Immigration, subject to the approval of the Secretary of Commerce and Labor, have access to aliens who have been admitted to the United States for the purpose of presenting, either orally or in writing, the special inducements offered by such State or Territory to aliens to settle therein. While on duty at any immigrant station such agents shall be subject to all the regulations prescribed by the Commissioner-General of Immigration, who, with the approval of the Secretary of Commerce and Labor, may, for violation of any such regulations, deny to the agent guilty of such violation any of the privileges herein granted.

BLANKS FOR INFORMATION.

As stated in Mr. Powderly's letter, blanks are issued upon which the information which he desires may be sent to him. Those who want laborers sent in their direction should certainly place

COUPON

FREE Book on Poultry Profits

Cut Out, Sign and Mail This, and by return mail you will receive our great Free Book, telling How 130,000 Men and Women are Making Money with the Famous Sure Hatch. Book is full of valuable help to beginners and professional poultry raisers. Tells why the Sure Hatch excels all other incubators. We ship Sure Hatches on Unlimited Trial direct to you from Los Angeles or Salt Lake City. Don't delay—fill out and mail coupon NOW.

SURE HATCH INCUBATOR CO.  
Box 151, Fremont, Neb., or Dept. 151, Indianapolis, Ind.

Send book to (write plainly)

Name \_\_\_\_\_

Address \_\_\_\_\_

BEEF

SCRAPS

Guaranteed 65 per cent Protein

RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

South San Francisco, San Mateo County

full information of the chance for work and of opportunities for settlement in the hands of the Government.

SPARROWS DAMAGE ORCHARDS.—Modesto Herald: Orchard men state that the almond and apricot trees are now putting out their new fruit buds, and that as fast as the buds come out they are eaten off by the sparrows, of which there are thousands in the vicinity of the orchards. Of course if the entire county was planted to orchard, the depredations of the birds would be hardly noticeable, but when bearing orchards are so comparatively small in extent here, as yet, the loss occasioned by the birds will be large. One almond grower states that his small orchard should, next year, net him several hundred dollars, but that the birds have cleaned off the buds and he doubts if he will get any nuts at all. Other growers report the same state of affairs. D. S. Fellows, who is suffering from the depredations of the birds, says that he has nearly cleaned the little feathered pests out at his place by the use of poisoned wheat. He takes 50c. worth of strychnine to a gallon of wheat, and pours enough hot water over the whole to soften the wheat, and causes it to absorb the poison. The mass is well mixed, of course, and then is scattered through the orchard. The plan is a good one for general usage, as the sparrows are rapacious pests.

FOREMAN.

A young energetic fruit grower, for two years in my employ, desires to find position as foreman in orchard or vineyard. I can recommend him as absolutely reliable. He has a knowledge of general farming, but more particularly of prune and raisin growing. Apply to,

G. H. H.

BEST FILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail Write Dr. Bosanko Co., Philadelphia, Pa. Sample Free. ONLY ONE FOR A DOSE

WALNUT TREES

Grown from carefully selected seed  
Postal for prices.

A. A. MILLS,    Anaheim, Cal.

\$5 A THOUSAND

RESISTANT GRAPE CUTTINGS FROM IMPORTED STOCK.

VARIETIES—3306, 3309, 1202

A. W. LUTHER    Healdsburg, Cal.

For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED

Address \_\_\_\_\_

Fancher Creek Nurseries, Fresno, California.

- ### SURPLUS STOCK
- 130 Opulent peach, 20 to 40 c.
  - 220 Tuscan cling, 15 to 20c.
  - 100 Burbank plum, 12½ to 20c.
  - 120 Early peaches, 12½ to 25c.
  - 50 Muir, 10 to 15c.
  - 66 Maynard plum, 20 to 25c.
  - 40 Sultan plum, 10 to 20c.
  - 25 Chapman cling on Mahaleb, 20 to 25c.
  - 28 Tilton apricot, 15 to 20c.
  - 114 Grafted Chestnuts, Ridgely, Combale, Quincy, Paragon, 20 to 40c.
  - 100 Franquette walnuts on Cal. Black, \$1.00 to \$1.25.
  - 47 Santa Rosa walnuts on Cal. Black, \$1.00.
  - 400 Cal. Black walnuts, 10 to 15c.

T. J. TRUE  
Rural Route 1    MODESTO.

FERRY'S SEEDS

For freshness, purity and reliability, **Ferry's Seeds** are in a class by themselves. Farmers have confidence in them because they know they can be relied upon. Don't experiment with cheap seeds—your surety lies in buying seed sent out by a conscientious and trustworthy house.

Ferry's Seed Annual for 1908 is FREE. Address D. M. FERRY & CO., DETROIT, MICH.

### ENCINAL NURSERIES.

SPECIALTIES:—Apricot on 'Cot and Genuine Franquette Walnut on black walnut root. Strong, thrifty trees grown on new soil, entirely without irrigation, and surrounded by all safeguards possible, from selection of seeds and buds to the digging of the tree, to have them healthy, free from disease and true to name.

F. C. WILLSON proprietor, Sunnyvale, Santa Clara County, California.

Red Gum for  
Sugar Gum timber,  
Gray Gum posts, piles,  
Desert Gum poles, etc.

Best Four. Get Our Prices.

Cling and Free Peaches, Apricots, Almonds, Cherrels, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

Leonard Coates Nursery Co., Inc.  
Morganhill, Santa Clara Co., Cal.

FARM CONVENIENCES.—A manual of what to do and how to do it. Describing all manner of home-made aids to farm work. Made up of the best ideas from the experience of many practical men. With over 200 engravings. 256 pages, 5 by 7 inches. Cloth.....\$1.00



## The Home Circle.

### Friendship.

When life looks dark and troubles drear  
Seem never at an end,  
We mostly find someone sincere,  
A loyal, faithful friend.

Who'll grasp you firmly by the hand,  
An honest, hearty shake,  
And by your side he'll bravely stand,  
For purely friendship's sake.

The weary load you had to bear,  
Seems lighter to have grown,  
The cloudy sky will look more fair  
When friendship's love is shown.

What blessed pleasure we must find,  
To dream and sweetly know,  
That loving eyes are never blind  
To see us in our woe.

Though sorrow's tears may often start,  
Through no fault of our own,  
If they but melt a tender heart,  
True friendship's love is shown.

That love within the human breast,  
Must soon or later end—  
But Christ the truest and the best,  
Will ever be our friend.

If we but travel in the light  
Of His pure, watchful eyes,  
And know for sure we're living right,  
His friendship never dies.

—George K. McKenzie.

### DIANA AND THE SPIDER

The "Band, Gusset and Seam" is a society recruited from an exclusive circle of Nob Hill's youthful matrons. It meets during the winter, with aggravated activity during Lent, at houses of the members; "First flannels to the indigent"; its symbol, a thimble or, crossed by a pair of scissors argent, on a background of flannel gules surmounted by a spool of thread couchant.

The demure maid who serves bouillon, tea and chocolate to the society's fair Dorcas, hears tales from every quarter of the globe, of life in the summer colonies along the New England coast, of yachting cruises through Norwegian fiords in the yellow wake of the midnight sun, of walking tours in the Landes, and camping trips in the north woods. She knows her planet better than many whose orbits are less circumscribed, and can safely be relied upon for information regarding elk in Oregon or salmon in the Columbia, the proper time to hunt the grizzly in Assiniboia, and the relative merits of the Andalusian donkey and his twin brother, the Rocky Mountain burro.

After serving the Bradamante of the society with a cup of tea and a caviare sandwich, she retires to a dusky corner of the room, refills the lamp under the brazen kettle, and re-arranges the Dresden cups and saucers and the jewel mounted spoons upon the teakwood table.

When the fluffy-haired Mrs. Jack, the society's president and the hostess of the occasion, begins her story, there is a lull in the talk, which the wind fills in with a neatly executed arpeggio.

Mrs. Jack's mouth droops in wistful curves, and beside her eyes an infant's would seem unsophisticated.

"Jack says I must go with him to Africa, but I shall never dare to look a tiger in the face, after my experience on the Big Muddy."

Mrs. Jack's adventures have familiarized the society with Tin Cup, Big Bug, Bumble Bee, and Medicine Hat. But the Big Muddy offers delightful fields for speculation, for it has not yet found a place on any

map and its only high roads are the half obliterated trails left by the Utes when they unwillingly departed for new hunting grounds.

"You remember the big-horn I shot after Jack and the guides had tracked him for ten days over the Rattlesnake Range in Wyoming?" Mrs. Jack continues plaintively.

The society remembers the big-horn, as well as the giant shark in the Mexican Gulf; the mountain lion and the cinnamon bear with the amber eyes picked off by Mrs. Jack's rifle in the San Francisco Mountains. The idea of her not daring to look a tiger in the face under any circumstances taxes the credulity of the society. Has she ever known fear, ever quailed before beast, bird or fish—this modern Artemis?

When she accompanies her husband on his hunting expeditions, she wears the woods' autumn livery—leaf-brown and scarlet—an abbreviated skirt, and leggings of brown corduroy, a scarlet leather shirt with elk's teeth for buttons, a hat festooned with trout and salmon flies and shining leaders. A cartridge belt girdles her slender waist, with its depending revolver and hunting knife.

It is remarkable that Mrs. Jack has escaped the cinnamon's embrace, and Bruin might well be pardoned such an indiscretion.

"Jack has always said that my physical courage first attracted him. But I had never confessed to him that there was one test to which I should be unequal. It came on the Big Muddy. Listen—"

"We were camped in the quaking aspen. Snow had fallen and the elk were coming down. You could hear them bungling on every side before dawn. It is easy to stop a band of elk, as they pass near your camp, by imitating their call upon an empty cartridge shell. I have learned the trick, and Jack had no hesitation in permitting me to choose my own trail one morning and follow it alone afoot, he and the guides scattering in other directions. The taste of the camp coffee was still upon my lips; my cheeks tingled with the frosty breath of the morning air as I kept cautiously to the windward of the elk, whose trumpeting stirred me like martial music.

"A stray bear track showed here and there in the fresh snow. But I was after elk. A hundred miles lay between our camp and the nearest settlement. Ah, the solitude of those woods!"

Mrs. Jack leaned back in her chair and sighed reminiscently as she gazed into the blazing hearth fire—a charming picture in her house-gown of blue, brightened with gleams of Persian embroidery, interwoven with uncut jewels.

"I had gone three miles, perhaps four, over fallen spruce up the steep side of a ragged mountain, when crash, across my trail came a band of elk, headed by a magnificent bull.

"Crouching behind a boulder, I waited. I have waited so often for big game, from Alaska to the gulf. Jack says that I have seen more than he can ever hope to see, if he lives to be a hundred. My hand was steady. Jack often gets buck fever. I never do. I took deliberate aim. The elk came toward the bullet and dropped dead without a struggle. Blazing the trail, as I retraced it toward camp for the pack animals, I saw that there were new bear tracks. I was not out that day for bear, and

did not care to come upon one alone, although I had no thought of shirking the encounter were it forced upon me.

"A bear in a bear pit is a clumsy creature. In the wood he challenges your admiration by his clever fashion of covering the ground without apparent effort. The one I soon desecrated ahead of me was lumbering along like a bunch of tumble-weed, lengthening the distance between us at a rapid rate.

"Foolishly I indulged myself in a shot at him, striking his shoulder. He turned upon me with a roar of pain. At that instant I needed all my nerve. This time I chose a tree for cover and waited. He came on, without a halt, straight toward me. I fired again, missing him. I was just about to try a third shot when the test came of which I have spoken."

"The test?" murmurs the society breathlessly.

"The test to my courage to which I had always felt I should be unequal. The thing I had dreaded in my forest wanderings with Jack."

"What?" the society demands, with one voice.

"I had raised my rifle when I felt something fluttering in my hair. I fancied a leader had slipped from my hat rim. Oh, horror, it was a spider!—and as I shook my head violently to dislodge it, it struggled into my ear.

"I have never been conscious of having fired that third shot. Somehow the rifle was discharged, and by the same chance the bullet laid the bear low.

"I fainted, and when I came to myself, I was lying across the bear's body, with six strange men standing around me. Ten thousand boiler factories were at work in my brain.

"Hear the noises," I cried. "Will no one stop them?"

"And now comes the strangest part of my story. The engineer of Jack's yacht once got a mosquito in his ear. It drove him quite mad before we could find a doctor. He hung over the yacht's side, held by six of the crew, begging for death. When the doctor arrived upon the scene, he applied a handkerchief, wet with ether, to the man's ear, quieting the mosquito's struggles and restoring the man to sanity.

"I believed myself in the man's plight, stark, staring mad, when, upon this peak of Darien, five hundred miles from an ambulance and a surgeon, I heard one of the men to whom I had so wildly appealed reply, quietly,—

"Have no fear, madam, you are in safe hands, for we are all doctors."

"They deluged my ear with water from a nearby stream, which they brought in a tin cup. Finding the spider still unsubdued, one of the doctors asked for a hypodermic syringe. Five were instantly proffered. An icy arrow penetrated, seemingly to the seat of the gray matter, still without effect upon the spider, whose pernicious activity caused me indescribable agony.

"Ether is the only remedy," I said at last, and as coherently as I could repeated the story of the engineer.

"Ether is the only remedy," I doctor who was attending to me—'why, of course, Brown, fetch out your ether bottle,' and if Brown did not produce from the depths of his waistcoat pocket a small bottle of

ether, may I be instantly retired from the presidency of our society. It transpired later that Brown was a physician with an alien hobby—entomology—and carried ether with him everywhere to anaesthetize his specimens.

"In an instant relief came—such blessed relief as only one who has passed through an experience like mine can appreciate.

"The rest of the story is soon told. When I gathered myself together, the six doctors presented themselves to me with due formality. They dined that night at our camp, on my elk.

"Jack was thoroughly ashamed of me. For what did the elk and the bear matter, with the memory of the spider fresh in our minds?

"No, decidedly," Mrs. Jack repeats, as the maid fetches her a second cup of tea, "I shall never dare to look a tiger in the face, after my Waterloo on the Big Muddy."

### Useful Information.

Ignorance of the law excuses no one. The act of one partner binds all the others.

A contract made on a Sunday is void. A principal is liable for the acts of his agents.

An agent is liable to his principal for errors.

A receipt for money paid is not legally conclusive.

A signature made with a lead pencil is good in law.

An agreement without consideration, expressed or implied, is void.

A contract made with a minor cannot be enforced. A note made with a minor is voidable.

Each partner is liable for the whole amount of the debts of his firm.

A partial payment of an outlawed debt revives the obligation.

Notes obtained by fraud, or made by an intoxicated person, are not collectible.

If no time of payment is specified in a note it is payable on demand.

A note which does not state upon its face that it bears interest will bear interest after maturity.

An indorser may avoid liability by writing "without recourse" under his signature.

Don't accept a note until you are certain that it is dated correctly; specifies the amount of money to be paid; names the person to whom it is to be paid; includes the words "or order" after the name of payee, if it is intended to make the note negotiable; states a place where payment is to be made; states that the note is "for value received"; and is signed by the maker or his duly authorized representative.

Don't accept a deed to property until all the following conditions are complied with: 1. It must be signed, sealed and witnessed. 2. Interlineations should be mentioned in the certificate of acknowledgement. 3. All the partners must join in a deed from a partnership. 4. A deed from a corporation should bear the corporate seal and be signed by officers designated in the resolution of the directors authorizing it. 5. A deed from a married woman should be joined in by her husband. 6. A deed from an executor should recite his power of sale. 7. The consideration must be expressed. In some States a deed from a married man must be joined in by his wife. See that a deed is recorded without unnecessary delay.

Mortgages—A mortgage is a conveyance of property to secure payment of a debt. When the debt is paid the mortgage becomes void. In real estate mortgages the person giving the mortgage retains possession of the property, receives all profits and pays all expenses. A mortgage, like a deed, must be acknowledged before a proper public officer, and recorded in the office of the county clerk, recorder or whatever officer's duty it is to record such instru-



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

## PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

ments. Mortgages must contain a redemption clause and be signed and sealed. The time when the debt becomes due must be plainly stated and the property conveyed clearly described, located and scheduled. A foreclosure is a statement that the property is forfeited and must be sold.

### Pith, Point and Pathos.

After the honeymoon comes the si-moon. Some men are born small and some others shrink.

Love will find a way—even if it is only the way out.

Success is the result of beating the other fellow to it.

Some dreams go by contraries, but the majority don't go at all.

If it wasn't for the fool and his money lots of wise guys would starve.

The average man would rather pay half a dozen grudges than one debt.

One man doesn't look good to another unless he has more dollars than sense.

All the world's a stage, and all the actors try to monopolize the spot light.

We would never suspect how smart some people were if they didn't tell us.

People soon forget the good advice you hand them, but they never forget the other kind.

Occasionally a man is compelled to stretch the truth in order to make both ends meet.

It takes a woman graciously to permit a man to apologize for some injury she has done him.

Some people refuse to sow seeds of kindness because they fear the results will be a crop of ingratitude.

It was a Philadelphia girl who refused to share an admirer's lot because she wanted to be cremated.

There isn't much hope for the man who is unable to convince himself that he isn't just a little better than his neighbor.—Chicago News.

### To Corn Beef.

The following answers several correspondents, and differs somewhat from formulas which have been given previously. Fifty lbs. of meat requires 4 lbs. salt. Sprinkle a layer of salt in keg or barrel, put in a layer of meat, packing very closely, then a layer of salt, then more meat and salt, until all is used, leaving just enough salt for a good layer on top. Let stand overnight, then dissolve 1 oz. baking soda, 2 lbs. sugar, 2 oz. saltpeter in 2 gal. tepid water, and after it is cold pour it over the meat. Two gallons should cover the 50 lb. if packed right. If not, use same proportions in making more. Weight down with a board and stone and let stand from 30 to 40 days before using. If kept into hot weather watch the brine, and if it gets ropy pour it off, wash the meat and cover with new brine.

### Prejudice.

"Robert, this spelling paper is very poor," complained the small boy's teacher. "Nearly every word is marked wrong."

"It wouldn't have been so bad," protested Robert, "but Annie corrected my paper, and she's mad at me, and for every little letter that I got wrong she crossed out the whole word."

### Utilizing the Zebra.

The development of the African colonies has been retarded, says a writer in the New York Sun, on account of the difficulties of transportation. In South Africa trek oxen are used, but vast numbers of these are killed by the dreaded tsetse fly. North of the Zambesi, horses, mules, donkeys and draft animals of every kind are found impossible, owing to the same scourge. Yet if an efficient service of draft animals could be obtained, the trade would be doubled.

A year ago it occurred to Captain Nys of the Belgian Grenadiers that if the zebras, which roam in innumerable herds, could be trapped and tamed they would solve the transportation problem. For the zebra is said to be immune from the deadly effects of the tsetse fly. He made known his idea, and the sum of \$20,000 was appropriated for experiments.

Captain Nys had hard work getting his caravan together. The Congo tribes seldom work, preferring to leave this disagreeable part of life to their wives. He succeeded, however, in collecting twenty-five men, and established a camp in the middle of the zebra country. Some of the herds that he saw numbered 3000. In their wake trailed troops of lions and leopards.

After trying, unsuccessfully, different methods of trapping the zebra, Captain Nys had an immense corral, or staked enclosure, built, with a funnel-shaped mouth, into which the animals could be driven by beaters. Once inside, the zebras would find grass and fresh water, and all their natural surroundings. In the various corners stables would be built, and here the animals might gradually be tamed.

After many difficulties, an army of some 700 natives was engaged and instructed. Captain Nys had to travel many hundreds of miles to get these men from their chiefs, always going on foot, for horse or mule is impossible in the tsetse fly country.

It took several months to construct the stockade, which enclosed 200 acres. Then, one morning, the army of beaters spread out, fan-like, for fifty or sixty miles, and gradually drove in some 3700 zebras.

When the captain saw this immense herd nearing the funnel of his corral, he thought his troubles were at an end; but disappointment awaited him. Suddenly the herd stampeded. A large troop of lions were worrying them in the rear, and overwhelming the army of beaters, they doubled back into the wilderness. Barely twenty-five animals were taken.

Three times the zebras were driven back by the lions, but the fourth time the hunt was a success; and 1700 animals were entrapped in the enclosure. They fought and bit one another, raced hither and thither, and dashed their pretty bodies against the solid fences, crippling, and in many cases killing, themselves. For four or five days many of the zebras refused to eat or drink. Some even starved to death. But gradually most of them grew accustomed to their new life, and were forced into the stables.

In about a fortnight the creatures became used to the presence of men, and a few permitted themselves to be harnessed into light carts.

Thus Captain Nys has demon-

strated that there is in Central Africa an indigenous animal, proof against the tsetse fly, and capable of doing the work of mule or horse, in a region where both are impossible. It is hoped that gradually the long trains of native porters and women will be superseded as beasts of burden.

### "When I Have Time."

When I have time so many things I'll do  
To make life happier and more fair  
For those with lives now crowded down  
With care;  
I'll help to lift them from their despair—  
When I have time!

When I have time the friend I love so  
well  
Shall know no more these weary toiling  
days;  
I'll lead her feet in pleasant paths always  
And cheer her heart with words of sweet-  
est praise—  
When I have time!

When you have time the friend you hold  
so dear  
May be beyond the reach of your intent;  
May never know that you so kindly  
meant  
To fill her life with joy and sweet con-  
tent—  
When you had time!

Now is the time! Ah, friend, no longer  
wait  
To scatter loving smiles and words of  
cheer  
To those around whose lives are now so  
dear;  
They may not need you in the coming  
year—  
Now is the time!

—Unknown.

### No Advantage Taken.

"George," said the pretty girl, "I know you're awful bashful."  
This was portentous, with leap year so new. He blushed assent.  
"And you'd have proposed to me except for that?"  
This, too, he was bound to acknowl-  
edge.

"Well, I would have accepted," she went on, "and so that's settled."  
Discussing the matter later she expressed a natural pride that she had not taken any advantage of the season.—Philadelphia Ledger.

### Tommy's Error.

Mrs. de Smythe—Tommy, do you want some nice plum jam?

Tommy—Yes, mother.  
"I was going to give you some to put on your bread, but I've lost the key to the pantry."

"You don't need the key, mother. I can reach down through the window and open the door from the inside."

"That's what I wanted to know. Now just wait till your father comes home."

THE Assyrian was scratching some hieroglyphics on a brick. "What you writing?" asked his chum.

"Hanged if I know," responded the engraver, "but I guess some of those Assyriologists of the twentieth century can translate it all right."—Philadelphia Public Ledger.

**Farmers! You Should Spray**  
Spraying is cheap but effective insurance against crop destruction—the best policy is a

**DEMING  
Sprayer**

Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests and investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio.  
Horton & Hubbell, Agts., Chicago, Ill.

### RESISTANT CUTTINGS.

About 8000 well rooted Rupestris St. George cuttings. For price apply to P. O. Box 58, Auburn, Cal.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address  
**W. A. Stewart,**  
Rio Vista, Cal.

### RED GUM AND EUCALYPTUS SUGAR GUM

6 to 8 inches high; packed and delivered you by express or mail. Prepaid \$2.50 per 100. Safe delivery guaranteed.

**HENRY SHAW,**  
320 River St. Santa Cruz, Cal.

## Grafted Vines and Resistant Cuttings

Malaga, Muscat, Emperor on Rupestris St. Geo. Muscat on 3306. CUTTINGS of Rupestris St. Geo., 3306, 3309, 1202. Address

**MINNEWAWA VINEYARD, Fresno, Cal.**

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

**A. F. SCHEIDECKER, Sebastopol, Cal.**  
Proprietor Pleasant View Nursery.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery  
Spring of 1908.

**SOUTHLAND NURSERIES,**  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.

## The Crocker Bartlett Pear

DOES NOT BLIGHT

If proven different, purchase price of trees bought from us in 1907 will be refunded. Fruit highly recommended by Luther Burbank. Sample of pears sent on receipt of 25 cents. See U. S. Year Book of 1905.

**Peach Trees, 15c—all leading varieties.**  
**Cherry Trees, 20c—all leading varieties.**

### GOLDEN RULE NURSERY

Loomis, Placer County, Cal.

## Pacific Nurseries

San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting  
a full line of

Ornamental Trees and Shrubs, Evergreen and Deciduous, Conifers, Palms, Rhododendrons, Camellias, Ericas, Azaleas, Roses, Eucalyptus, Cypress, Pine, Monterey and Maritima Pittosporum transplanted into plats.

Send for Catalogue

**F. LUDEMANN, 3041 Baker Street**  
SAN FRANCISCO

### Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, A1, Lady Thompson and Midnight, Pedigree Plants.

### Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

### Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

### Dewberry, Loganberry, Phenomenal Berry Plants.

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS, Burbank, Cal.**



**C. C. MORSE & CO.**Plants **SEEDS** Trees41 Jackson St.  
San Francisco

This picture represents the cover of our handsome new catalogue done in colors, showing the flowers and fields true to life.

Send us your name and address and we will mail this new 1908 Catalogue free.

Send us \$1.00 and we will send one each of these three fine roses (strong 2 year old roots): Frau Karl Druschki, Mildred Grant, Madam Caroline Testout. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea—Florence Morse Spencer.

**Trees that Grow and Bear Fruit**

**SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.**

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

**Orange County Nursery & Land Company**  
FULLERTON, CAL.

**Fruit Trees and Grape Vines**

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines.  
We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.**

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untied. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

**THE FRESNO NURSERY**

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

# 200,000 Eucalyptus Trees

(IN VARIETY)

Transplanted in flats of 100 each. We prefer orders of 1000 rather than 10,000; outside limit, 20,000. Our trees are up to our usual standard. Correspondence invited. Our booklet, telling when, how, and what to plant, free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman**  
PETALUMA, CALIFORNIA.

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

**TRUMBULL SEED COMPANY,**

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

**AGRICULTURAL REVIEW.****BUTTE.**

Several of the farmers of Biggs who contemplate preparing land for rice will be asked by the local Chamber of Commerce to plant a quantity of matting grass roots. The conditions under which the plant grows are similar to those needed for rice, and it is hoped that the experiments will lead to the introduction of a profitable industry.

**COLUSA.**

Ripe tomatoes on the table on January 12 is a record that many Easterners will say is another "California fib." Missourians want to be treated, by being shown the fine big red fellows smiling on the vine. The vine covers nearly the whole side of a woodshed, and is at least eight feet high and more than twelve feet long. It is loaded with hundreds of tomatoes, from the small green to the large ripe red ones.

**GLENN.**

Glenn county will in the near future have a 1000-acre eucalyptus grove if the negotiations now pending are consummated. A gentleman from Colorado has made an examination of lands for this purpose and has practically settled on the tract and proposes to plant 1000 acres to these trees.

The report of Deputy State Sheep Inspector E. K. Masterson of Glenn county shows that at present there are 82,324 old sheep and 32,060 spring lambs in that county. During the past year 29,305 sheep were sold and 31,697 migratory sheep were driven through the county. There are about 85,000 resident sheep at present in this county.

**MONTEREY.**

Pajaronian: The Japanese companies have during the past year taken long leases on several choice tracts of land in this valley suitable for berry culture and orchard purposes. For a number of years the Japs seemed to be satisfied to work in the berry fields for wages or on what is known as the "crop share" plan, but recently they have been branching out and are going into business for themselves. Several tracts of land on both sides of the river are leased to Japanese companies, which means that during their tenancy of the places no white man will find employment thereon in any capacity and the trade of the little brown men will go to their own kind of people. Very recently the Kosano Co. leased fifty acres in the Amesti district for a term of fifteen years, paying therefor an annual cash rental of \$20 per acre. At present the company is setting out the whole tract to strawberries and at the same time will plant out a 50-acre orchard of Belle-fleur and Newtown Pippin trees. Ten or 12 Japs will be employed throughout the most of each year on this tract.

**SACRAMENTO.**

Bee: The Pacific Coast Hop Growers' Union has filed articles of incorporation in the office of the county clerk. The purposes of the Union are to buy, sell, contract, and deal in hops and supplies for hop growers and to promote the interests of the growers. The Union is incorporated under the laws of California, and its life is fifty years. The principal place of business is Sacramento. The following fifteen directors have been elected for the first three years: Joseph T. Grace, E. T. Woodward, Santa Rosa; F. M. Cunningham, Ukiah; M. H. Durst, Alameda; W. E. Lovdal, D. Flint, A. A. Merkley, C. M. Bandy, Charles Calaphoun, S. B. Slight, Sacramento; W. P. Slusser, T. B. Miller, H. Finley, Timothy Shea, J. Purrington, Santa Rosa. The membership fee is \$1 and all members have an equal voice in the Union. The names of about seventy of the original signers of the articles are attached.

**SAN DIEGO.**

Press: Imperial Valley melon growers are getting ready for the coming season, signing up acreage in the

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc. it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

associations, securing seed and making contracts with distributors of the products, and the indications are that more than double the acreage of last year will be planted. Last year 535 carloads of cantaloupes were shipped from the valley, bringing returns to the growers of between \$500 and \$600 per car on the average, or a total net return of more than a quarter of a million dollars. Distributing agents, who have been perfecting organization of eastern agencies and studying market conditions, are confident that 1,200 carloads can be placed during the coming season, and the valley is preparing to supply the prospective demand. Until all the associations sign contracts with distributors, the total acreage cannot be estimated closely. Last year 2,000 acres were planted. Owing to lack of experience, to inattention and to careless cultivation, a considerable area was unproductive. Successful growers gathered from 100 to 300 crates per acre, the average for the entire area planted, taking the good with the bad results, being about 85 crates. On that basis, making the same allowance for failures, the 5,000 acres, roughly estimated as the coming season's planting, would just about supply the 1,200 carloads required to meet market demands.

**SAN JOAQUIN.**

Bee: An accidental though valuable scientific discovery in plant life was made early last fall by Mrs. Charles Williams, residing in east Lodi, which is no more nor less than a seedless squash—and a very remarkable thing. Upon being given some squash seed by a friend, Mrs. Williams spaded up a little patch of ground in her dooryard and planted them. They failed to sprout or show any signs of life, so she planted a few more seeds, but of a different variety, where the other seeds lay, and soon there was a yard full of growing squash with vine runners in every direction. Mrs. Williams was highly pleased with her goodly squash crop, but her surprise was great when she cut one open and found it seedless and almost as smooth inside as outside. Her neighbors received samples of the 'Williams seedless variety,' and they pronounced them of excellent quality and good flavor. However, the only theory advanced for this peculiar freak is that it is possible the seed pollen may have mixed, resulting in the freak yield. Samples have been sent to higher authority to have explained fully the cause of the remarkable happening.

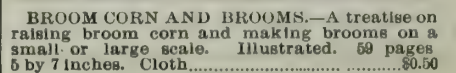
**SISKIYOU.**

Searchlight: L. T. Hebbing must appear before the Board of Supervisors

**Only One "BROMO QUININE"**

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.







## Forestry.

### Growing Eucalyptus Trees.

D. C. Burson, writing for the Los Angeles Times, answers various questions in regard to the growth of the trees in the drier parts of the State:

"What kind of soil, and how should it be prepared for the successful growing of the eucalyptus?"

Any good land free from alkali or hardpan. In fact, it is a tree adapted to a great variety of soils, yet the better the land the greater the growth. The preparation of the lands depends largely upon the condition of the soil, but in all cases I would advise deep plowing. And should there be a clay or tough subsoil, I would use a subsoil plow. Work the surface until it is perfectly friable.

"How often and how long should the young trees be irrigated?"

That also depends upon conditions. High, dry land, where water is a long way from the surface, requires pretty thorough irrigating, sufficient at least to keep the root moist through the hot dry season, for at least two summers. Low moist land would not require more than one season of irrigation.

"Is 6x6 feet far enough apart to plant the eucalyptus for all practical purposes?"

I would say if your object is poles or spars, it is, but if the object is saw timber (which is doubtless the most profitable part of eucalyptus growing) I would give more room on account of having it grow several years longer before cutting; 8x8 will give sufficient space for growing large trees.

"What other values, except for poles, spars, ties and wood, does the eucalyptus possess?"

In answer to this question I am led to believe that from recent investigations that these should be classed among its minor values, for it has been discovered that eucalyptus lumber is susceptible to a very fine finish, and as the different varieties possess various shades and colors, it has an untold value for furniture, office work or inside of cars or fine houses. Numerous samples of this wood, polished, can be seen in Los Angeles. It requires an expert to see the difference between the E. Rostrata (red gum) and San Domingo mahogany. And it is well known that mahogany commands an enormous price in our eastern markets.

It would therefore (from present investigations and discoveries) be impossible to place a future value upon the lumber of this important tree. And yet from our experience of over thirty years in growing other timber trees we are inclined to make a conservative estimate of possible profits to be derived in growing the eucalyptus as a combination of saw timber and poles. Saw the butt end and use the top for poles and wood.

With this object in view, and by planting less than 700 trees to the acre, with a probable future stand of 500, the expense would naturally be greater per tree than when planting exclusively for poles, but, supposing it would double that amount, say 10 cents per tree all told, there is no other expense except the land, which may be almost any price, but we are convinced that good eucalyptus land can be bought in southern California at prices ranging from \$20 to \$50 an acre, according to location.

We can, therefore, safely place the cost of a eucalyptus grove with 500 trees to the acre, at \$100 per acre. That would include first-class land, well located. The results would, of course, be governed by the length of time the trees were left standing and the price of lumber at that time, which doubtless would be much higher than at present, as fifteen or

twenty years hence we shall be close on the heels of a timber famine.

The older the tree the better the sawed timber, but by placing the time of cutting fifteen years from the time of planting, we are warranted by experience and observation in saying that the first sixteen feet of each tree will cut 150 feet of inch boards. As we are making a very conservative estimate, we will place the cut at only 100 feet, with the supposition that it will take half of that to cut and saw it, which will leave but fifty feet to each tree, or 25,000 feet to the acre.

As to its future value, we will make no prediction—it may be worth 10, 20, or even 30 cents per foot, but we will estimate it at the present price of common pine lumber—3 cents per foot, or \$1.50 per tree. As the trees would probably be over 100 feet in height at the time of cutting, the balance of the trees would easily bring \$1 for poles and wood. This would place each tree at the low price of \$2.50, or \$1260 per acre, or \$125,000 for a 100-acre grove costing less than \$10,000.

Now it looks like an enormous percentage on a fifteen-year investment, yet every indication points to three or four times that amount. Why will capital permit a timber famine?

### How to Get Forests.

To the Editor: In regard to forest reserves, the following suggests itself to me as a good plan: Let any rancher, be he big or little, all over the United States, be exempt from taxation for say 50 acres or less in timber in its natural or cultivated state. This would help many a rancher to put out trees, knowing that in time he would get some revenue from it. It must remain a timber reserve if it shall be exempt from all taxation. If grubbed up or cultivated, the land must be taxed as usual. This plan will put millions of acres in timber in a short time. Let some State try it. See how quick the people will settle the timber question. Subscriber.

Healdsburg.

## Our Special-- Hard--Stiff --Springy-- LIVE Steel

The development of American Fence. The years of experimenting. The hundreds of thousands of dollars which we have invested in perfecting machinery and producing the grade of special steel to make American Fence what it is today. That is a long story.

What vitally interests you is the result of this great outlay of time and money.

What you want to know is that:—

We have succeeded in producing a special steel that is perfectly adaptable for fence making. By the use of this special steel, galvanized by our perfected process, the value of

# AMERICAN FENCE

to the user is greatly increased. We firmly believe it to be as near absolute perfection as possible for the purpose. Wire drawn from the steel is hard but not brittle.

It is stiff and springy but pliable enough to be properly spliced.

It is live steel—not dead steel. So that every wire in American Fence as now

made is a live wire, doing business all the time and—

Always absolutely reliable against emergencies. Dealers everywhere—one in your town. See him—examine the different styles—test—compare—and

judge the merits of the fence.

American Steel & Wire Co.

Chicago

New York  
San Francisco

Denver

## FERTILIZE WITH Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.



268 MARKET STREET  
San Francisco

MANUFACTURERS OF

## Special Fertilizers for all Crops

Our New Catalogue

"The  
Farmer's  
Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.

## WHEAT GROWERS!

**SPEND \$1.00 PER ACRE**

for the unsurpassed cereal phosphoric acid fertilizer, SUPERPHOSPHATE, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvellous results as applications of superphosphate."

GET PARTICULARS FROM

**The Mountain Copper Co., Ltd.**

150 PINE ST., SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinion as to Patentability and Infringements  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco



## Patrons of Husbandry.

### Tulare Grange Meeting.

To the Editor: Tulare Grange held its regular meeting on the 18th. There was a good attendance and an excellent lunch. Bro. E. C. Shoemaker was present, having just returned from his old home in Pennsylvania. He was warmly greeted by all members present. He told of attending the State Grange of Pennsylvania, held in Winchester. There were 1200 in attendance and 500 took the sixth degree. While there he was assured that the State Grange Fire Insurance, for members in good standing in the Order, greatly promotes membership, and gives membership fire insurance at actual cost with absolute safety. It has done so and is now doing it in New Jersey and in Pennsylvania, besides many other States.

The committee that arranged for the Farmers' Institute held on the 13th and 14th of this month reported a satisfactory session, with Prof. Warren W. Clarke conductor, and Messrs. Westergard and Robinson assistants. All the subjects discussed had a direct bearing on local farming industries, and all were interestingly discussed. The talk of Mr. Robinson on chickens was interestingly full of detail. The best paper of the session was Mrs. M. E. Sherman's, on dairy stock, from what it originated, how it is being built up and developed, and what it is. Mrs. Sherman, owing to sickness of her husband, was not present, very much to the regret of those present. Her paper was well read by Professor Clarke.

The subject of the day was, "For a Profitable Business, What Is the Best Poultry Breed?" The subject was thoroughly discussed, most of those present being familiar with it. For eggs, White Leghorns are the best in this climate; they are healthy, are the best of layers, the eggs are all white and have the preference in the San Francisco market, although the trade in Los Angeles, a large egg market, pays as much for the brown egg as the white. For the table, the Plymouth Rocks got the preference.

When poultry raisers buy all the feed, it costs about half the egg proceeds. When they raise all their chicken feed, the home consumption is the very best market they have. As between commercial and home-grown chicken feeds, the home-grown had a decided preference. Chickens, properly cared for, will pay for themselves three times a year.

**Taxes.**—The time for payment of the first installment of this year's taxes being about to expire, it was asked if a constitutional amendment, called "Constitutional Amendment No. 1," is not to be submitted to a vote of the electors at the next State election, providing for a State revenue from sources other than those from which the counties and municipalities derive their revenue, and it appearing that but few of the electors of the State now know the importance and effect on our revenue system of the proposed amendment, it was

Resolved, That Tulare Grange No. 198, P. of H., ask the papers of the State, daily and weekly, to publish, at as early a date as possible, Con-

stitutional Amendment No. 1, and discuss its merits and effects. Particularly, we ask the agricultural papers, and papers having an agricultural department, to publish it, and ask all their exchanges in the State to publish it.

In considering the subject it was agreed that there is no subject before the electors of the State, for their approval, of more importance than Constitutional Amendment No. 1; that the people should, by its early publication, have time to consider it and mature their views. That if its publication is delayed until close to the time of election, misleading constructions may, will, be put on it, tending to confuse the judgment of a great number of our electors. Inasmuch as the subject affects every section of the State and every taxpayer therein, this Grange believes it should be discussed by every political organization, by the Commonwealth Club, and by every Good Government Club in California.

Subject for next meeting: What can be done to organize more Granges and increase our membership?

Bro. F. H. Styles will open the discussion. J. T.

**CLEARED \$937.25 FROM THREE TREES.**—A dispatch from Red Bluff states that Uncle Sam's timber in the forest reserves will be a source of vast income to the government in the near future as shown by the price realized for three large sugar pine trees, which were sold for \$43.25, or about \$14.41 per tree, standing in the forest. These trees were scaled to board measure and were charged for at the rate of \$3 per thousand feet. Each measured 54 inches at the stump, and squared to 42 inches at the top of the first cut, with the first limbs fully 100 feet above the ground. They were considered handsome specimens of the pine forest lying just south of Battle Creek meadows. The three trees were purchased by Milt Supan, who, after consigning fully one-fourth of the timber to the brush pile as waste, manufactured 98,000 shakes from their trunks, which, at the market price of \$12 per thousand for shakes, the product of the three trees will amount to \$1176. After paying the \$43.25 to the government for the three trees, and \$2 per thousand for hauling the shakes to market, Mr. Supan will realize for his work about \$937.25. He says good timber will make from 4000 to 5000 shakes to the 1000 feet, scaled board measure. Mr. Supan has made arrangements with Forest Ranger Howell for a large sugar pine tree 6½ feet in diameter at the butt, and he is satisfied this tree will produce 50,000 shakes.

**Sacramento Bee:** The E. C. Horst Co. is having a large glass house erected in their hop yards near Wheatland for the purpose of rushing about 100 vines to maturity. The hops, it is believed, will be ready for harvesting by April 1. The company has a hop-picking machine almost perfected and these hops will be raised in order to test the machine a few months before the picking season. Last week the machine was shipped to Australia where hop harvest is now in full blast, in order to test it there. Last September the machine was used some in Oregon and gave considerable satisfaction, but has not as yet reached perfection.

#### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

The California Fruit Canners' Association has contracted for over 300,000,000 cans, to be delivered at the rate of 60,000,000 per year.



## A Safe Axe

Every Keen Kutter Axe is fastened to the helve by the Grellner Everlasting Lock Wedge (used only in Keen Kutter tools)—a simple device which once driven home in any tool unites head and handle so securely that only fire can separate them. Hence a

# KEEN KUTTER

Axe cannot fly off to the annoyance and danger of the chopper.

Look for the Keen Kutter trademark. It covers this "safe axe" and also better, truer Saws, Planes, Adzes, Hammers, Augers, Braces, Bits, Gimlets, Chisels, Gouges, Squares, Bevels, etc., than is possible to find under any other name, as well as Forks, Hoes, Rakes, Scythes, etc. If not at your dealer's, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten." E. C. Simmons. Trademark Registered.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.



124 Page Free Book.

Send today.

## "Old Trusty" Incubators

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

### E. E. McCLANAHAN

711 So. Main Street Los Angeles.

## Burbank Says:

"Best way to get a Walnut Grove—Plant California Black Walnuts, graft them when 4 years old to Franquette or Santa Rosa."

We have extra good stock of CALIFORNIA BLACK 3 to 5 feet. Write for prices.

### JOHN SWETT & SON MARTINEZ, CAL.

## GRAFTED VINES

FIELD GRAFTING BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

JOHN L. AMES, Elk Grove, Cal.

### WANTED

Cuttings of the Following for Grafting Purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

FANCHER CREEK NURSERIES Fresno, California.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges Capacity 500 Boxes a Day Runs Easily by Foot Power Cannot Damage the Fruit Price \$50.00

WRIGHT BROTHERS, Riverside, Cal.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address Grayson and Sixth Streets, BERKELEY, CAL. West of San Pablo Ave.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying. 5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA Open all Year. A. VAN DER NAILLEN, Pres't Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. 937 Pacific Bldg., Fourth and Market Sts., San Francisco.



## THE MARKETS.

San Francisco, Jan. 29, 1908.

## WHEAT.

Bad crop reports are expected from the Northwest, and it is said that the Hessian fly has appeared in some sections. It is estimated that by March 1 farmers' reserves will be down to 125,000,000 bushels, far less than last year. In the local market, while there has been no further decline, there is a marked inactivity, and the feeling is weak. Speculative business is very dull, and few buyers are taking any interest in cash grain. The millers would take liberal supplies of choice grades, but as they are unable to get them, they are taking lower grades in small quantities.

California White Australian..	1.75 @1.80
California Club.....	1.67½@1.70
California Milling.....	1.70 @1.72½
California lower grades.....	1.60 @1.65
Northern Club.....	1.65 @1.70
Northern Bluestem.....	1.67½@1.75
Northern Red.....	1.60 @1.62½

## BARLEY.

Buyers are showing no greater interest in most grades of barley than last week, and both speculative and cash markets are weak under the continued dullness, though receipts are small. The shipping demand continues light. Feed grades are the duller feature, showing a considerable further decline. Chevalier is practically nominal, as very little is offered. Brewing grades are stiffening up a little, spot stocks being about cleaned up, with a moderate demand.

Brewing.....	\$1.57½@1.60
Chevalier.....	1.75 @1.85
Good to Choice Feed, per ctl..	1.45 @1.48½
Common to Fair.....	1.42½@1.43½
Shipping.....	Nominal

## OATS.

Arrivals of oats were heavy one day last week, though the arrivals for the week are moderate. The rains have caused some improvement in the demand for red oats for seeding purposes, but otherwise the market is very quiet, and shows no particular feature. Black are entirely neglected, with very few offering. There is no change in prices, as holders are firm in their ideas in expectation of a heavier demand, and there is not enough buying to cause any advance. It is said that considerable quantities are moving east from northern points.

Clean Black for seed.....	\$2.50 @2.75
Choice Red, per ctl.....	1.85 @1.90
Gray.....	1.52½@1.60
White.....	1.52½@1.70
Choice Red, for seed.....	1.90 @2.00

## CORN.

Arrivals from Western points, while still comparatively small, are larger than at this time last year, as the local mills are consuming greater quantities. Several cars arrived last week, and the market closed with higher prices on these lines. California stock is dull and unchanged.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.65 @
White.....	Nominal
Western State sacked Yellow, new.....	1.60 @ 1.65
White, in bulk.....	1.52 @
Mixed, in bulk.....	1.50 @
Brown Egyptian.....	1.40 @
White Egyptian.....	1.35 @

## RYE.

Stocks of Utah and Oregon rye on this market are entirely cleaned up, and no quotations are given. Receipts of California stock are larger, and the demand is slightly stronger, the last sale being at \$1.50.

California.....	\$1.47½@1.50
Utah.....	Nominal
Oregon.....	Nominal

## BEANS.

A further improvement is reported in the shipping demand for beans, and larger shipments are going forward to most sections. Under these conditions, there is a strong feeling in the market, and the movement is rapidly coming up to the volume of a few months ago. All stocks are firmly held, and prices are unchanged.

Bayos, per ctl.....	\$3.15 @3.25
---------------------	--------------

Blackeyes.....	3.75 @4.00
Butter.....	4.50 @5.00
Cranberry Beans.....	3.00 @3.25
Garvanzos.....	3.75 @4.00
Horse Beans.....	2.75 @3.00
Small White.....	3.50 @
Large White.....	3.35 @3.45
Limas.....	4.75 @4.85
Pea.....	3.50 @3.75
Pink.....	3.15 @3.25
Red.....	3.40 @3.50
Red Kidneys.....	3.25 @3.50

## SEEDS.

With favorable weather, the demand for seeds continues strong on all lines, and prices are firmly held. There has been a heavy demand for red clover, and this line has taken a sudden jump, being now quoted at 20 cents. Alfalfa is also very active, and the supply is shorter than was anticipated, though so far there has been no advance on this line.

Utah Alfalfa.....	18 @ 19 c
Turkistan alfalfa.....	18 @
Alfalfa.....	17½@18 c
Broomcorn Seed, per ton.....	\$22.00@25.00
Brown Mustard, per lb.....	3 @ 3½ c
Canary.....	4½@ 4½ c
Flaxseed.....	Nominal
Hemp.....	4½@ 4½ c
Millet.....	3 @ 3½ c
Timothy.....	7 @ 7½ c
Yellow Mustard.....	5 @ 5½ c

## FLOUR.

The local demand keeps up about as usual, the market being described as quiet. More activity is reported in the East. Some shipping is reported from the North for the Oriental interest, but the movement is far below normal, while the shipments to Central America are about as usual. A heavier Oriental demand is looked for within the next few months, but at present there is hardly enough business to keep the mills busy, and they are keeping their output down to a small volume.

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras.....	5.40 @5.65
Superfine.....	4.20 @4.50
Oregon and Washington, Family.....	4.75 @5.25

## HAY.

Receipts of hay showed a considerable falling off this week, being only 2350 tons, or considerably less than for a number of weeks past. As there are now plenty of cars available and plenty of hay in the country, it seems clear that the holders have decided to market no more at the present prices. There was, however, a considerable amount of hay in the hands of both dealers and consumers, and the shortage in arrivals did not at once make itself felt here. During the last few days, however, the market has responded to the new state of affairs to a certain extent and the feeling is now better than for some time. Quotations are practically the same as before. The hay consumption in the interior continues good. The receipts of alfalfa and straw continue to just about meet the demands of the trade, the latter being now quite fair for both.

Choice Wheat, per ton.....	\$16.00@17.50
Other Grades Wheat.....	11.00@15.00
Wheat and Oat.....	11.00@15.50
Tame Oat.....	11.00@15.00
Wild Oat.....	9.00@12.00
Alfalfa.....	9.00@13.50
Stock.....	7.50@ 9.50
Straw, per bale.....	50@ 90c

## MILLSTUFFS.

With the present inactive condition of the flour market, the output of bran, shorts and middlings is very small, and supplies are hard to get. Receipts are small, and the market is kept closely cleaned up. All offerings are firmly held, with a further advance on both bran and shorts. Mixed feed is also higher. Rolled barley has not followed the further decline in the raw grain, but is weak, while other lines are unchanged.

Alfalfa Meal (carload lots) per ton.....	\$22.00@
Jobbing.....	23.00@
Bran, ton.....	29.00@30.00
Broom Corn Feed, per ctl.....	90c@ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00@
Jobbing.....	26.00@
Corn Meal.....	37.00@
Cracked Corn.....	38.00@
Mealalfa.....	22.00@
Jobbing.....	23.00@
Middlings.....	32.00@35.00

Mixed Feeds.....	26.00@27.00
Oil Cake Meal, per ton.....	38.50@39.50
Rolled Barley.....	33.50@34.50
Shorts.....	30.00@31.00

## POULTRY.

The poultry market developed considerable weakness during the week, and shows no signs of recovery, owing to heavy arrivals of both eastern and California stock, six cars of the former having come in Monday and Tuesday. Small and large broilers and squabs are about the only stock that is in any demand, the latter having been quite firm for some time. There is some sale for good dressed turkeys, but at this time of year the demand is somewhat limited, and prices rule low. Live stock is hard to dispose of.

Broilers.....	\$5.00 @ 5.50
Small Broilers.....	4.00 @ 5.00
Ducks.....	4.00 @ 7.00
Fryers.....	5.50 @ 6.00
Geese.....	2.00 @ 2.50
Hens, extra.....	7.00 @ 9.00
Hens, per doz.....	5.00 @ 6.00
Small Hens.....	4.00 @ 4.50
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	6.00 @ 7.50
Pigeons.....	1.00 @
Squabs.....	8.00 @ 3.50
Hen Turkeys, per lb.....	15 @ 17 c
Gobblers, live, per lb.....	15 @ 17 c
Turkeys, dressed.....	18 @ 20 c

## BUTTER.

Fresh extras are weak, with larger receipts, and supplies ample for all needs, prices having declined 1½ cents during the week. Lower grade fresh stock is described as steady, though firsts are 5 cents lower. Business on the exchange is very quiet, and there is no great movement on the street, as the demand for consumption has not increased to any extent. Nearly all storage goods have fallen off, and there is little inquiry for them.

Cal. (extras) per lb.....	33 c
Firsts.....	25 c
Seconds.....	22 c
Thirds.....	
Fresh Eastern, extras.....	
Fresh Ladies, extras.....	
Fresh Ladies, firsts.....	
Storage, Cal., extras.....	23 c
Storage, Cal., firsts.....	22 c
Storage Eastern, extras.....	23 c
Storage Ladies, extras.....	20 c

## EGGS.

The egg market has been dull and weak, with 21 cents on extras as the low mark, but there is now a stronger feeling, as retail prices have declined, and there is a good consumptive demand, increased arrivals cleaning up at an advance of 2 cents. Lower grades drag at reduced prices. Storage goods are still being urged for sale, and sellers are willing to dispose of their stocks at almost any price.

California (extra) per doz.....	23 c
Firsts.....	22½ c
Seconds.....	21 c
Thirds.....	20 c
Storage, Cal., extras.....	17½ c
Storage Eastern, extras.....	15 c

## CHEESE.

There is a fair movement of new California cheese, though prices on fancy flats are ½ cent off. Storage Young Americas are also slightly lower. Otherwise the market is steady at previous prices, with supplies about equal to the current demand.

Fancy California Flats, per lb.....	14½ c
Firsts.....	13½ c
New Young Americas, Fancy.....	15 c
Storage, do.....	15 c
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	15 c
Oregon, Fancy.....	15 c

## POTATOES.

Large supplies of potatoes are again coming in, from all quarters, and the market is overstocked, though there is about the usual amount of buying. Oregon Burbanks and River goods are quoted at a lower range of values, and Salinas and Lompoc stock is weak. Early Rose and Garnet Chiles are selling well for seeding purposes. Sweet potatoes are firm and active.

Oregon Burbanks.....	90 @1.15
Burbanks, Salinas, ctl.....	\$1.00 @1.25
Lompoc Burbanks.....	1.30 @1.40
Burbanks, River, bag.....	40 @ 85
Early Rose, ctl.....	1.00 @1.25
Garnet Chiles.....	90 @1.10
Sweet Potatoes, per ctl.....	2.75 @

## Send for this Catalogue

Of Northern Grown Seeds—Tried and proved Best for the West. Contains 112 pages and 16 colored photos of Farm, Field and Flower Seeds with full cultural directions. A request will bring it to your home free.

Ohas. H. Lilly Co., Seattle, Wn.



Sold by Dealers

## VEGETABLES.

Fair arrivals of onions are moving well at a further advance in prices. Receipts of miscellaneous lines from the south are light, and while there is no heavy demand, prices are considerably higher on most descriptions. Choice peas, string beans and bell peppers are scarce and high, while egg plant and chile peppers are plentiful, the former selling for lower prices.

Garlic, per lb.....	5 @ 7c
Green Peas, per lb.....	3 @ 7c
Chile Peppers, per lb.....	6 @ 8c
Cabbage, per ctl.....	60 @ 65c
Onions, per ctl.....	2.75 @ 3.00
String beans, per lb.....	17½ @ 20c
Tomatoes, crate.....	1.50 @ 2.25
Marrowfat Squash, per ton.....	10.00 @15.00
Carrots, sack.....	75 @
Hubbard Squash, ton.....	10.00 @15.00
Summer Squash, box.....	1.50 @ 2.00
Celery, crate, small.....	90 @ 1.00
Egg Plant, lb.....	8 @ 12½ c
Rhubarb, box.....	1.50 @ 1.75
Mushrooms, lb.....	10 @ 25c

## FRESH FRUITS.

The low prices have checked the shipment of strawberries from the South, and there are none offering. There is a fair business in apples, as retail stocks have been closely cleaned up, the principal trading being on fancy stock, though prices are somewhat easier. Pears are unchanged.

Apples, fancy.....	1.25 @ 2.00
Apples, common to choice.....	60 @ 1.00
Pears.....	2.00 @ 2.25
Winter Nels.....	2.00 @ 2.25

## CITRUS FRUITS.

There is little demand for anything in the citrus line, and with heavy accumulations, increased by new arrivals, prices are weak. Grapefruit is the only firm feature, with light stocks and prices well sustained, while tangerines, lemons and limes are still neglected.

Choice Lemons.....	\$1.50 @1.75
Fancy Lemons.....	1.75 @2.25
Standard.....	1.25 @1.50
Limes.....	3.00 @4.00
Oranges—	
Fancy.....	1.75 @2.25
Standard.....	1.50 @1.75
Tangerines, large box.....	1.00 @1.25
Grape Fruit.....	2.25 @3.00

## DRIED FRUITS.

There is some weakness in apples, peaches and pears, with lower prices. There is a good demand for seedless raisins in New York, though seeded stock and prunes are dull. Fresno raisin growers who have to move their crops from leased land are said to be cleaning up at 3½ cents. The local packers are taking more interest in prunes.

Evaporated Apples.....	7½ @ 9 c
Figs, black.....	2½ @ 3 c
do white.....	3 @ 4 c
Apricots, per lb.....	18 @21 c
Fancy Apricots.....	21 @22 c
Peaches.....	9 @11 c
Prunes, 4-size basis, 1907 crop.....	4 @ 4½ c
Pitted plums.....	Nominal
Pears.....	9½ @12 c



## RAISINS.

2 Crown .....	4 1/2 @
3 Crown .....	5 1/2 @
4 Crown .....	5 1/2 @
Seeded, per lb. ....	7 1/2 @ 7 1/2 c
Seedless Sultanias .....	5 1/2 @ 7 1/2 c
London Layers, per box .....	\$1.25 @ 1.40
London Layers, cluster .....	1.30 @ 2.00

## NUTS.

There has been no further decline in nuts, and the market seems to be steady up a little, though no business of much consequence is reported.

Almonds, Nonpareils .....	15 c
IX L .....	14 1/2 c
Ne Plus Ultra .....	14 c
Drakes .....	13 c
Languedoc .....	12 c
Hardshell .....	8 c
Walnuts, Softshell No. 1 .....	14 1/2 c
Softshell, No. 2 .....	12 c
Italian Chestnuts .....	10 @ 12 1/2 c

## HONEY.

Practically all the last crop of honey has now moved out of the hands of producers, and stocks held here are slightly greater than last month. The supply, however, is still small, and prices are firmly held, though the movement has not increased to any extent.

Water White, Comb .....	16 @ 17 c
White .....	15 @
Water White, extracted .....	8 @ 8 1/2 c
Light Amber .....	7 @ 7 1/2 c
Dark Amber .....	6 1/2 @ 6 1/2 c

## WOOL.

Prices on wool are unchanged, and the market is still very dull, the only trading being on low-priced clips. Stocks in California are estimated at about 3,000,000 pounds.

Humboldt and Mendocino, year's staple .....	22 @ 23 c
Fall clip: Northern free, mountain .....	8 @ 11 c
do. defective .....	6 @ 8 c
San Joaquin and Southern .....	5 @ 8 c
Fall Lambs, Northern .....	9 @ 11 c
Fall Lambs, Southern .....	7 @ 9 1/2 c
Nevada .....	12 @ 16 c

## HOPS.

Blue mold has appeared in Oregon. Somewhat more activity is reported, both here and in the north, and prices on the last crop are again slightly higher.

1906 crop .....	2 @ 3 c
1907 crop .....	6 @ 9 c
1908 (contracts) .....	10 @ 11 c

## MEAT.

There is a little more firmness in beef, veal and lamb. Dressed hogs are lower, though live hogs show an advance. There have been many receipts of hogs in Chicago, which may have some effect on this market.

Beef: Steers, per lb. ....	7 @ 7 1/2 c
Cows .....	6 1/2 @ 9 c
Heifers .....	6 1/2 @ 9 c
Veal: Large .....	8 @ 9 c
Small .....	9 1/2 @ 10 c
Mutton: Wethers .....	10 1/2 @ 11 c
Ewes .....	9 1/2 @ 10 1/2 c
Lamb .....	12 1/2 @ 13 c
Spring lamb .....	15 @ 16 c
Hogs, dressed .....	9 @ 10 1/2 c

## LIVESTOCK.

Steers, No. 1 .....	8 1/2 @ 9 c
No. 2 .....	7 1/2 @ 8 c
No. 3 .....	6 1/2 @ 7 c
Cows and Heifers, No. 1 .....	6 1/2 @ 7 c
No. 2 .....	6 @ 6 1/2 c
Bulls and Stags .....	3 1/2 @ 4 c
Calves, Light .....	5 @
Medium .....	4 1/2 @
Heavy .....	3 1/2 @ 4 c
Sheep, Wethers .....	5 @ 5 1/2 c
Ewes .....	4 1/2 @ 5 c
Lambs .....	5 1/2 @ 6 c
Hogs, 100 to 200 lbs .....	6 @ 6 1/2 c
200 to 300 lbs .....	5 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author that whom no one is better qualified. The subject-matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 460 pages. 5 1/2 by 8 inches. Cloth. \$1.75.

## BOOKS FOR THE FARM

## For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, plows, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth. \$1.00.

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth. \$0.50.

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold. \$1.50.

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth. \$0.75.

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth. \$2.

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth. \$1.50.

**THE BOOK OF CORN.**—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages. 5 by 7 inches. Cloth. \$1.50.

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth. \$1.

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth. \$1.50.

**THE NEW ONION CULTURE.**—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and experiment stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth. \$0.50.

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseeded it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth. \$0.50.

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth. \$1.

**ASPARAGUS.**—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth. \$0.50.

## A NEW SHEEP BOOK.

"Modern Sheep; Breeds and Management," by "Shepherd Boy," author of "Fitting Sheep for Show Ring and Market," is the latest work from the American Sheep Breeder press of Chicago, and it is perhaps within bounds to say that it is the best work on sheep ever published in this or any other country. It contains over 100 half-tone engravings, among them being something like thirty of different breeds of sheep from different parts of the world. The subjects covered by this work are divided into eight parts: Part I deals with History and Breeds; Part II, General Management; Part III, Sheep Management in the Western States; Part IV, Fitting Sheep for Show; Part V, Raising Hothouse or Spring Lambs; Part VI, Dressing Sheep and Lambs; Part VII, Pastures, Forage Crops, etc.; Part VIII, Diseases. The author of this work is one of the world's best known authorities on sheep, having had practical management of flocks in several different countries, and is at present associate editor of the world's leading sheep journal. A unique feature of this work is that wherein the author seems to upset the theory advanced by some scientists that on account of the differences of the genus of the sheep and goat a hybrid from such a mating is impossible, since the pages of this volume contain a half-tone engraving from a photograph of the produce of such a mating and the statement of a member of the Government Bureau of Agriculture giving his opinion that this hybrid is genuine. This is a book that will be read with interest and profit by the veteran sheep breeder as well as the novice. It can be ordered through the PACIFIC RURAL PRESS at \$1.50, postpaid.

## A Chance at Holsteins.

The Pierce Land & Stock Co. propose to let you in on Holstein-Friesians by the ground floor. Look for their notice!

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

## POULTRY.

BROWN LEGHORNS AND BARRED PLYMOUTH ROCKS. Eggs for hatching a specialty; cockerels for sale. Walter Curry, R. D. No. 21, San Jose, California.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in  
**POULTRY SUPPLIES**

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

## Registered Holstein Bulls

## AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.

**PIERCE LAND & STOCK CO.,**  
Riverside Ranch. Stockton, Cal.  
Phone Main 1597. Send for Catalogue.

## BUFF ORPINGTONS

Largest clean legged bird in the list, lay the year around, and bring a dollar each and more when turned to market. Postal will bring you prices and our show record.

**W. SULLIVAN,**  
Agnew, Santa Clara County, Cal.  
State V. P. Nat. S. C. B. O. Club.

**DADD'S MODERN HORSE DOCTOR.**—By George H. Dadd, M. D., V. S., containing practical observations on the causes, nature and treatment of diseases and lameness of horses—embracing recent and improved methods, according to an enlightened system of veterinary practice, for preservation and restoration of health. Illustrated. 432 pages. 5 by 7 inches. Cloth. \$1.00.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L .....	77
American Steel & Wire Co. ....	76
Bean Spray Pump Co. ....	80
Beckman, Geo. V. ....	79
Blake, Moffitt & Towne. ....	73
Bosanko Medicine Co., Dr. ....	71
Breeders' Directory .....	79
Coates Nursery Co., Leonard .....	71
Croley, George H. ....	79
Curry, Walter .....	79
Deming Co., The .....	73
Dewey, Strong & Co. ....	76, 79
Disbrow, F. H. ....	73
Driver, E. S. ....	79
El Dorado Oil Works .....	—
Fancher Creek Nurseries .....	75, 77, 79
Ferry & Co., D. M. ....	71
Folding Sawing Machine Co. ....	—
Fresno Agricultural Works .....	—
Fresno Nursery .....	74
German Kall Works .....	—
Golden Rule Nursery .....	73
Gregory & Son, J. J. H. ....	75
Hart, Ed. ....	79
Hess & Clark, Dr. ....	71, 75
Holcombe & Co., R. A. ....	76
Hopkins, G. H. ....	73
Howard Cattle Co. ....	79
Hoyt's Tree Support Co. ....	—
Jackson & Co., T. W. ....	76
Lawrence-Williams Co. ....	74
Lilly Co., Chas. H. ....	78
Lister, Henry B. ....	77
Live Stock and Dairy Journal Experimental Farm. ....	75
Ludemann, F. ....	73
Luther, A. W. ....	71
Lynch, John .....	79
McClanahan, E. E. ....	77
Meacham, Frank A. ....	—
Mills, A. A. ....	71
Minnewawa Vineyard .....	73
Morse & Co., C. C. ....	74
Mitting, A. ....	75
Mountain Copper Co. ....	76
Myers, Wm. S. ....	—
National Wood Pipe Co. ....	80
Oakland Poultry Yards .....	79
Orange County Nursery & Land Co. ....	74
Oregon Nursery Co. ....	75
Pacific Coast Business College .....	73
Pacific Guano & Fertilizer Co. ....	76
Pear Blight Remedy Co. ....	80
Pierce Land & Stock Co. ....	79
Reeves & Co. ....	—
Rhodes Mfg. Co. ....	—
Roeding, Geo. C. ....	79
Scheidecker, A. F. ....	73
Saulberger, J. ....	75
Shaw, Henry .....	73
Sharples Separator Co. ....	—
Silva & Bergholdt Co. ....	80
Simmons Hardware Co. ....	77
Smith, Francis .....	—
Snow, D. A. ....	73
Stanford Ranch .....	79
Stewart, W. A. ....	73
Stowe, C. A. ....	79
Stratton, W. A. T. ....	74
Sullivan, W. ....	79
Sure Hatch Incubator Co. ....	71
Swett & Son, John .....	77
Teague, R. M. ....	—
Temple Pump Co. ....	—
The Cutter Laboratory .....	77
True, T. J. ....	71
Trumbull Seed Co. ....	74
Tuttle's Elixir Co. ....	—
Van Der Naillen, A. ....	77
Vermont Farm Machine Co. ....	—
Wagner, J. B. ....	73
Waite, Thos. ....	79
Western Meat Co. ....	71
Willson, F. C. ....	71
Wright Brothers .....	77

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

## DEWEY, STRONG &amp; CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## FOR SALE

A few thoroughbred registered Poland China service boars.

Registered Holstein Friesian service bulls and bull calves from Advanced Registry Stock.

**STANFORD RANCH,** : Vina, Cal.



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

**OUR STOCK**

Comprises all profitable commercial sorts of

PEACHES,	CHERRIES,
PLUMS,	ALMONDS
PEARS,	APRICOTS
APPLES,	and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

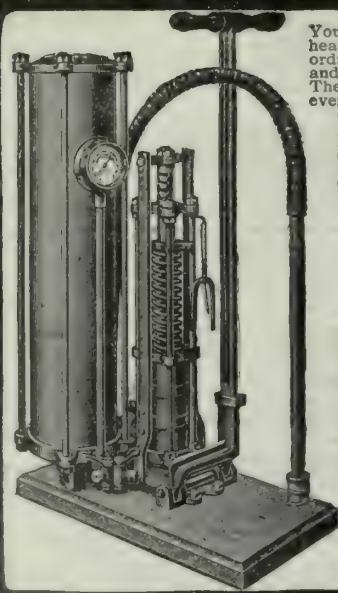
WRITE US

**PLACER NURSERIES**

**SILVA & BERGTHOLDT CO.**

NEWCASTLE, CAL.

## MORE FRUIT WITH LESS LABOR



You can positively insure a larger crop, clean fruit and healthy trees at a saving of fully one-third the labor ordinarily required and with a much less outlay of time and money by using a **Bean Magic Spray Pump**. The reason is because it sprays thoroughly with high, even pressure, but the operator is working against only one-half the pressure indicated on the gauge. It's on account of the spring which makes the Magic Spray Pump the easiest running, most perfect spray pump ever made. No other pump can compete with it in the essential points of quality and durability, and we challenge comparison with all other makes regardless of price or construction.

### Bean Magic Spray Pumps

are the result of careful study and experience in pump manufacture. We have no other line. We are specialists in pump-making, and the name **BEAN** on a spray pump or appliance is a guarantee that it is the best that money and brains can produce.

The most successful raisers of fancy fruit agree that spraying is the only and most effective method of securing the best results. The increase in profit from securing fancy fruit will alone soon pay for the outfit. Whether you have a large or small orchard you cannot afford to be without a **Bean Magic Spray Pump**. Write for our special offer, also free illustrated catalog.

**BEAN SPRAY PUMP CO.,**  
163 W. Santa Clara St., San Jose, Cal.



## California Fruit Exchange

(INCORPORATED.)

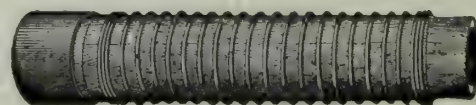
Head Office:

**SACRAMENTO, CALIFORNIA**

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Pipe. Bored Wood Pipe.

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

268 Market St., San Francisco.  
Dooly block, Salt Lake City, Utah.

## PEAR-BLIGHT

**We can CURE IT**

Our Work has Extended  
Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR BLIGHT REMEDY COMPANY

Ask for **SNOW'S GRAFTING WAX**

In use all over the State  
For sale by all the large grocers, or  
D. A. SNOW, Lincoln Avenue, San Jose, Cal.

**Blake, Moffitt & Towne**

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 6.

SAN FRANCISCO, SATURDAY, FEBRUARY 8, 1908.

Thirty-eighth Year.

## GLANCE AT LONG PRUNING OF VINES.

Two weeks ago we had a glimpse of pruning young vines with a view to starting them for short pruning. This was from a bulletin just published by the Experiment Station of the University and written by Prof. F. T. Bioletti. On this page a suggestive reference is made to the difficulties which arise in long pruning the Sultanina, which is the proper name of Thompson's Seedless, for which acknowledgment is made to the same publication, which presents the matter in fuller form. Prof. Bioletti notes the fact that the Sultanina becomes less productive if provision is not made for the continual production of canes which can be long pruned. There is no advantage in long or high stumps which have to be short pruned at the top. The upper picture on this page shows this kind of a vine, which Prof. Bioletti says is worse than an ordinary short-pruned vine.

This condition may be avoided for a year or two if, besides the fruit canes, we leave also some short spurs of one or two buds on the main stump. The canes from these spurs will consist of fruit wood, and they may be used for fruit canes the following year. Unfortunately these spurs are so shaded by the foliage on the fruit canes that they do not always produce vigorous wood, and finally they fail to grow at all.

Two methods have been successfully used to insure the growth of new fruit wood every year

in a position where it can be utilized. The first consists in bending the fruit canes into a circle, as illustrated in the picture. This diminishes the tendency of the sap of the vine to go to the end of the fruit canes. The consequence is that more shoots start on the lower parts of the fruit canes. All the shoots on these canes are made weaker and more fruitful by the bending, and at the same time the sap pressure is increased and causes strong shoots to start from the wood spurs left near the bases of the fruit canes. These shoots are used for fruit canes at the following winter pruning, and new wood spurs are then left for the next year.

The tying and bending of the fruit canes require great care, and repeated suckering and removal of watersprouts are necessary to insure strong growth of replacing canes on the wood spurs. This method can be used successfully only by skillful hands.

The other method requires some form of trellis. The most practicable trellis is a wire stretched along the rows at about 1½ or 2 feet above the surface of the soil. For very vigorous vines in rich soil a second wire 12 inches above the first is advisable.

The pruning is the same as for the method just described. The fruit canes, however, instead of being bent in a circle and tied to the stake, are placed in a horizontal position and tied to the wire. The horizontal position has the same effect as curving in promoting the starting of

more shoots on the fruit canes and the consequent production of more bunches of grapes. At the same time the buds on the wood spurs are forced to start, and not being shaded they tend to grow vigorously. It is best to tie the shoots from the wood spurs in a vertical position to the stake, and they should not be topped. Whatever system of winter pruning is adopted with the Sultanina, careful summer pruning, suckering, sprouting, and topping are necessary for the best results.



*Sultanina Vine Which Has Been Pruned Long and the Canes Tied up Vertically.*



*Bending Fruit Canes to Insure Growth of Shoots from Replacing Spurs.*



*Method of Pruning Trellised Sultanina Vines.*



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor  
EDGAR RICKARD - - - Business Manager

## The Week.

There have been grandly generous rains in all parts of the State, and confidence in crops is full. The rainfall is close to the normal in most places, and a few days more of it would probably induce fear that this year's February might be wet all through, as last year's was. This is not to be rationally expected, because California's Februaries very seldom go that way, and it is not desirable that they should. Planting conditions this year, though not ideal, have been better than last year, and the normal February rainfall is all that is needed. What can be rationally expected is therefore just what is wanted to bring this year's production along toward the high figures which it is hoped a few spring showers will carry to realization. It is more than usually important that such should be the case for, though the stringency has apparently long passed its climax, there is a large amount of confidence still to be restored, and the continuation of large agricultural production with ample surpluses for export will be a very influential factor toward that end. How much this is counted upon it may be seen from the closing sentences of an essay on the outlook in trade and finance in Bradstreet's, as follows:

"It should not be forgotten that there is a large and very profitable business to be done in this country in supplying the wants of the 84,000,000 people that inhabit it, and that the warnings to the country of the present trouble were so early and so numerous that large accumulations of stocks and goods were avoided. Buying for some time past has been of a healthy character, small and frequent instead of heavy purchases being the rule. Furthermore, it might be noted that some branches of the community, as, for instance, the farmers, were slow to feel the trouble, which so far has been largely financial or industrial and not agricultural, as in previous years of stress. Given the lightening of the present stress in the money markets, a thing which may be reasonably looked for with the quieting down of trade, though perhaps delayed by necessary heavy borrowing by railroads, a rather quiet business may be expected until election possibilities become certainties and the next growing season gives some index as to the crops of 1908."

It is not expressly stated in the foregoing that the farmers, by their crops and by their votes, will do away with the current industrial fear and unrest, but that is the fact. It looks as though the coming presidential campaign would be better set up for independent and conscientious voting than any other has been for the last third of a century. There will be more voting upon principle and less upon machine arrangements, and a wider effort to get at the real welfare of the people, and whenever that condition arises the agricultural vote is the balance of power on the side of right and against greed and selfishness. We shall have then great products and true voting and the country will enter upon and pursue a new era of prosperity until it becomes neces-

sary to readjust something else upon a truer basis. These are the peaceful revolutions which constitute American progress.

The California Dairy Bureau is struggling along in protecting and promoting the interests of one of our greatest agricultural specialties as well as it can, considering the lack of appreciation and appropriation from which it suffered at the last legislature. A meeting was held in this city last week, and the report of Mr. W. H. Saylor, the secretary and executive officer, showed that all the small available funds were used in securing the sanitary condition of dairies and factories of dairy products, and in enforcing the new laws enacted at the last session of the legislature relative to the adulteration of dairy products. During the year 1907 over 700 samples of milk and cream were collected by the inspectors, which were examined for preservatives and adulteration. Although the laws did not go into effect until last April, the Bureau secured evidence and brought prosecutions against thirty-one violators of the laws, the enforcing of which is under the authority of the State Dairy Bureau. In all but few of the cases convictions were secured. This sort of work should be decently provided for by the next legislature.

Many readers will be pained to learn of the death of Felix Gillet of Nevada City, whose name has been synonymous for progressive horticulture on this coast for a third of a century, and whose place in our horticultural history is assured. Mr. Gillet was born in France in March, 1835, and came to the United States in 1852, and to California in 1858, settling the following year in Nevada City. He early chose horticulture as a pursuit, although he took up other business for support and capital. He returned to France for nearly a year of horticultural work in 1864. In 1882 he centered his attention upon horticulture. In 1871, according to a writer in the Grass Valley Union, he purchased the rocky tract of land in the easterly edge of the city which afterward became known as the Barren Hill nursery. Whatever time could be spared he devoted to clearing and tilling this land, saying that some time he expected to have a nursery that would command attention. His friends and acquaintances looked upon his plans as visionary, predicting failure. He ignored their portentous prophecies and persistently continued with his labors. In 1882 he had established such an extensive and profitable nursery business that he devoted all his abilities, time, and energy to the industry for which he had shown such remarkable aptitude. This successful struggle in the face of difficulties reflects the character of the man. Opposition seemed to give him new nerve. His careful and persistent work with nut trees would have been more significant to the State and more profitable to himself if he had worked under better horticultural conditions and came into freer contact with his contemporaries who were doing similar work, and yet his introductions and his advocacy of them are known throughout the whole length of the coast, and his discussions of topics which interested him have been much more widely useful. Readers of the RURAL PRESS will long mourn his departure.

California dried fruit people do not seem to be fully assured that a commission wholly of physiological chemists is just what they desire to adjust the regulations under the pure-food laws. There will be, after this week's issue has gone to press, a meeting of the special committee appointed by the Fruit Growers' Convention held in the rooms

of the California State Board of Trade, January 16th, to adopt plans for a strong organization throughout California to protect the interests of the fruit growers, and to take action upon the following subjects: That President Roosevelt appoint a number of pathologists and practical fruit growers to act with the chemists; to employ experts; to appoint a committee to visit Washington early in February in the interest of the cause. This indicates that the work is to go on as the growers expect from their committee. It is fortunate that there is now every likelihood that the curing of 1908 will not be interfered with. This view is based upon the assumption that if the commission appointed by President Roosevelt is wholly made up of "medical and physiological chemists," as he has intimated, such men will be obliged to determine so many chemical points, and perhaps to undertake original investigation upon them, that much time will be required to reach conclusive results. Meantime it is the evident intention of the administration not to interfere with production and trade. The questions involved are to be settled beyond impeachment, and this cannot be done in a moment. Meantime it is just right for the producers' committee to keep their eyes and hands upon the situation, as they evidently intend to do.

A year or so we gave an account of purchases of raisin stemming machinery at Fresno for use by the Spanish packers at Valencia. More recently there was a demonstration of California field machinery in Spain which drew out a large concourse of church and state functionaries and of ordinary people. Now comes a link of the chain, viz: that the Best Manufacturing Works of San Leandro is preparing to ship one of its steam combined harvesters to Spain. The big machine is being packed to fill an order placed by Eviaresto Monne, a wealthy rancher whose farms are near Madrid, and who journeyed from Spain to inspect the steam farming implements used in California. The traction engine ordered is of 110 horsepower. It is to be used to operate a steam harvester combined with a separator. Monne also ordered disk plows to further equip his outfit. Laid down in Spain the engine, harvester and plows will cost \$12,000. It is to be accompanied to Spain by mechanics competent to set up and operate the outfit California style. Spain is waking up well in agriculture. The U. S. Consul at Barcelona writes a government order has recently been issued creating a sort of ambulating school for teaching scientific farming in the remote agricultural districts of the country—a measure which may have a certain commercial significance in the United States, since it will probably develop a demand for better agricultural implements and machines than those now in use. The Government order referred to provides for a course of experimental and practical instruction to be given every year by itinerant lecturers, selected from among the agricultural engineers at the district schools of agriculture. This announcement, in connection with the fact that California machines are already actually being introduced, is quite significant.

The Germans evidently prefer to come to the United States than to go to the German colonies in Africa, and the authorities are having difficulty in steering them in the latter direction. The announcement is made that the number of emigrants going to the United States is 90 per cent larger than the number of people leaving for the German colonies. According to an official of the Hamburg-American line, the class of emigrants



going to the United States during the winter months consists mainly of people who have saved money for years with the intention of putting it into American farms or gardens. These people have either been to the United States before or have received favorable reports from relatives in the countries in which they wish to settle. These emigrants also believe they can procure land cheaper after the financial crisis than six months from now. This is all right; if they will only bring money enough they will close the financial crisis and enjoy the unearned increment occasioned by the return of flush times.

## Queries and Replies.

### Sweet Oranges and Apples.

To the Editor: Has the Agricultural Department ever propagated a sweet orange (same as a sweet apple is among apples)? I have six pomelo trees in bearing, and I wish to graft one into a citrange and one with a sweet orange, if there be such a tree. Some time ago I saw a report of the Agricultural Department at Washington saying that sweet oranges were being propagated.—Enquirer, Santa Clara.

All the oranges which are commercially grown are known as "sweet oranges." The name may be something of a fiction as applied to some of the oranges which we find in the market, but they are sweet oranges all the same in contrast with the bitter, or wild orange sometimes known as the "orange of Seville." These sweet oranges vary widely in sugar content, and some of them are sweeter to the taste than they are in fact, not because they contain more sugar, but because they contain less acid. There is, however, none of the sweet oranges which is as different from others in the group as a sweet apple is from a sour apple, and there is, therefore, in our horticulture, nothing exactly what you call for. One of the sweetest of the sweet oranges is the "King" orange of China, which is, however, not grown in California, because it is a coarse, loose-textured orange, and not solid and fine-textured, as is the Washington Navel. You will, however, be able to find a tree of this orange at our leading citrus nurseries.

The Department at Washington is producing hybrids between the sweet orange and the hardy, but worthless, orange of Japan, known as *Citrus trifoliata*; a citrange is, therefore, a cross of these two. The purpose in producing it is to secure a variety which will be more hardy than the sweet orange, a consideration of no value in California, because the sweet orange is hardy enough in our climatic conditions. When they say "sweet oranges are being propagated" it simply means that they are selecting from trees grown from seedlings of the sweet orange, some of which seem to be capable of resisting a lower temperature than the sweet orange usually does.

### Temperature Limits Eucalyptus.

To the Editor: Will you kindly send me such information as you have pertaining to the kind of soil that will grow eucalyptus trees? Is it possible to grow these three on desert land in southwestern Nevada or southeastern California, if plenty of water can be secured?—Settler, Los Angeles.

Eucalyptus trees will thrive on almost any kind of soil which does not contain alkali. The tree will tolerate a certain amount of alkali, but cannot be commended for alkali soils generally. The amount of growth will be almost directly conditioned upon the amount of water available. A good, deep soil and plenty of water make large

trees. What you have to look out for is the temperature. The Eucalyptus rostrata, one of the hardiest species, and one which is now being most widely planted, will survive a temperature of 15°—possibly a little lower, providing the tree has attained some age. The common eucalyptus, or blue gum, is more tender and will hardly endure more freezing than an orange tree. If you have a temperature dropping to zero, or something like that, you cannot successfully grow eucalyptus trees. So you see that the temperature is the ruling factor, and not the water nor the soil.

### Peaches on Sugar Prune.

To the Editor: A local prune grower planted, in connection with his old orchard, 200 sugar prunes. The trees made a handsome growth and yielded well, but he did not like the prune as well as the French, so had them grafted. He was unfortunate in employing an inexperienced person, with the result that not one of the grafts grew. The work was performed last spring. He recently came to me for advice. I viewed the trees and found that each stump supported an average of ten very healthy sprouts about half an inch in diameter. I advised him to bud them as soon as the sap began to flow freely. What would you advise? And for such work, when would you secure the scions or buds? Is it best to take them from trees some time prior to budding?—Reader, Kern County.

You could put in whip grafts this spring on the best of your sprouts that are one-half inch in diameter, selecting enough to make a good shaped tree, and then after the grafts begin to grow vigorously remove all other shoots carefully, whitewashing the exposed bark. This would give you a start on these trees at the beginning of the growing season. You could not put in buds until June probably, because you would have to wait until well matured buds came on the new growth before you would have anything to work with. These buds would then remain dormant a time and could be forced out into growth and would give you some growth during the summer of this year, but nothing like as good growth as could be had from a graft put in next month. In fact, you can go to work taking scions and putting in grafts now, and continue until all the trees are grafted. If you wish to begin grafting later, be sure to take scions while they are still perfectly dormant and put them in moist soil in a cool place until you are ready to use them.

### Crops for Reclaimed Salt Marsh.

To the Editor: Will you kindly give me some information upon the subject of the best crops to plant on reclaimed salt marsh land. Is such land better suited for products for table use or for animals' food?—Owner, Pasadena.

There is little hope of growing anything worth while on reclaimed salt marsh land until you extract enough of the salt to get a crop of barley. If the barley will grow you can afterward introduce other grasses and forage plants. As you know, the amount of salt is continually reduced by the action of rain or other applications of fresh water, and in this way if the salt water is prevented from returning to the land it would be expected to grow better year after year, and taking barley this year, might take some forage plant next year, etc. Stock beets are usually the first vegetable to succeed on such reclamations. The only way you can actually tell what condition your particular reclamation is in, is to try some few things which you think you can make profitable use of, and determine your future course by such experiments. No general rule can be laid down because it is an actual question of the amount of salt in that particular piece of land.

### Apple on Quince.

To the Editor: Some one asks: "Can apples be successfully grafted on the quince?" I would state they can, but in setting out the trees should be set about six inches deeper than on other roots. This also holds good for the pear.—Jos. F. Fritts, Mountain View.

Do you expect thereby to get these trees on their own roots? If so, you sacrifice the dwarfing effect, which is the object of using the quince.

### Draining Vineyard.

To the Editor: I have a few spots in my vineyard where water stands after heavy rains. Am thinking of draining, and wonder if the roots of vines will interfere with tiling?—Vine Grower, Lodi.

Not if you get your tile on a good grade so that no water will gather. Roots have no use for dry tiles.

### Cost of Wheat and Barley.

To the Editor: Please let me know if you have any data on the cost of the production of wheat and barley in California. There has been considerable discussion about this, and I understand that these figures are available somewhere.—A Subscriber, Alameda, California.

There is a mass of figures on this subject in the Report of the California State Agricultural Society for 1895, but if you can make anything out of them you can beat us. The cost of a crop depends.

### Two Irish Problems.

To the Editor: Can you explain what is termed "lazy soil system" of cultivation of land in Ireland, and oblige?—Subscriber, Oakland.

To the Editor: I am told by an Irish gentleman that there are tracts of low land in Meath and W. Meath, Ireland, where the prize beef for the London market is fattened by pasture on grass. Can you tell me what variety of grass is grown on these pastures, and if there is anything akin to it in this State?—Reader, Alameda.

We do not know: who does?

### Tomato Blight.

To the Editor: Would there be more liability to blight on tomatoes from planting them in ground where last year's crop was killed by the blight?—Reader, San Jose.

Yes.

### Long Pruning Not Restorative.

To the Editor: Does it help a Muscat vine to leave a couple of long canes, especially where there is not much fruit wood, or where dry rot has eaten the crown?—Vine Grower, Kings County.

If the vines are in bad condition, as might be inferred from what you say about bad condition of the crown, you will gain nothing by leaving the canes long. Longer canes are sometimes desirable in case of especially vigorous vines, but to stimulate the growth of new wood shorter rather than longer pruning is desirable.

### Irrigating Walnuts.

To the Editor: Will you kindly advise me, if it would be an advantage for me to irrigate a small walnut grove (four acres), which I have in this valley. The trees are thrifty, and the ground holds moisture well, but I have an idea that with irrigation during the summer, I could get better results. Do you think that it would pay?—Grower, Napa Valley.

It would be of no advantage to you to irrigate your walnut trees if the ground is deep enough and holds moisture well enough to enable the trees to make good summer growth and not lose their leaves too soon; when these conditions prevail there is no need for irrigation.



## Horticulture.

### NUT CULTURE.

From a paper by Mr. Henry E. Dosch of Hillsdale, Oregon, at the Northwestern Fruit Growers' Convention:

In nut culture of all kinds, but more especially walnuts, three things are most essential, and it is difficult to say which is most important, viz: soil, generation, and variety.

Nut trees of all kinds do well on moist, well-drained soils, even rocky ground, except heavy stiff clay soil, as they are gross feeders; but there must be no "hard pan." The subsoil must be loose and open so the tap-root can grow down as far as it desires, for as soon as it strikes hardpan the tree stops growing and of course lessens the nut crop, as nut trees make few lateral roots. In fact, it is suicidal to plant nut trees on very heavy stiff clay soils or on soil underlaid with hardpan; this applies particularly to walnuts.

**Generation.**—Walnut trees should be "second generation," either grafted or grown from first generation nuts, but as "generation" is not generally understood, and the reason I emphasize the fact of securing nuts of "first generation" I will explain, so that no possible mistake can be made. First generation nuts are produced on original trees, or on trees grafted from the original trees. These nuts when planted produce second generation trees, and the nuts from these second generation trees are a little larger than the original or first generation, which is due to the peculiar soil and climatic conditions of the Pacific Northwest, so well adapted to nut culture. Trees grown from second generation nuts retrograde very rapidly, producing nuts not half so large as even first generation, and finally run out altogether. Hence we must plant nuts from the original trees, if we desire the best results, and nothing but the best should or can be satisfactory.

**Varieties.**—Varieties which I have found best adapted for the Pacific Northwest by extensive experiments are Franquette and Mayette, to our soils, climate, and market, with a few Chaberte for confectioners' use, giving preference in the order named, as I think the Franquette is somewhat hardier, regular bloomer, and a little more prolific, while the Mayette, or Grenoble, under which name this nut is known to the trade, is fine in quality, not quite so hardy nor so prolific, but the nuts generally bring a little higher price, which in a measure makes up the difference.

**How to Sprout Nuts.**—There are, no doubt, many planters who prefer to plant the nuts where the tree is to grow them expensive grafted trees, and for their especial benefit I repeat the modus operandi: The nuts for this purpose must be secured in the fall and must be of first generation, either from the original trees or grafted trees, and known to be true as to that point, else you will be disappointed when the trees come into bearing. Fill a box six inches with light soil and sand mixed, then put in the nuts, pointed end up, about one inch apart, cover three or four inches deep, and place boxes out of reach of rats, squirrels, or gophers, keeping the soil moist. On examination in the early part of April you will find all sound nuts have sprouted or are ready to sprout; that is, they throw up two sprouts from the pointed end of the nut. One of these sprouts turns down over the nut and forms the tap-root, and the other continues upward and forms the tree. Now, remove them very carefully, as these sprouts are very brittle and easily broken, which would make the plant worthless. Plant them either where you wish the trees to grow fifty feet apart (by far the best way) or in nursery rows about five inches deep and transplant the next year. The young trees should be allowed to grow straight up, cutting away—every fall—all the side branches, till the tree has reached a height of six feet, when it should be allowed to branch out, but under no circumstances should the main stem be cut off.

Walnut trees usually go into bearing in five or six years; at twelve years are in full bearing. It is not a slow grower, as is commonly supposed. Three to four feet is not an uncommon growth in a season on good soil; besides, it is a healthy tree,

having, comparatively speaking, few pests to molest it, and once established, lives to a good old age and proves profitable to generation after generation with ordinary good care. The ground beneath the trees, until they come into full bearing, can be utilized for berries or vegetables, but no grain or grass should be grown.

**Harvesting.**—At harvest time the nuts fall to the ground as soon as the hull bursts—which it does when the nuts are ripe—and can be picked up easily and must be promptly, as squirrels are very fond of them. They should then be cured, either in the sun or subjected to a gentle heat in an evaporator to prevent mildew or becoming rancid. Any nuts remaining on the trees after the majority have fallen can be beaten down with stick or bamboo fishing pole.

### THE NURSERYMAN'S INTEREST IN THE HIGHEST TYPES OF FRUIT.

From a paper by Mr. F. W. Power, vice-president of the Oregon Nursery Co., at the Oregon State Horticultural Society:

It is probable that no branch of the nursery business is so much neglected as that of selection and breeding to secure new or better strains of old varieties or fruit, or to secure new and improved varieties. The same might be said with equal truth of the horticulturist or grower.

It is not at all unusual to have a planter say he wants this or that type of a variety, as a yellow in distinction from a green one, or he wants red Baldwins, and the same kind of questions regarding cherries, pears, and other fruits. That there is some excuse for such requests there is no question. Different sections or localities often produce a decided change in the form, color, flavor or keeping qualities of a fruit, and sometimes nearly a new type.

Nurseries often do not use as much care in selecting the best types or strains of each variety as they should, one reason for this being that many planters are unwilling to pay any more for a good tree of the choicest strain of any variety than for an inferior tree of uncertain type. Cheap (?) trees are therefore often grown in order to meet or undersell competitors. Again, nurserymen are often perplexed as to where to go to secure the choicest strains of a variety as so little interest has been shown in this by the planters and growers. In the third place, we grow too many varieties in our nurseries. It is impossible for any nurseryman to grow 500 to 700 or more varieties of fruits and as many or more varieties of ornamentals, and to grow these 500 or 700 varieties of fruits on the various roots and by various methods to suit the planters, having often listed in his catalogue from 1500 to 2000, and to personally select all scions or even have his foreman do so he must depend to a certain extent on the grower and others to supply these scions, and woe to the nurseryman who secures scions not true to name or of an inferior strain and happens to send them out without discovering it by the mere looks of the tree or leaves in the nursery rows.

There is no doubt that much improvement could be made in many of the old varieties by selecting scions for a number of years from the highest colored, best bearers or longest keepers, and growing them in selected stocks or seedlings. Here is a chance for the progressive grower to open up a new line, and, by selection of scions of the very best strains and making the fact known, pay for a large part, if not all, of his pruning expenses by the sale of scions. Do not understand by this that great improvement can be made in a single selection.

**Pedigree Stock.**—I am now approaching dangerous ground with most nurserymen present, and if in a nurserymen's convention would likely bring some of the members to their feet at the close of this paper, who would argue until they were black in the face that a scion from any old tree would produce a tree which would bear as fine fruit as if the scion had been selected from the choicest type of the variety in existence, and that scions cut for generations from nursery rows would never deteriorate no matter from what kind of trees they had been originally budded; in other words, that scions from a sterile tree

will bear as heavily and of as good quality as from the best specimen in existence. I will leave this, however, to the grower who makes a specialty of high-class fruit. If you mention pedigree nursery stock to the average nurseryman, he will ridicule the idea, seeming to think that pedigree stock means one whose ancestry can be traced back for hundreds of years, as in the nobility of Europe, while a tree with a 'pedigree' of over one hundred years might be one of the poorest varieties in existence. As I use the word here, pedigree trees are ones of a known type or strain, of good quality, that have been selected for some certain characteristics—as color, quality, keeping, etc., whether for a long or short time, provided the results have been secured.

The nurseryman who will sneer at the idea of a 'pedigree' tree will, almost in the same breath, try to induce you to purchase some 'specialty' he has in stock with wonderful qualities, thus unconsciously advocating breeding and selection for improved varieties, as usually his 'specialty' is merely a selection and has not been specially bred for the qualities claimed. Some of our best new varieties have been originated by chance, probably in a fence corner where the seed was dropped by a bird, but was selected and introduced by some wide-awake orchardist or nurseryman.

Now, I do not wish to be understood to infer that all variation in varieties comes from the scion, not by any means, as variation may occur through non-selection of the stocks or seedlings on which they are budded or grafted. This is even a harder problem for the nurseryman than the selection of scions, for as we all know, any fruit tree from seed varies greatly, and to raise stocks at reasonable prices without using unselected seed is nearly impossible. When planters are willing to pay the added cost of selected stocks and scions I think you will find the progressive nurserymen only too willing to grow them in this manner. As nurserymen we must, therefore, either admit that we do believe, at least a little, in the scientific theory of selection of stocks and scions, or else that our well written circulars, advertisements, etc., are merely written to catch the 'sucker' who plants.

### BUDDING WALNUTS.

To the Editor: I wish to give you my experience with walnuts. Two years ago I planted a row of California black walnuts in the garden, so I could water them if necessary. About 35 of them grew finely, so I applied plenty of water during the dry season. By fall they had made a growth of from four to six feet; so I set to work to bud the largest ones in August. I used the Franquette buds and the ring methods of budding. I cut out a piece from 1/2 inch to 1 1/2 inches and inserted a piece of bark so as to fit fairly well. When it did not go round I just took another piece of bark with another bud, or without a bud, and tied it to the other side. Sometimes there was a space of half an inch before the bark would meet. I tied the whole with strips torn from a flour sack, without any wax, and in a short time it grew together nicely. All space was healed over, even where the bark did not meet. Last spring I cut the tops off just above the buds, and shoots grew to a height of from six to nine feet, and formed a perfect union. I think this is preferable to grafting, as a bud can be put in four to five feet from the ground, or into the branches if necessary. I have one tree which grew 16 feet from the bud on a 4-year-old black walnut root.

A Subscriber.

Healdsburg.

### A PLEA FOR WIDER PLANTING.

To the Editor: People are just going wild about planting peaches, both for drying and canning; in fact, they don't seem to think or know or can say anything but "peach." Last planting season and this there has been a continued heavy planting of peaches, and there are plenty of young orchards coming to take the place of the old ones that are dying out more or less. At the rate they are still planting they will glut the market, as they did when they planted the French prune fifteen or sixteen years ago. When those trees



all got into full bearing they could not give that fruit away, and it will be the same with peaches. The few people who plant apricots will make more money if they only get a crop every other year. Last year they got 25c. per lb. for dried apricots.

Now the next rush is the French prune. There have been no prunes planted for years. The old trees are dying out, and there are no young ones coming on to fill their places. The first catalogues that came out from the large nurseries quoted them at \$15 per 100 for first grade, and I have always grown just a few, but I always had to burn three-fourths of them, and often more. This year I got an offer of the catalogue price of 15c. each for all I had, and think I will take it and make sure for once to get rid of them. Prune trees are now up to \$25 per 100, and I have had call for thousands and can't fill the orders because I can't buy them.

It will be just as bad before long with the apricot; there will be no fruit on the market, but I have apricot trees piled up against a fence four feet high that I could not dispose of last year. It's going to be the same again this season.

PUZLED NURSERYMAN.

Kings County.

## Fruit Marketing.

### OBJECTS TO FACING PRUNES.

Mr. George C. Flanders had a paper at the last meeting of the Oregon State Horticultural Society, from which the following is taken:

The facing of 25-pound boxes is an unnecessary expense. For two years I conducted a packing house in this city, and the expense of facing the 25-pound boxes of prunes cost about 15 cents per hundred pounds. It is a fact that those that are used to exhibit in show windows make a better showing than those that are not faced, but I venture to say that there is not one box exhibited in this way out of one thousand. This shows that it is an unnecessary expense. Not only that. I consider it, in plain language, a filthy practice to face prunes. I have watched the facers, and they use methods that I would not tolerate. I would never eat a prune from a box that had been faced. I always get my prunes for my own use unfaced, and if consumers of these fancy packages knew the conditions they would come to the same conclusions.

The direct cost of facing prunes is about \$3 per ton, but the real cost to the packing house on account of this work is not less than \$5 per ton. This, on account of the delay to the packing house work on account of the facers. They always retard the work. A good-sized packing house can not put out only about 1000 25-pound boxes of prunes per day where they are faced. The same packing house could put out 2000 boxes with less help if the boxes were not faced.

If it was not for this facing work all of the large growers could do their own packing at a much less expense than the packing house does it. The appliances for packing prunes are very simple. A good San Jose dipper makes a first-class processor, and all the growers know how to grade prunes. In fact, it is a very simple matter to pack prunes and do a good job at it.

### RIVERSIDE ARRANGEMENTS ADVANCED.

Correspondence of the New York Fruit Trade Journal is likely to further impress upon distant people the enterprise and free investment of California citrus fruit producers. Two instances in this line are heralded from Riverside:

Mr. C. E. Rumsey, owner of the Alta Cresta groves, is building an unusually good packing house, which is now nearing completion. Reaching out from the packing house are roads that radiate like the spokes of a wheel to the several orange properties that comprise the Alta Cresta groves. They consist of over 150 acres of carefully selected land, the greater part of which has been planted by Mr. Rumsey in the last six years. The various plots, chosen for their superior quality, are planted to Washington navels, Thompson's improved navels, Valencias, Valencia Late,

and Tangerines. In view of the important results secured through the investigations of the department by G. Harold Powell in the matter of decay due to faulty handling from the grove to the car, precautions will be taken by Mr. Rumsey in the handling of his fruit that do not seem to be necessary. However, it is the intention thoroughly to exploit the virtue there may be in the careful handling of fruit in all its stages, and no expense will be spared this first season in order that definite conclusions may be reached.

Another effort to prevent jarring of fruit is seen in the introduction of a motor truck, which has been received by the Penn Fruit Company, which has been put into service in delivering fruit from orange groves to the company's packing house. A. L. Woodill, manager of the Penn Fruit Company, bought the motor truck on a recent visit East, where it has proved a success in the handling of perishable products. The car has the capacity of 200 boxes of oranges, and a trailer can be attached which can handle 100 boxes more. It will take the place of four teams. The car is of the Atlas make and is manufactured at Springfield, Mass. The cost is \$4000. The wheels of the car are not wide enough to risk their going into soft ground, and no attempt will be made to operate the car in the orchards. The use of this car is only another move in the better handling of oranges and to prevent loss from decay caused by bruised fruit. Two similar cars are in use in Los Angeles county, where they have proved a real success. The car is a 30-horse power gasoline machine and is economical in its operation.

## The Field.

### SHOOTING SQUIRRELS AND RABBITS.

An important economic question will be settled if hunters will take it up in sufficient numbers. The Breeder and Sportsman says that game for the small rifle is ever plentiful. The ground squirrel affords the best of marks. Some places more numerous than others, he is always to be had, and a trip into the country adjacent to most points will put the shooter into good game country, so far as the needs of his small rifle are concerned.

Although not generally known, except among the Chinese, the common ground squirrel is very well flavored when fat, and if taken young, is tender as well. His flavor when fed on barley and weed seeds is fully equal to that of rabbit, and, if anything, a little more delicate. He is prepared the same way, the greatest drawback being the difficulty of skinning him, which is easier if performed at once. The 22 short cartridge is amply sufficient for squirrels. In hunting ground squirrels with a rifle considerable fun is to be had shooting off matches. A dozen squirrels is a good day's bag, no matter how plentiful they may happen to be, owing to the tendency of the animals to get to their holes, however badly wounded. Only a head or chest shot seems to be able to stop them on the spot, and in shooting them it is well to hold on the eye, for only squirrels in the hand can be counted at the finish.

Picking off 'soldiers' sitting upright on the edge of their holes at a hundred yards is not beyond the powers of the 22 gun, and some pretty shots can be pulled off occasionally at them on the run. The game is well worth the trying.

Another pleasing variety of small rifle hunting is the pursuit of rabbits. Jacks can be shot on the run by a capable marksman, but he must be of the 'up and coming' sort to accomplish anything at such a difficult game.

On a rabbit warren, which are plentiful in many localities, a good shot can secure half a dozen in an afternoon, if conditions be right. The rabbits hole up on a man's approach, but show curiosity, and generally expose a pair of ears and a bright shining eye if the hunter stands still. A quick shot aimed an inch below the junction of those ears generally resurrects bunny and gathers the material for a delicious stew.

Driving along country roads in the evening is another good way to shoot rabbits. They sometimes offer ridiculously easy shots, and can be knocked over with ease by a novice. Occasionally they will stand for a clean miss without blinking

an eye, and allow a chance to send another bullet to its billet.

In a few weeks most of the female rabbits will be busy with their most serious business of bringing offspring into the world, but the bucks are just as good now as in midwinter. In this country they breed more or less the year round, and one who held off shooting them on that account would not kill very many rabbits.

## Sheep and Wool.

### THE NATIONAL MEETING.

It is reported that the Forty-fourth Annual Convention of the National Wool Growers' Association at Helena, Montana, January 14-16, proved the best attended and most successful meeting ever held by this, the oldest live stock organization in the United States. Delegates were present from all the principal wool and mohair growing States, and matters of vital importance to these industries had the attention of the convention.

Resolutions were adopted protesting against the passage of the Burket Bill for the leasing of public lands or the granting of permits for their use for grazing purposes; demanding the prompt elimination from forest reserves of all land not timbered or suitable for re-forestation or reasonably necessary to conserve the flow of streams used for irrigation in arid sections; approving the present tariff on wool and hides and deprecating any attempt to alter or modify it; favoring a uniform bounty law by all the States on predatory wild animals; endorsing the establishment of a field pathological station in the West by the United States Department of Agriculture; petitioning Congress for the enactment of a law compelling interstate railroads to transport live stock between feeding points at a speed of not less than fifteen miles an hour, including all stops; endorsing the Co-operative Live Stock Commission Company, and recommending for favorable consideration of wool growers the plan of holding wool auction sales in America, similar to those held in London.

A resolution was also adopted endorsing the demand of the Angora husbandmen of this country for the continued protection of the present duty on mohair; for a protective tariff on Angora skins; for a reduction of the fee for grazing on the national forests to the same rates applying for sheep; for an enumeration of Angora goats in the next census, separate and apart from the common or non-shearing animals; for provision by the Department of Labor and Commerce for procuring and compiling statistical information relating to the annual production, importation and consumption of mohair and Angora goat skins in the United States; and, for a continuation of the efficient work of the Bureau of Animal Industry of the United States Department of Agriculture in behalf of the Angora industry.

### CALIFORNIA MOUNTAIN WOOL GROWING.

The Guseetti Sheep and Land Company of Sierra county, California, give the American Sheep Breeder this cheerful paragraph:

The past year has been to Western sheepmen the most prosperous yet. Our company sold during October a flock of last April's lambs at \$4 per head. During 1897-98 similar lambs sold at \$2.50. The sheep market is in good condition, lambs at \$4 (and very few to be found at that price); breeding ewes at \$5.50 and over, and one is mighty lucky to get any at all; cull ewes, \$4 to \$4.50, and in good demand, as they are practically all that butchers can get now-a-days; choice killing ewes, \$4.50; cull lambs are selling too fast at \$3.50 to \$3.75, and will soon all be sold. On account of good weather sheepmen kept their flocks on the range longer than usual this fall, but December 1 found most all flocks off the range and either on the deserts or in the feeding pens for the winter. Sheep feeders are well equipped this year with fat sheep to go into winter quarters, plenty of hay and good barns for shelter. What more can they wish? Our flocks are all doing well and we have added several new rams to our stud flocks this past season.



## Entomological.

### The Fig and Fig Insect in California.

To the Editor: The Smyrna fig articles in the columns of the Pacific Rural Press have refreshed the memories of many of your readers regarding the persistent and expensive labors devoted to the introduction of the Smyrna fig tree and the fertilizing insect into California. In the interest of truth and fairness, a few errors which have crept into the discussion should be corrected.

Mr. W. Herbert Sampson says, in his article which appeared in the Press of December 28, that "In 1882 the foundation of this great industry was laid in the Sacramento valley by the late Governor Stanford. In the spring of 1882 the San Francisco Bulletin imported 13,500 of the Smyrna fig cuttings. Governor Stanford was very much interested in this importation, the success of which was mainly due to his aid in facilitating rapid transit across the continent, and to the fact that he paid most of the expenses."

The facts are as follows: In the fall of 1879 funds were forwarded by the Bulletin company to Hon. E. J. Smithers, U. S. Consul at Smyrna, with a request that he secure 500 cuttings of the best curing variety of figs, together with a small number of caprifigs and a few cuttings of the best varieties of grapes obtainable in that country. This lot of cuttings left Smyrna on March 29, 1880, and reached San Francisco June 8, in rather bad condition. The shipment was turned over to James Shinn, the nurseryman at Niles, who by careful treatment succeeded in saving 200 of the cuttings.

In September, 1881, orders were sent to Alexander Sidi, an American merchant in Smyrna (Mr. Smithers having been promoted to Chin Kiang, China, and had left Smyrna) to make a large shipment of cuttings. Every precaution was taken to make this shipment a success, even to forwarding moss from New York in which to pack them. The cases were consigned to H. K. Thurber & Co. in New York, who had been instructed to open them and, if necessary, re-pack the cuttings before starting them across the continent.

The late Dr. J. D. B. Stillman, father of Dr. Stanley Stillman of this city, who had visited the fig district, wished to join in this importation, and put into the pot \$100; W. B. West of Stockton put in \$50, and James Shinn of Niles, \$50. After the order and funds had gone on the Smyrna, Governor Stanford heard of the enterprise through Dr. Stillman and sent \$100 to the writer, who had the management of the enterprise, and requested that he might receive a share of the cuttings. The total cost of the shipment in Asia Minor was £167 8s 10d English money, or about \$810. Of this amount Governor Stanford paid \$100, and the Bulletin company \$510. This \$100 was all that Governor Stanford paid, except his share of the freight. His interest in the shipment was a great advantage, however, as Mr. Sampson says, in facilitating its rapid transit across the continent. The cases left New York promptly via the southern route, but got stalled somewhere on the way. The Governor, then President of the Southern Pacific Railroad Company, being appealed to,

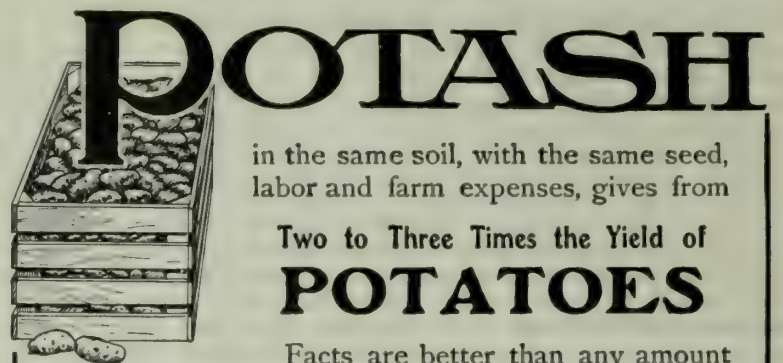
sent out a tracer and, finding them, ordered them sent the remainder of the way by express.

The cuttings were obtained without difficulty from one of the best fig orchards in the Aiden district of Asia Minor, and were shipped from Smyrna, January 14, 1882, reaching San Francisco in excellent condition. This, with the small shipment of the previous year, was probably the first introduction of the genuine Smyrna fig in California. The Bulletin company's share was distributed to over 3000 of its country subscribers throughout the Pacific Coast where the climate permitted the growth of the fig.

While credit is being given for efforts in introducing the Smyrna fig and the fertilizing insect, blastophaga, it may be well to mention that several parties devoted more or less time and money to the enterprise. Probably Geo. C. Roeding gave more careful attention and money to the work than anyone else in the State, and now has the satisfaction of seeing the little wasp securely established on his own trees, and deserves all the credit and profit he is receiving for his work. Dr. Gustav Eisen of this city has undoubtedly devoted more scientific study and investigation to the subject than any other man. His most important work is Bulletin No. 9 of the Division of Pomology of the U. S. Department of Agriculture, published in 1901 under the title of "The Fig: Its History, Culture, and Curing." This is an exhaustive treatise of over 300 pages, and was the result of a tremendous amount of research, and should be in the hands of every one who desires to get to the bottom of the subject. In addition to this great work, he has written many important papers on various phases of the fig industry, some of which were published by the California Academy of Sciences, besides many contributions to the agricultural press. Among the latter was a paper read November 19, 1885, before the fruit growers' convention in Los Angeles, in which he describes the process of caprification.

Dr. Howard, chief of the Division of Entomology of the U. S. Department of Agriculture, in one of the best articles ever printed on Smyrna fig culture in the United States, printed in the Year Book for 1900, says that Dr. Eisen had been experimenting and corresponding with European experts, and was probably the first scientific man to fully realize the importance of blastophaga fertilization, at a time when it was generally frowned upon.

To Dr. W. T. Swingle we must give the chief credit, however, for the introduction of the all-important blastophaga into California. Dr. Howard says, page 84, Year Book for 1900: "At some personal expense and on his own initiative, Mr. Swingle began in the spring of 1898 to send a number of caprifigs containing gall insects to the Department of Agriculture at Washington City, for shipment to California, and made a careful study of the different varieties of caprifigs." Dr. Swingle was aware of the efforts being made by different parties in California to secure the insect, and to a man of his attainments, no suggestion was needed to enlist him in the enterprise. The device of wrapping each caprifig in tinfoil was originated by him, and to this ingenious plan his success in sending the figs contain-



in the same soil, with the same seed, labor and farm expenses, gives from

Two to Three Times the Yield of  
**POTATOES**

Facts are better than any amount of talk. If you want proof of the facts, let us send you our Free Book, "Profitable Farming." It gives the certified reports of a great number of experiments made by farmers. It is brimful of scientific, practical, money-making information. Write for it to-day. Address

GERMAN KALI WORKS, 93 Nassau Street, New York  
Chicago—Monadnock Building Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## FERTILIZE WITH Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.



268 MARKET STREET  
San Francisco

MANUFACTURERS OF  
**Special Fertilizers for all Crops**

Our New Catalogue

"The  
Farmer's  
Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.

## WHEAT GROWERS!

**SPEND \$1.00 PER ACRE**

for the unsurpassed cereal phosphoric acid fertilizer, **SUPERPHOSPHATE**, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvelous results as applications of superphosphate."

GET PARTICULARS FROM  
**The Mountain Copper Co., Ltd.**  
150 PINE ST., SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

ing the living insects across ocean and continent was undoubtedly due. Caprifigs containing the live insects were first sent from Naples, and then from Greece. No results were obtained from these shipments. The next spring his duties called him to Algiers, from which region several shipments were made, and one or more of these reached Fresno in good condition, and Mr. Roeding was able to get the insect established on his trees. Had not these shipments proved successful, the U. S. Department of Agriculture would have sent Dr. Eisen, who was consid-

ered well equipped for the work, to Asia Minor for the purpose of securing the insect. His compensation had already been agreed upon, and he had secured leave of absence from the California Academy of Sciences, where he held the position of Curator of Biology.

The late James Shinn of Niles, with the assistance of a missionary friend in Asia Minor, also received in the spring of 1891 a number of

Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.





## The Louse Question

When your animals rub incessantly at this season of the year, look out for lice. This is especially true of calves and colts. To meet this condition Dr. Hess (M.D., D.V.S.) formulated the famous Instant Louse Killer, which kills lice on stock and poultry.

## INSTANT LOUSE KILLER

Kills ticks on sheep. It, being a powder, can be applied in zero weather. Do not wait for warm weather; do not let the tick eat up your profits; kill him on the spot with Instant Louse Killer. Put up in round cans with perforated top, full pound 25 cts. Sold on a positive written guarantee. Be sure of the word "Instant" on the can; there are 25 imitations.

1 lb. 35c. 3 lbs. 85c.

If your dealer cannot supply you we will forward 1 lb. by mail or express, prepaid, for 35 cents.

Manufactured by

**DR. HESS & CLARK,**  
Ashland, Ohio.  
THE PETALUMA INCUBATOR CO.,  
Petaluma, Cal.,  
Pacific Coast Distributors.

consignments of the blastophaga, some of which were alive on arrival, but owing to the fact, perhaps, that there was only one variety of the uprigger in the Bulletin importation of cuttings which were planted in the Shinn nursery, the insects failed to establish themselves.

Others besides those already mentioned who devoted much time and expense to secure the Smyrna fig industry for California were E. W. Maslin, who raised from seed of the best imported figs to bearing condition a large number of trees. The late W. B. West of Stockton took great interest in the fig industry, and imported a large number of foreign varieties, including the so-called Adriatic, from Italy, under the name of Verdoni, years before G. N. Milco gave it the name of White Adriatic and distributed it as his own importation.

It is a matter of great satisfaction that through the efforts of the individuals mentioned the Smyrna fig industry has been successfully established in California, adding another jewel to her pomological crown.

G. P. Rixford.

San Francisco, January 20.

We are especially grateful to Mr. Rixford for this delightfully lucid account. It is a most important contribution to California horticultural history. It should be stated that Mr. Rixford personally arranged and actuated the Bulletin enterprise of which he writes, and should be remembered as himself the author of enterprise which antedated the blastophaga undertaking and made it desirable. We remember Mr. Milco's work. He named the White Adriatic, but we have the impression that he did not distinctly claim to have imported it. He certainly admitted to us that he found it here.—ED.

## Patrons of Husbandry.

### The Fruit Grower and the Parcels Post.

By MR. EDWARD BERWICK, of Pacific Grove, at the Fruit Growers' Convention at Marysville.

With prunes and raisins at 5 cents per pound and canning peaches from \$40 to \$90 per ton, it may be hard to persuade the fruit grower that he wants anything more this side of Paradise. Of course, we must except the extermination of the white fly and the control of the pear blight. He may feel a little exercised as to the labor question; but, as sales f. o. b. are easy, he can afford to let the other fellow worry over the old vexatious transportation troubles. In Los Angeles four years ago the fruit growers were telling quite a different story. We were then as unanimous as Jonah in the belly of the whale that our transportation troubles would be lessened and our cash in hand materially increased if Congress would authorize the Postmaster-General to institute an up-to-date parcels post, such as is enjoyed by other civilized countries.

To agitate for this end, the Postal Progress League of California was organized. No doubt, many of you have since then read or heard various arguments, favorable or unfavorable, concerning the matter; but lest many of you are not familiar with the parcels post idea, let me briefly inform you of a few of the facts.

Almost all the civilized world regards it as the function of the postoffice not only to carry letters, but also packages, varying in weight from ounces to hundred weights. Switzerland, for instance, permits the mailing of anything that will pass through the door of a railroad car. Rates are various, but extremely low. Thus Germany, for 6 cents, within a 46-mile radius, sends 11 lb., and for 12 cents all through, not only her own domain, but also through Austria-Hungary, a possible 1500 miles. Great Britain sends 3 lb. to farthest India for 24 cents, or 11 lb. for 72 cents, while we, as you know, pay 64 cents for 4 lb. from Marysville to Chico. By a curious and ridiculous anomaly this same 4-lb. parcel can be sent all the way to London, England, for 48 cents—12 cents less than its cost to Chico; so a suit of clothes can be mailed from Dublin, in Ireland, for less than from San Francisco. At the same time, for the British public, the American express companies carry all parcels up to 11 lb. from New York to any point in the United States for 24 cents. When an American citizen, living in his own country, wants to send an 11-lb. parcel from Pacific Grove to New York, the same express company charge him \$2.35 for the same parcel. You need not suppose that the 24-cent rate is given to the Britisher "because they love him so;" simply, there are dollars in the job for the express companies even at 24 cents. It helps to swell the \$30,000,000 surpluses of the Wells, Fargo Co., and to make possible the 200% stock dividends of the Adams Express Co.

What these express companies do for the foreigner your postoffice could do for you. But do you want it done? Do you believe that cheap transportation increases trade? I don't know how Marysville feels today, but I do know that over three years ago I made a call on A. A. Watkins, President of the San Francisco Board of Trade. I wanted to

(Continued on Page 90.)

## SAW YOUR WOOD



With a FOLDING SAWING MACHINE. 9 CORDS by ONE MAN in 10 hours. Send for Free Illustration, catalogue showing latest improvements and testimonials from thousands. First order secures agency. Folding Sawing Mach. Co., 158 E. Harrison St., Chicago, Ill.

# BEEF SCRAPS RAW BONE

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

## POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES**—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untied. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

## THE FRESNO NURSERY

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

## TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**

SALEM, OREGON.

Salesmen Wanted.

## GREGORY'S SEEDS

have earned a world-wide reputation. Thousands of farmers and gardeners rely upon them absolutely because they are sure growers. If you have never planted them, just try them this year. Our new catalogue helps solve all the problems of planting—will be likely to set you right when in doubt. IT'S FREE. Write for a copy. J. J. H. GREGORY & SON MARBLEHEAD, MASS.

## GOOD TREES AND BIG PROFITS

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

The San Dimas Citrus Nurseries

San Dimas, Cal.

R. M. TEAGUE, PROPRIETOR.

## Ask for SNOW'S GRAFTING WAY

In use all over the State

For sale by all the large grocers, or

D. A. SNOW, Lincoln Avenue, San Jose, Cal.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Paper Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## The Home Circle.

### Life's Music.

There never has been such music since  
ever the world began,  
No melody like it has echoed in the listen-  
ing ear of man,  
As soft as the bells of the fairies, as blithe  
as the song of the bird—  
The laughter, the infinite laughter, on lips  
of the childheart heard!

Oh, if we could echo that laughter, if we  
could catch it again,  
The old sweet note of the golden throat,  
The lilt of its glad refrain!  
Life would be music forever, if one could  
laugh like a child,  
In the golden day of the fairy way, care-  
lessly free and wild!

—Baltimore Sun.

### Air Castles.

Some day when I get rich, I think,  
I'll hire a lot of men,  
And have them get the things I want,  
And take them back again.  
I'll just stretch out and take my ease,  
Give orders to the bunch!  
And then I'll lie in bed and sleep  
Until it's time for lunch.

When I get rich I'll hire a man  
To dress me every day,  
To wait upon me hand and foot,  
To put my clothes away—  
A man to scramble o'er the floor  
When collar buttons fall;  
I tell you what, when I get rich  
I will not work at all.

When I get rich, I'll keep on hand  
Of fancy drinks a store;  
I'll hire a man to serve them up  
And ask if I'd like more.  
I'll keep a man in every room  
Where I may chance to be,  
And all that he will have to do  
Is just to wait on me.

When I get rich I'll take my ease,  
And let the others work;  
And oh! what awful things I'll say  
If they attempt to shirk.  
I'll keep them always on the jump,  
I'll make them wait on me;  
For of our idle rich I mean  
The idlest rich to be.

—Detroit Free Press.

### THE BREAD LINE.

Miss Edrington leaned far out of the motor car as it sped swiftly over the asphalt in front of the quaint old baker shop, whose walls familiarly elbowed the sanctimonious gables of a church; her aristocratic little retrousee nose took on a mere supercilious angle, her eyes flashed surprise that bordered on contempt as they alighted on the long unbroken row of men that stretched across the street, in an uncounted line; young, pale faces whose lines of suffering, pitiable want for food, told of privations endured; old gray-haired men with discouragement and frustration written in deep furrows; fresh, sunny, smiling youths; bleary-eyed individuals, unshaven and shorn; each awaiting his turn. A frank young fellow in an immaculately clean but ragged attire, met her gaze with a hot, burning blush, and lowered his head. One by one they passed a step ahead, receiving the loaf of bread that the will of the great philanthropist had allowed deserving charity for the asking when the clock struck twelve.

"Why, some of them look like gentlemen," she cried in astonishment. "Like people one knows—clean, even well dressed—"

"Like—me?" Cushing, driving the big car in the seat beside her, interrogated peculiarly. She affirmed with a movement of her head.

"They—they don't seem like beggars at all," she was furtively regarding the stripling, whose gaze

seemed to seek hers beseechingly. She fumbled sympathetically in her gold purse for some pennies; yet an indefinable reluctance checked her impulse. Cushing scanned her silently.

"What do you call a beggar?" he asked abruptly.

"Oh, a tramp; someone very shabbily dressed, uncleanly, and perhaps vicious, who asks alms." She defined it airily with a nonchalance that irritated him. Yet he was unjust in his accusation, he knew.

"Not vicious," he corrected her gently. "Victims of adversity, perhaps—but always at heart—a gentleman. Believe that. They have so little—you, we, who are far removed from them in worldly goods, should never be harsh in judgment on them. Yesterday," he broke off irrelevantly, with a short laugh, that aroused her wandering thoughts, at its mirthlessness, "I sat down and made an estimate of my fortune. Don't think me egotistical—but I wanted to know. The world calls me a great financier—successful. I don't know that. I do know that it's several very vulgar millions that I possess—but it's empty—it's nothing at all to me, unless—" his voice sank tenderly in her direction—"unless fate is very kind to me, and someone consents to share it with me." She stirred uneasily on the luxurious leather cushions, disturbed to tangible emotion under his earnestness. She waited for him to continue, but Cushing appeared oddly abstracted. He brought his thoughts back to her gradually. "They're not bad, those fellows on the bread line," he continued, reflectively, directing the machine up the broad avenue toward her home. "Luck is against them, that's all—it might have just as well been I—or you, you know—"

"I—?" She sat bolt upright in horror at the suggestion.

"Why not," he persisted. "Fortune is such a trickster. One never knows what revolution the wheel will make. Those chaps are not vicious men. They're fighting to keep body and soul together. They're trying to keep pure at heart when everything around tempts them to lie, and cheat, and steal, and commit crime. They're trying to keep straight—to keep from going to the dogs, remembering the trust and hope of a mother's dear belief—Great heavens! Can't you see that it's the good in them that keeps them there, honestly asking for bread, when their turn shall come? Can't you realize—" he stopped suddenly, his tones breaking curiously, visibly excited. She looked at him in wonderment. His hands were shaking as if he were laboring under intense emotion.

"But why agitate yourself over them?" she said calmly. "Our lives are so remote from all possible connection. We have nothing to do with them—you and I." He pressed his lips grimly together; she was endeared to him by an acquaintance of the past year; she was beautiful and replete with the womanly qualities that he had hoped always to find incarnated in the woman he should marry. Yet, there were things that tortured him; taunting in their bitterness; scars on his soul burnt in by immortal firebrands. He shivered under the remembrance.

"You are cold?" she asked solicitously.

"No, dear." That term of endearment escaped him involuntarily. No, it had been impervious to degrees of temperature; immutable in storm or shine, in light or darkness—like the stoic sphinx of the desert, shadowing his slightest pleasure with its skeleton grimaces.

"These beggars," he resumed finally. "I'm—I'm afraid you do them a—terrible injustice, dear—I—I had a friend once, who was the victim of reverses that made him—a tramp. Yes, perhaps you are right after all; he was unclean and shabby and there was not a soul to help him. But he was always a gentleman—always that—" he paused, to give the motor a deft swing as a newsboy plunged recklessly in front of them. His escape was miraculous, but Cushing passed it by as a matter of indifference.

"Yes?" her voice encouraged him to continue the subject.

"Oh, it was nothing—life became merely mechanical; he walked miles and miles, until his shoes fell off, until his face was blistered beyond all resemblance to his former self, seeking only to get to the big city, where employment of some kind could be secured—anything that was honorable and respectable. He reached an adjacent town, all torn and dirtier than ever, without a cent to buy even a paper. But he cleansed himself as best he could at one of the public fountains until a policeman drove him away; and he slept on the park benches—but a terrible, insatiable hunger gnawed within him. Lord! He would have sold his chance of Heaven where his mother was waiting for him—almost—for just a bite of food—he had been days without it—odd buzzing noises sounded in his head—and great waves of red danced before his vision—but he would not steal—never that.

"And it went on that way for another twenty-four hours—hours of anguish and physical suffering for food. When night came he heard voices near, on an adjacent bench planning things that made his blood run cold. He listened minutely to every word, with a definite purpose. It was some thieves who were arranging to rob a well known rich man's house that night—there was murder, too. If he joined in with them he would have money enough to start him anew again, but he had no desire to do that. Instead, he noiselessly stole away, then once out of their sight ran as fast as he could to the nearest police station and told his story." Cushing took his handkerchief and wiped his brow slowly; yet the night air was deliciously cool and refreshing.

"Oh, I'm—I'm—so glad," she cried breathlessly, with a curious catch in her usually unemotional voice. He could have kissed her for that traitorous betrayal—but he did not dare. "It was all over then, his hardships—"

"No," he said harshly. "They didn't believe him. They—arrested him—and put him—in—jail—"

"Oh," a note of pain cut through her intonation.

"You see," he said very gently, very tenderly, trying to fortify himself against her dangerous sympathy. "He—he didn't have a friend in the world—to prove his innocence—and his appearance was against him—his clothes were ragged, and not very clean. But he was not—"

vicious. He was a—gentleman—but the law didn't know it—that was all."

"But didn't the officers find out that he told the truth?" she asked eagerly.

"I believe so—I recollect hearing of something—of their sending a guard to watch the place—and catching the gang—but it did not relieve the situation for—my friend. He was there—it may not have been long, according to the calendar—but, it was eternity to him. And then there came a day when he stood out in God's sunlight again, with shoes on for which he paid by scrubbing the floors; with old discarded clothes obtained from a friendly rag man. But he was free. Free! He had one dollar in his pocket. Not enough for railroad fare to the big city—that didn't matter; he could walk that. But it meant honest food. You see, there was no 'bread line' in that other town—"

She sobbed softly under her veil. He caught her hand with rough tenderness, moved beyond control. "If I should come to you, now, with my heart yearning for one little sweet word of welcome from you—with my hopes of paradise resting in your dear eyes, would you—could you find that one precious little word to say to me?" he cried vibrantly. His head bent over to hers; "I have money—beyond the dreams even of avarice—dear—but I would renounce it all—for one word from you. That's how I love you. But—I want to tell you something more. Something that has been kept buried in my heart for twelve long dreary years of hard work, which held me from the heights of suffering and labor the flag and banner of success, alluring me on until I obtained it. That shows my confidence in you, the woman I love. There is no need to tell you these things—and it may put an irremediable abyss between you—and me. But, dear, I have lied to you—in one way. It was no friend of mine—it was—myself—that—beggard." He watched her narrowly; she did not crouch away from him, but her silence filled him with a premonition of the sorrow she was to inflict. He perhaps had been unnecessarily frank, under the circumstances, he reasoned, vaguely alarmed by her manner; yet, he could not have done anything else, loving her.

His dream was shattered, he told himself despairingly; of what avail was his wonderful success—without her? And he had dared hope—he shut his eyes, blindly, under their smarting tears.

"I—I want to ask—you—" she leaned near him.

"Yes," he hung on her request.

"Back—back there—at the bread line—" she hung her head in embarrassment, as if afraid of herself. "There was a—a young man, with honest eyes—and such a nice frank face. Would you mind—if—we risk back? I—I would like to—to—help him—" Cushing looked at her approvingly.

"Oh—you darling—" he started to say, but something choked his utterance; for her soft, white hand was lying trustingly in his, and her tear-stained cheeks bent reverentially over his hand. She kissed him with her soft, pure lips.

"I—I knew it was you—that man, dear," she whispered, wiping her eyes.—John Wilmerding, in Young Magazine.



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

## PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

### Mirth at Meals.

A doctor says, "Don't allow a meal to pass without a joke between each mouthful." This will enhance the value of humor to a great degree. Dinner will move along something like this: Mouthful of soup—screams of mirth, flakes of laughter, and bread-crumbs pervading the air. Mouthful of roast duck reminds domestic humorist of something.

"Do you know why a duck goes into the water?" Long silence and more extensive eating. Domestic humorist answers it himself as follows: "For divers reasons." More bread, vegetables, and general good feeling. "Why does he come out?" No answer and no sound but that of an old joke under the table cracking its knuckles. "For sun-dry purposes," explains the ready and brainy man, looking casually at a memorandum on his cuff. More dinner and then, "Why does he go in again?"

Nothing can be heard but the low mutter of a thinker, perhaps, as he grapples with the great problem. "To liquidate his bill." Yells of laughter, screams of delight, and astonishing feats of digestion promoted by mirth. "And why does he again come out?" More thought and mastication; then the gastric jester says, "To make a little run on the bank," and amid a great shower of vest buttons and mirth, the genial, all-round tonic humorist and joy promoter goes on.—Pearson's Weekly.

### Pointed Paragraphs.

Too many people feather their nests with borrowed plumes.

Every woman thinks she has a right to make a fool of some man.

How it does irritate a woman to be out-talked by one of her own sex!

Married women should let their husbands be right once in a while—just for a change.

It doesn't take the average man long to throw off the greatness that is thrust upon him.

Your enemies are seldom as black as you paint them or your friends as white as they appear to be.

This earth is inhabited mostly by people who imagine they were intended to do something better than their present vocation.

Jealousy is a tree that bears nothing but bitter fruit.

You hold a boy from power when you protect him from pain and hardship.

Don't wait for the dead past to bury its dead; cremate it.

This world hasn't a very high opinion of a low-salaried man.

The less money some men have the easier it is for them to be good.

Character is soon narrowed when you try to be liberal in regard to questions of absolute right and justice.

Almost all the world echoes a loud amen to those people who pray to be delivered from this vale of tears.

A get-rich-quick scheme is the best bait to use when fishing for suckers.

Weigh some heavy people and they will be found wanting in everything but weight.

Occasionally a man gets married so that he can put his property in his wife's name.

Time isn't exactly money, but some people spend one just as foolishly as the other.—Chicago News.

### Domestic Hints.

**SALLY LUNN.**—Scald a pint of milk, add two teaspoonfuls of butter, when luke warm add a yeast cake (moistened) and one-half teaspoonful of salt, then add enough flour to make a batter. Set the batter away to rise in a warm place for about two hours; add two well beaten eggs and pour into greased tins. Let rise for one-half hour and bake in a quick oven for 20 minutes.

**POTATO SALAD.**—Take four medium-sized, boiled, cold potatoes and cut small. Cut two ounces of ham fat and one onion very small and fry together till onion is dark brown when add a gill of good vinegar. Strain the mixture over the potatoes and season them with salt and pepper. When cold place on a bed of lettuce leaves in a bowl and make a dressing of one egg, well beaten, two tablespoons of vinegar and three of cream, one-half teaspoon each of mustard and salt. Whisk all together and boil till it thickens. Stir occasionally while cooling and then spread over the prepared potatoes.

**APPLE AND BREAD CUSTARD.**—Soak slices of bread from which the crust has been cut in as much milk as they will take up without becoming mushy. Put a layer of these in a buttered mould and on it place a layer of sliced apples, peeled and seeded, and on these a stratum of seeded raisins. Sprinkle with powdered sugar, add a little grated lemon peel, and finish the pudding with a layer of bread. Pour in two cups of milk into which have been beaten the yolks of three eggs, and bake until the pudding is firm. Make a meringue of the whites, heap on the pudding and brown lightly. Serve cold with rich cream.

### Stray Bits of Information.

The United States now takes half the world's crop of rubber.

France spends 35% of her resources on military preparations.

England makes but a third of the machinery used by its farmers. On the remainder \$1,308,000 worth of it comes from America, and \$212,000 from Canada.

Germany heads the list as a reading nation and Russia is falling to zero. In 1893, 23,607 books were published in Germany as compared with 8082 in Russia. In regard to newspapers the inhabitants of the United States are catered to by 22,000 journals, while Russia, with a population of 130,000,000, has only 800.

The immense indirect cost of warfare is illustrated by the fact that the Spanish-American war cost \$1,000,000 a day for over a year, although hostilities occupied but three months.

All watches are compasses. Point the hour hand to the sun and the south is exactly half way between the hour and the figure XII on the watch.

The world's greatest timber belt is to be found in the counties of Clatsop, Columbia, Washington, Tillamook, Coos, Douglas and Lane, in Oregon.

The best cheese made in Switzerland is usually exported, and is seldom to be had even in the famous hotels of that country.

### Her Redeeming Feature.

An only son had just told the family that he was engaged, and to whom.

Ma—What, that girl? Why, she squints.

Sister—She has absolutely no style.

Auntie—Red headed, isn't she?

Grandma—I'm afraid she's fidgety.

Uncle—She hasn't any money.

First Cousin—She doesn't look strong.

Second Cousin—She's stuck up.

Third Cousin—She's an extravagant thing.

The Son (thoughtfully)—Well, she's got one redeeming feature, anyhow.

Chorus—What's that?

The Son—She hasn't a relative on earth.

Pa—Grab her, my boy, grab her!

### RESISTANT CUTTINGS.

About 8000 well rooted Rupestris St. George cuttings. For price apply to P. O. Box 58, Auburn, Cal.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address **W. A. Stewart,** Rio Vista, Cal.

## WALNUT TREES

Grown from carefully selected seed Postal for prices.

**A. A. MILLS,** Anaheim, Cal.

## \$5 A THOUSAND

RESISTANT GRAPE CUTTINGS FROM IMPORTED STOCK.

VARIETIES—3306, 3309, 1202

**A. W. LUTHER** Healdsburg, Cal.

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

**A. F. SCHEIDECKER,** Sebastopol, Cal. Proprietor Pleasant View Nursery.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery Spring of 1908.

**SOUTHLAND NURSERIES,**

F. H. DISBROW, Proprietor. Both Phones. R. D. 1, Pasadena, Cal.

## The Crocker Bartlett Pear

DOES NOT BLIGHT

If proven different, purchase price of trees bought from us in 1907 will be refunded. Fruit highly recommended by Luther Burbank. Sample of pears sent on receipt of 25 cents.

See U. S. Year Book of 1905.

**Peach Trees, 15c**—all leading varieties.

**Cherry Trees, 20c**—all leading varieties.

### GOLDEN RULE NURSERY

Loomis, Placer County, Cal.

## Pacific Nurseries

San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting a full line of

Ornamental Trees and Shrubs, Evergreen and Deciduous, Conifers, Palms, Rhododendrons, Camellias, Ericas, Azaleas, Roses, Eucalyptus, Cypress, Pine, Monterey and Maritima Pittosporum transplanted into plats.

Send for Catalogue

**F. LUDEMANN, 3041 Baker Street** SAN FRANCISCO

### Strawberry Plants

Brandywine, Excelstor, Texas, Arizona, Al, Lady Thompson and Midnight, Pedigree Plants.

### Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

### Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

### Dewberry, Loganberry, Phenomenal Berry Plants.

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS, Burbank, Cal.**

## Burbank Says:

"Best way to get a Walnut Grove—Plant California Black Walnuts, graft them when 4 years old to Franquette or Santa Rosa."

We have extra good stock of

**CALIFORNIA BLACK**

3 to 5 feet. Write for prices.

**JOHN SWETT & SON** MARTINEZ, CAL.

## GRAFTED VINES

FIELD GRAFTING

BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

**JOHN L. AMES,**

Elk Grove, Cal.

## ENCINAL NURSERIES.

SPECIALTIES:—Apricot on 'Cot and Genuine Franquette Walnut on black walnut root. Strong, thrifty trees grown on new soil, entirely without irrigation, and surrounded by all safeguards possible, from selection of seeds and buds to the digging of the tree, to have them healthy, free from disease and true to name.

**F. C. WILLSON** proprietor, Sunnyvale, Santa Clara County, California.

**Red Gum } for**  
**Sugar Gum } timber,**  
**Gray Gum } posts, piles,**  
**Desert Gum } poles, etc.**

**Best Four. Get Our Prices.**

Cling and Free Peaches, Apricots, Almonds, Cherries, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

**Leonard Coates Nursery Co., Inc.** Morganhill, Santa Clara Co., Cal.

High In Quality

Low in Price

## OUR SEEDS GROW

**Vegetable, Flower and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## BARGAIN BERRIES

Twenty-five Lucretia dewberry, 25 Cuthbert raspberry, 25 Mammoth, 25 Loganberry, 250 strawberry and several other kinds of berry plants, also 1 acacia prepaid for \$2.50. Strawberry plants \$3.00 per 1000 prepaid. Larger lots \$2.75.

**TRIBBLE BROS.** Elk Grove, Cal.

### WANTED

Cuttings of the Following for Grafting Purposes: Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

**FANCHER CREEK NURSERIES** Fresno, California.

## EUROPEAN LINDEN SEED

Grown in Sacramento; 30 cents per ounce.

**F. A. MILLER, P. O. Box 377, Sacramento.**



## Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blisters from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

### The Fruit Grower and the Parcels Post.

(Continued From Page 87.)

enlist him and his board in an enlarged commerce, made possible by cheaper transportation of packages by mail. He said to me:

"No, sir; we had a man at Washington the last session of Congress purposely to oppose the passage of any parcels post bill, and we'll do so again! Why, in Marysville the retail hardware dealers of northern California just held a convention and called upon us to take this action, and we'll do it."

Well, it seems to me irresistibly comical that retail dealers should oppose a cheaper method of getting goods delivered at their doors. From that time on inspired editorials have appeared continually in the press telling the storekeeper that with parcels post in vogue he would be ruined. Who inspired such editorials it would be easy to guess. The stuff was even published in San Francisco as telegraphed from New York, and, under the guise of opposing the Eastern mail order houses, it gave them a splendid free advertisement. It was alleged that parcels post would throw all business into the hands of the mail order houses, who could, would and did easily undersell the local trader. On this account merchants, as individuals and in their various associations, were vehemently urged to oppose its institution tooth and nail. Certain jobbers in San Francisco even formed an Anti-Parcels Post League. Their organ was the Pacific coast merchant. They feared that the retailer would avail himself of the parcels post to buy his goods direct from the various factories, and so benefit himself and his customers. One such jobber with whom I conversed, after trying the mail-order-house talk, frankly admitted that the parcels post would prove a permanent benefit to the local merchant, but, he claimed, would injure the jobber.

As to just why the local dealer should be hurt by a parcels post, no one has yet found out. That the persistent calamity howling of the express companies is already becoming ridiculous and ineffective, the recent endorsement of the parcels post by the Society of Retail Merchants of New England loudly attests.

On the face of it the contention as to injury being worked to the local dealer bore its own refutation.

The parcels rate asked of the postoffice was 25 cents for 11 lb. Now it is safe to say that five-sixths of the population of the United States live within such distance of some large mail order house as to get their goods delivered by freight at a rate much less than 2 cents per pound. It is also well known that department stores, even in California, already deliver goods from their bargain counters free of charge for transportation. In spite of this, I am sure you will all acknowledge that in Stockton, Oakland, Berkeley, Sacramento, and even in Marysville, there were never better stores with finer stocks of goods than there are today. This absolutely free delivery has had no such ruinous effects as have been predicted. More-

over, were the mail order business so exceedingly profitable, it would be easily within bounds of imagination to conceive of branches of these large mail order houses established at San Francisco, Eastern mail order houses the parcels Los Angeles or Sacramento sending their goods by freight at much lower rates than the advocates of a parcels post have suggested.

And, by the by, has it ever occurred to the Marysville merchants that they were giving these same mail order houses the biggest kind of a boost by getting the press all over the country to proclaim that goods could be bought cheaper of those houses than of the local dealer? Is not this a free advertisement for those houses of the utmost value? Is it not a direct invitation to any wide-awake buyer to purchase of these houses?

I am glad to be here today, not only to tell them that if this is really their argument, it is "bad business," but that their whole opposition to the parcels post is, as they are now slowly discovering, also bad business.

In the first place, the parcels post has proved in other countries a most powerful stimulus to trade. The retail merchants would in those countries be the first to object to its impairment or abolition.

In the second place, the lack of a parcels post has been, and is likely to be, the cause of more orders going to mail order houses than otherwise would be the case. Postal rates and express rates on purchases being largely prohibitive, buyers naturally turn to freight rates. To secure these a minimum freight of 100 lb. must be paid for. So, if Jones wants only 25 lb. of goods, he suggests to his three neighbors—Smith, Brown, and Robinson—that they should pool issues and each send for 25 lb., dividing the freight charge among them. Jones lends them his mail order catalogue and each selects the goods he needs, and the local dealer thus loses the sale of 100 lb. of goods instead of 25 lb. Or Jones himself further scans the catalogue and sends for 75 lb. more goods than he would otherwise have ordered had it been possible to send for his 25 lb. by parcels post. This is no far-fetched, fanciful instance; it is what is now being done, and the best way to check it is to institute an up-to-date parcels post. This is the true method of giving the small local merchant a chance to compete with the big houses. It widens his stock and multiplies his capital. As to local buyers, there is no doubt they prefer buying things of local dealers where those dealers understand their business. The average buyer hates to write a letter, or even to fill in an order blank. He wants to see the articles he is to pay for before he parts with his coin. He wants his goods now, and not five or six weeks hence. I am glad, therefore, to learn that those retail merchants who oppose parcels post have reconsidered the matter and decline any longer to be dupes of the express companies.

Concerning the stale fabrication as to the demand for a parcels post being raised by the Eastern mail order houses, as President of the California Postal Progress League, I can vouch for the fact that not a dollar has reached our treasurer from any one of those houses, and not even a single word of encouragement. Of course, if there are individual retailers who choose to cherish the notion that paying exorbitant rates to swell the extravagant dividends of express companies really benefits them and their customers, that is their privilege as citizens of this free republic. If the experience of the past does not convince them that all improvement of transportation facilities increases commerce, I cannot hope that any argument of mine will avail. If there be such a one still in California, at least let him cease from advertising the Eastern mail order houses by getting his local editor to tell the farmers they can buy cheaper in Chicago than they can of him. He had better spend his time hustling to buy his own goods cheaper by buying direct from the factory and getting things delivered by cheap parcels post, where there will be no rebates and no special

## CITRUS FRUITS

(Oranges, Lemons, Limes, Grape Fruits, etc.) must be of good size or they fail to satisfy the market. Says an authority on this subject: "An orange that weighs a pound would sell in New York for a dime. When it takes six to weigh a pound they are worthless."

You can insure large growth by fertilizing with

## Nitrate of Soda

It is the **Standard Ammoniate**, and it is the cheapest. Unlike any other ammoniate, no intervening process is necessary before the plant can take it up as food.

Wonderful results have been obtained in Florida by fertilizing during the cold season.

Directions for successful Citrus Fruit growing will be sent free upon request to all who apply. "Food for Plants," a 237-page book of useful information, will be sent free to farmers while the edition lasts, if paper is mentioned in which this advertisement is seen.

Send your name and complete address on post card.

WILLIAM S. MYERS, Director, John Street and 71 Nassau, New York

rates of any kind. The world moves and the retail merchant must keep step or lose his place in the procession. He must accept the means at hand to hold his own, and in this struggle with the post is the very weapon he wants to aid him in his warfare. By its aid he can stand, if he will only cease telling all the world they can buy cheaper in Chicago than they can of him. The fact of this having been the one stock argument put forward to discredit the parcels post certainly demonstrates that the express companies and not the merchants are the real opponents. It is incredible surely that any body of intelligent California merchants would be so insane as to spread a report up and down the length and breadth of the land that consumers can profitably send to Chicago for their goods instead of buying at home. I trust our merchants have such abundant good sense as shall lead them to denounce their being any longer made cats' paws to rake out hot chestnuts for the express companies' ravenous maws.

My time runs short. But permit me one word to tell you how British farmers and fruit growers are subserved by the parcels post. By the adoption of packages of size and weight in accord with postal regulations, the British farmer can have his produce taken from his gate by postal motor or wagon, shipped in the railroad cars, and thence delivered at the house of the addressee in such quantities as suit his convenience. Similarly, goods can be shipped to him from any part of his kingdom and delivered at his gate. It does not matter one whit whether it is cream, butter, eggs, fruit, fish or fowls, anything goes, goes on time, and gets there on time. One firm shipped 70,000 parcels in two days.

Just how useful such an institution would be to us each one can readily picture for himself. The endless waste of time and the constant annoyance of delay experienced for lack of such service, we all too keenly realize. The comfort of such an institution, the saving of cash and energy, of time and temper, also appeals to us all. Whether we are to enjoy this inestimable boon to all classes depends on ourselves. We are too prone to relegate our responsibilities to that impersonal thing we call our Government. We forget that we are the Government, and that unless we, the people, issue our mandate, no reforms are possible. All reforms come from outside pressure, not from spontaneous internal

action. It is for you to instruct your Congressman in such forcible and unmistakable terms as shall leave him no option but to vote for an up-to-date parcels post or make way for one who will.

### POSITION WANTED.

A young energetic fruit-grower, two years in my employ, desires to find position as foreman in orchard or vineyard. Can recommend him as absolutely reliable. He has a knowledge of general farming, but more particularly of prune and raisin growing. Apply

G. H. HECKE,  
Woodland, Cal.

### FOR SALE.

Jordan and Drake Seedlings. Nine hundred of each of the above varieties, one year old. About two-thirds from 4 to 6 ft., balance 3 to 4 ft.; exceptionally fine rooted trees. Apply

A. R. GURR,  
R. F. D., Merced.

### Eucalyptus Red Gum Sugar Gum

6 to 8 inches high; packed and delivered you by express or mail. Prepaid \$2.50 per 100. Safe delivery guaranteed.

HENRY SHAW,  
320 River St. Santa Cruz, Cal.

## The Fresno Scraper



3½-4-5 FOOT

Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.



Ferry's Seeds are the best known and the most reliable seeds grown. Every package has behind it the reputation of a house whose business standards are the highest in the trade.

Ferry's 1908 Seed Annual will be mailed FREE to all applicants. It contains colored plates, many engravings, and full descriptions, prices and directions for planting over 130 varieties of Vegetable and Flower Seeds. Invaluable to all. Send for it.

D. M. FERRY & CO., Detroit, Mich.

### For Sale: Jerusalem Artichokes THE GREAT WINTER HOG FEED

Address  
Fancher Creek Nurseries, Fresno, California.

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.



### Free Veterinary Book

Infallible guide. Makes every man his own horse doctor. Postage 2c.

### Tuttle's Elixir

Insures sound horses. Cures splint, curb, spavin, etc. \$100 reward for failure where cure is possible.

TUTTLE'S ELIXIR CO.,  
33 Beverly St., Boston, Mass.,  
Los Angeles, W. A. Shaw, Mgr.,  
1921 New England Av.

Beware of all blisters; only temporary relief, if any.



# AGRICULTURAL REVIEW.

## MONTEREY.

Salinas Index: The Index has had vines of green corn, ripe and green ganberries and blossoms on the same vines in January, in this glorious climate of Salinas, and now it is a pleasure to note that Mrs. Philipp Vetter has ripe strawberries, Jan. 22d, growing in the same warm, sunny belt that produced the green corn on Abbott street. She brought a plate of nice ones to the index office. She says the sparrows are nibbling her of these berries, which could be quite plentiful except for their predations.

## SACRAMENTO.

Many acres of asparagus will be planted in the vicinity of Walnut Creek this year. On Grand Island the Stuart Farming Company will plant 1,000 acres this season, and many holdings of 10 and 50 acres will likewise be set out in asparagus. At Andros Island and vicinity all the suitable land is being planted.

The State Wool Growers' Association met and organized by electing officers as follows: President, A. C. Kimball of Hanford; vice president, T. H. Ramsey of Red Bluff; secretary, A. M. Elston of Woodland; treasurer, L. L. McCoy of Red Bluff; executive committee, Henry Glide of Sacramento, L. L. McCoy of Red Bluff, J. H. Hoyt of Suisun, T. H. Giornella of Honcut, and A. Bullard of Woodland, to which will be added four others when the association grows.

After adopting a constitution and by-laws, the meeting adjourned to meet about two months hence.

## SAN DIEGO.

Merced Sun: R. Malan of Brawley reports that the acreage of cantaloupes there for the coming season will not be less than 2500 acres, against 800 acres last year, says the Imperial Press. This tallies with reports received from the other sections of the valley of percentage of growth in area, while Imperial, Keystone and Calexico will be producers this year for the first time. There is every indication that the plantings of this year will reach an acreage of 5000 in the valley, or from four to five times that of last season. As considerable part of this will be in the hands of those who are making their first venture in the industry, it can be expected that there will be quite a shrinkage from these figures when it comes to the actual harvest.

## SISKIYOU.

Supervisor Bigelow, of the Klamath National Forest Reserve, has received from the department at Washington the authorization for the number of head of stock that will be permitted to graze on the reserve during the grazing season of 1908. Grazing permits for 9,200 head of cattle and horses, 4,100 head of sheep and goats, and 3,600 head of hogs, will be granted. The summer grazing season for cattle and horses is from May 1 to October 31, and the charges are 25c per head for cattle, 35c per head for horses, 9c per head for sheep and 10c per head for goats. The year-long permits will cost as follows: On cattle, 40c; horses, 50c; sheep, 16c; and goats 18c. Applications should be in prior to March 1, 1908, otherwise they will not be approved, unless some sufficient reason is given for the delay in making such application.

Searchlight: Eighty bales of hop—almost the entire Shasta County crop of 1907—were sold here Jan. 10 at 5½c. The bales will average 190 pounds each. The largest hopgrower in the county, Carl Nagle, was not in the pool. He declines to sell at the low figure and will hold for a better one. The Whitmore and Twin Valley growers were offered 9½c. last fall at the wind-up of the harvest. As they had received 14c. the year before, they thought best to hold on. The result has been disastrous. It is estimated that it costs 9c. a pound to raise hops and prepare them for market. So the past season was a losing one for the growers, many of whom announce their intention of going out of the business, for the current year at least.

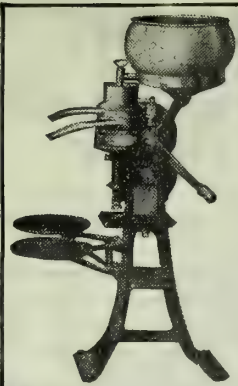
## SUTTER.

Farmer: At a recent meeting of the State Prison directors the price of prison grain bags was reduced from 7½c to 6½c. The output this coming season will be 5,000,000 bags. According to the new ruling of the directors no more than 3000 bags can be sold to one man or firm and an agreement must be signed by the purchaser that the bags shall not be resold at a profit.

The dairy industry near Meridian is rapidly coming to the front since the Sutter County Creamery began operations and the territory from which cream is being received is being extended materially. The parties who have recently purchased lands in District No. 70 from the Syndicate will plant alfalfa and go into the dairy business extensively.

## TULARE.

The Eucalyptus Lumber Company of Los Angeles has started to break ground on their recently acquired tract of land, 15 miles northeast of Tulare. Most of this tract will be planted to a variety of eucalyptus known as the rostrata or Australian mahogany, a wood which commands a higher price on the market than mahogany, and is largely used for decorative interior work. The company proposes to install a water power plant for irrigation purposes and the work on the latter will begin at once.



## NEW 1908 DE LAVAL CREAM SEPARATORS

1908 marks another great move forward in the development of the Cream Separator—the introduction of a complete new line of DE LAVAL Farm and Dairy Sizes of machines, ranging in separating capacity from 135 lbs. to 1350 lbs. of milk per hour.

As nearly perfect as the DE LAVAL machines have been before, they are now still further improved in practically every detail of construction and efficiency, and every feature reflects the past two years of experiment and test by the De Laval engineers and experts throughout the world.

The principal changes are in greater simplicity of construction, ease of cleaning and replacement of parts; less cost of repairs when necessary; easier hand operation; more complete separation under hard conditions; greater capacity, and a material reduction of prices in proportion to capacity.

The DE LAVAL was the original Cream Separator, and for thirty years it has led in making every new separator invention and improvement. Every good feature is now bettered and retained and many new and novel ones added, rendering DE LAVAL superiority over imitating machines even greater in every way than ever before.

A new 1908 DE LAVAL catalogue and any desired particulars are to be had for the asking.

## DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

# TREES

Place Your Order Now

LARGEST STOCK ON THE COAST

When buying ROEDING TRUE TREES you have the satisfaction of knowing you are receiving the best in the country. Our trees are backed by 25 years experience and are as perfect as the most skillful handling and propagating, assisted by ideal climatic conditions and the best soil, can make them. Our trees are properly packed for shipping and reach their destination in perfect condition.

The Best is Always the Cheapest.

## CITRUS and DECIDUOUS FRUIT TREES

NUTS & ORNAMENTAL TREES  
GRAPEVINES BERRY BUSHES  
PALMS, PLANTS & ROSES

IN ALL STANDARD VARIETIES

## Peach Specials.

Write to us for bedrock prices on Lovell and Muir peach trees, 2 to 3 ft. grade, in 500 to 5000 lots. You cannot afford to miss this opportunity.

## OUR CATALOGUE FREE

Best book of its kind ever published on the Coast. Fully illustrated—148 pages—sent free on request.

## BURBANK'S NEW CREATIONS

Send 10c. for our illustrated booklet, in colors, describing these valuable new tree products. We are sole propagators and disseminators.

## PAID-UP CAPITAL \$ 200,000.00 FANCHER CREEK NURSERIES

Geo.C.Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## C. C. MORSE & CO.

Plants SEEDS Trees

41 Jackson St.  
San Francisco



This picture represents the cover of our handsome new catalogue done in colors, showing the flowers and fields true to life.

Send us your name and address and we will mail this new 1908 Catalogue free.

Send us \$1.00 and we will send one each of these three fine roses (strong 2 year old roots): Frau Karl Druschki, Mildred Grant, Madam Caroline Testout. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea—Florence Morse Spencer.

## TEHAMA.

The Horticultural Commission is determined to prevent, if possible, the importation of diseased trees into this section. Every tree shipped here is examined, and, if found to be diseased, destroyed by burning. A shipment of 500 Muir peach trees was received from an Oakland nursery a few days ago, and several were destroyed as having root knot and peach blight. Also, two other bundles of peach trees from another nursery were burned.

## YOLO.

P. J. Prein of Hamilton city recently visited this locality in the interests of the Pacific Sugar Construction Company of Hamilton, his purpose being to grow sugar beets for the big refinery at Hamilton. A number of farmers signified their intention to plant from 10 to 25

acres, and A. W. Morris will plant 300 acres. D. N. Brown agreed to plant 150 acres.

## NEVADA.

BEE SUGAR FACTORY.—Bee: Walter E. Trent, E. E. Hardach and John E. Pelton, of Reno, have formed the Trent Continuous Filter Co., and incorporated for \$200,000, with \$115,000 paid up. This company intends to purchase a large tract of land near Reno for the culture of the sugar beet and to begin the raising of that product. The company also intends to build a sugar factory here and to provide the factory with a new process invented by one of the members of the company, which is said to be a great success. The gentlemen composing the company claim to have discovered a new process of filtering that will revolutionize the making of beet sugar.



**HELP THE COWS**

Even the **best** cows can't make big profits for the dairyman who persists in using pans or crocks or a poor skimming separator. Cream is **cash**, and if yours is just an "average" herd, then how much more necessary to skim out every drop! Why not help the cows boost your profits by skimming their milk with a reliable **UNITED STATES SEPARATOR**



**SKIMS OUT  
ALL THE  
CREAM**

**HOLDS  
WORLD'S RECORD**

A cream separator is an acknowledged necessity to profitable dairying, but before you buy why not look very carefully into the matter and buy the best one at the start? It's cheapest in the long run. We'll gladly send you, FREE, an illustrated book, telling what a separator can and ought to do. Please write us today "Send your book No. 148."

**VERMONT FARM  
MACHINE CO. (481)  
Bellows Falls, Vermont**

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

**Pneumatic Fruit Grader**

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

**WRIGHT BROTHERS,  
Riverside, Cal.**

**Cutter's Anthrax and Blackleg Vaccines**

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address  
Grayson and Sixth Streets, **BERKELEY, CAL.**  
West of San Pablo Ave.

**School of Practical, Civil, Mechanical Electrical and Mining Engineering**

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25. Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

**HENRY B. LISTER,  
ATTORNEY AT LAW.**

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts., San Francisco.

**The Dairy.****A Good Starter and How to Prepare It.**

By E. H. HAGEMAN of the University of California at the California Creamery Operators' Convention at Davis.

The value of selected cultures of lactic acid producing bacteria in cream ripening was first demonstrated by Dr. Storch, of Denmark, in 1890. Since then the use of these cultures has spread very rapidly and successfully.

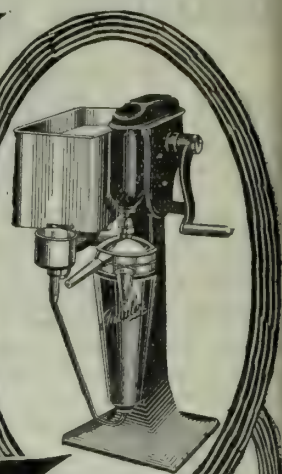
'Starter' is the term applied to cultures of lactic acid bacteria, selected artificially in a laboratory, or making a selection of the very best flavored milk at the dairy or creamery. The word 'starter' is used for the reason that it assists and starts the development of lactic acid fermentation in cream ripening.

We have the commercial yeast which is used in bread making that starts the bread to rise. The dough is mixed with the ferment, which produces carbonic acid from a portion of the sugar present. The carbonic acid is liberated from within the dough, and causes the bread to rise. And so in cream ripening, we have the commercial culture of ferment, which if added to the cream causes the development of lactic acid from the milk sugar present in the cream, and gives us the desirable lactic acid fermentation for cream ripening.

I had hoped that the dairy school would be in running order, and have a number of home-made and commercial starters propagated for your inspection and examination, from which lessons could be drawn, better than I can tell you. We judge a starter somewhat in the same manner as we do butter, flavor and texture being the two principal points. The flavor being noticed by both taste and smell. It should have a clean sharp acid taste, not bitter, nor a stingy acid or sweetish taste, as the latter indicates too much acid—too old—and danger of putrefactive bacteria setting in. By putting some of the prepared starter in a pint milk bottle and agitating it thoroughly, we can then tell any bad flavors, or otherwise get the aroma characteristic of a desired starter. The starter is allowed to just coagulate. The texture should be smooth without gas or pinholes developed through the mass, and should at this time contain about 0.7 of 1% of acidity. When, after mixing it thoroughly, so it has the appearance of thick buttermilk, it is ready to add to the cream for your next churning.

**MAKING A STARTER.**—In the preparation of a starter, having the proper machinery, such as a starter can, sterilizing or steaming cabinet, the first requisite is, of course, clean, fresh milk, skimmed milk being preferred. Pasteurizing a quart in a previously sterilized quart Mason jar or milk bottle to a temperature of 180° F for 30 minutes, it should then be cooled quickly to 80° F, when it is ready for inoculation with the pure culture. It is then thoroughly stirred several times and kept at a temperature of 70° F from 18 to 24 hours, when the milk should be sour and coagulated. This mother starter is now ready to inoculate a greater quantity of sweet skimmed milk pasteurized and cooled in the same way, which when coagulated or showing 0.7 of 1% of acidity is now ready to add to the cream.

**HOME-MADE STARTER.**—In a home-made starter the butter-maker is left to select his own milk, from which to propagate the desired lactic acid bacteria, and in this a good judge of milk is necessary. The milk should be procured from an individual cow or herd not far advanced in lactation and fed on good feed, securing, say, one quart jar each from several cows. The milk should be put in sterilized jars and allowed to sour at a temperature of 80° F. When soured or coagulated, skim off the top and introduce the sample into

**CREAM PROFITS**

If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.

**The Sharples****Tubular Separator**

gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

Union Mills, Ind.

GENTLEMEN:—We have a Sharples Tubular. Before we bought it, we had been selling our milk to a creamery at Union Mills, getting not more than \$8.00 a month, but since we have the Tubular, we have been getting twice more, and are so satisfied with the Tubular.

MRS. JOHN C. MILLER

Such proof as this ought to convince you that a "Tubular" will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and free copy of that valuable book, "Business Dairying." Ask for book No. 131.

**THE SHARPLES SEPARATOR CO.,**

West Chester, Pa. Toronto, Can. Chicago, Ill.

**Trees that Grow and Bear Fruit**

**SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.**

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

**Orange County Nursery & Land Company**  
FULLERTON, CAL.

**RHODES DOUBLE CUT  
PRUNING SHEAR**

Pat'd June 2, 1903.

Dept.  
2a

**RHODES MFG. CO.,  
GRAND RAPIDS, MICH.**

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

**FRANCIS SMITH & CO., Manufacturers of****SHEET IRON & STEEL PIPE****FOR TOWN WATER WORKS**

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

**NATIONAL WOOD PIPE CO.**

Patent Machine Banded **WOOD PIPE** Made from California Redwood or Selected Puget Sound Yellow Fir.  
404 Equitable Savings Bnk. Bldg. 268 Market St., San Francisco  
Los Angeles  
Olympia, Washington  
Dooly Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.



greater quantity of pasteurized milk, cooled to 75 or 80° F. 18 to 24 hours the starter should show signs of coagulation and should contain from 0.6 to 0.7% acidity, when it is ready to add to the cream. Usually four or five pounds of the mother starter added to 100 lb. of pasteurized milk will sour it in 18 to 24 hours.

Commercial cultures are sent out from the laboratories monthly, but the length of time a starter can be kept in good condition depends a great deal on the care and watchfulness of the operator. All utensils used in connection with the starter are kept in a sterile condition, and temperatures are watched, a starter can be propagated a good many months.

When milk is not available in quantities, good sweet cream prepared in the same way gives good results, requiring only a small quantity of milk to cultivate the mother starter. The practice of growing to carry a number of mother starters, and using only the best ones, glass jars are preferred for this purpose being more sanitary.

The thought came to me when given as subject of starters that you might be more interested in getting a desirable cream first. The gardener does not sow a bed with millions of weeds already grown up in it, but hoes them out and cultivates it until he has a clean seed bed, and so with the butter-maker, it is hardly any use to add a culture starter to cream where millions of undesirable bacteria already exist. I believe we should pay more attention to sterilization and starters. I don't believe in this as a cure-all, but I believe we could have more confidence in cream in many instances that our butter could reach the consumer with better keeping qualities. I have made butter in very poor cream. When coming out of the churn it seemed to be fresh and quite good flavored, but such butter does not keep well till it reaches the consumer, and it is there where it counts, and not in the creamery under present conditions with competition and struggle for cream and the creameries glad to take all kinds of cream, good, bad and indifferent. With lax laws as to the delivery of milk and cream from the producer, we are up against a hard proposition.

A note of warning has been sounded throughout the dairy press, and at dairy conventions, of the lowering of the standard of quality of our butter. That the creameries will be benefited, who in the meantime keep up the quality of their butter by the very best methods of manufacture, there can be no doubt.

#### Portland Cement.

The country is being carefully searched for material suitable for the manufacture of portland cement. Deposits thoroughly satisfactory in chemical composition and at the same time situated as to permit profitable marketing of the product, are exceedingly rare. The raw mixture which by its sintering and grinding forms portland cement should contain about 75% of carbonate of lime. One of the most serious difficulties is that of finding limestones low enough in magnesia. The usual limit in well-established specifications is 5% of magnesium oxide in the finished cement, although the amount is sometimes limited to 3%. When the magnesia is present to the extent of 10 or 15%, the appearance of the stone, the way it effervesces with dilute hydrochloric acid and its hardness indicate its presence to that point; but when it is as low as 5 or 3%, it is not possible to form by superficial examination any estimate of the amount of magnesia. It is of great advantage to be able to determine in a few minutes, and at a point remote from a laboratory, whether a material will probably produce good cement. A simple test may be made as follows: After powdering the sample in a mortar, transfer a measured portion to a test-tube. Add to this 1.75 c.c. of hydrochloric acid and when effervescence

## What Horses Need

Conditioning horses for market requires skill in feeding. The stomach of the horse is not suited to the consumption of as much rough fodder as is that of the ox. The ration for the horse then, must be more concentrated—largely grains. But food itself is not more important than is a proper distribution of food after it's eaten. Thus digestion becomes the function to which we look for all satisfactory growth and fattening. Now long-continued heavy feeding may bring stomach derangement, dropsical swellings or even colic. Hence the horse needs a tonic to assist and perfect the digestive process.



## DR HESS STOCK FOOD

The prescription of Dr. Hess (M.D., D.V.S.) possesses remarkable tonic properties for either horses, cattle, hogs or sheep. It assists digestion, thus making a greater amount of food available for building bone and muscle or for forming milk and fat. Besides it increases the appetite for roughage. Chemical analysis shows that there is less nutrition lost in the manure when Dr. Hess Stock Food is fed, which proves that more of the food is digested. The ingredients contained in Dr. Hess Stock Food are recommended by the ablest medical writers for improving digestion, purifying the blood, expelling waste material from the system and regulating the bowels.

Sold on a Written Guarantee  
100 lbs. \$7.00; 25 lb. pail \$2.00  
Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

Free from the 1st to 10th of each month—Dr. Hess (M.D., D.V.S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book free any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.  
Also Manufacturers of Dr. Hess Poultry Pan-a-c-e-a and Instant Louse Killer.

INSTANT LOUSE KILLER KILLS LICE.

THE PETALUMA INCUBATOR COMPANY, Petaluma, Cal. Pacific Coast Distributors.

## DON'T BUY GASOLINE ENGINES

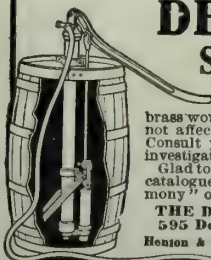
UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

has nearly ceased, boil for a moment. Then add enough pure calcium carbonate to neutralize the excess of acid. Boil until steam issues freely from the mouth of the test-tube, then add water and mix thoroughly by shaking. Filter this and allow the filtrate to run into another test-tube containing 1.5 c.c. of sugar-solution (a cold saturated solution of granulated sugar) and 1 c.c. of potassium-hydrate-solution (30 gm. of pure potassium hydrate to 100 c.c. of water) which have been diluted with water and thoroughly mixed by shaking. If magnesia is present, a precipitate of magnesium hydrate will form at the line of contact of the two solutions. Its density is roughly indicative of the percentage of magnesia in the stone. The percentage can be estimated pretty accurately by running a parallel test on stone of known composition. If small pieces of the rock under investigation upon being treated with dilute hydrochloric acid in a test-tube disintegrate entirely, clay or shale will have to be added to the limestone; if the action of the acid ceases before all of the carbonate is dissolved and recommences when the clayey covering of the splinter is rubbed off, the stone is apt to need the addition of a purer limestone; but if all of the lime carbonate is dissolved yet the splinter retains its shape, the stone probably approaches closely the proper composition for portland cement.

### Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

### DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests and investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.

THE DEMING COMPANY  
595 Depot St., Salem, Ohio.  
Henson & Hubbell, Agts., Chicago, Ill.

### SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada., Pa.



## California Fruit Exchange

(INCORPORATED.)

Head Office:  
SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## 1/2 Million Eucalyptus Trees

(IN VARIETY)

Only an announcement that we intend to supply our patrons with Eucalyptus trees of our usual high standard; our present stock is nearly exhausted, and we will grow

### ONE MILLION

if necessary—transplanted in flats of 100 each. Correspondence invited. Our booklet on Eucalyptus will prove interesting to planters. No postals. Address

W. A. T. STRATTON, Nurseryman  
PETALUMA, CALIFORNIA.

## PEAR-BLIGHT We can CURE IT

Our Work has Extended Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR BLIGHT REMEDY COMPANY

PATENTS OBTAINED IN ALL COUNTRIES. Trademarks Registered. Opinion as to Patentability and Infringements FREE. HANDBOOK FOR INVENTORS FREE. DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco



## THE MARKETS.

San Francisco, Feb. 5, 1908.

### WHEAT.

The receipts of wheat in January were 6158 tons. Considerable weakness has developed in the Chicago market, with heavy selling. There is hardly any speculative activity in San Francisco, and the cash market is still very weak, after a decline on all grades. Most lines have fallen off about 2½ cents, while some are still lower. The movement for the local interest continues about as light as it has been for some time, holders and buyers being still apart in their views. The millers are looking for choice lots, but are offering less than before, and little is taken by them. Shipments from this port in January were only 506 centals.

California White Australian..	1.72½@1.77½
California Club.....	1.65 @1.67½
California Milling.....	1.67½@1.70
California lower grades.....	1.55 @1.60
Northern Club.....	1.62½@1.67½
Northern Bluestem.....	1.67½@1.72½
Northern Red.....	1.57½@1.60

### BARLEY.

There was a decline in futures at the beginning of the week, and there is little activity in either cash or speculative market. Receipts have not increased, but the continued dullness, together with the weakness of futures, has caused a heavy decline in the cash grain. Brewing is more than 10 cents lower. Chevalier is nominal, with none offering.

Brewing .....	\$1.40 @1.50
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.40 @1.42½
Common to Fair .....	1.35 @1.37½
Shipping.....	Nominal

### OATS.

Quotations on seed oats are practically nominal, as the season is about over, and offerings meet with little response. In fact, there are hardly enough transactions in any line to establish quotations, as buyers are taking little interest, and the dullness is as pronounced as last week. Warehouse stocks decreased about 200 tons last month, and very little is coming in, as the northern holders are finding a market elsewhere. In view of the firmness elsewhere, there is no change in prices.

Clean Black for seed.....	\$2.50 @2.75
Choice Red, per ctl .....	1.85 @1.90
Gray .....	1.52½@1.60
White.....	1.52½@1.70
Choice Red, for seed.....	1.90 @2.00

### CORN.

Stocks on this market are still very light, but show an increase of about 100 tons in the last month, and are heavier than since last April. There is very little movement in most grades, and no new arrivals are reported, except of Egyptian varieties. Some interest is taken in the latter, and both grades are higher, with sales of white Egyptian up to \$1.70. Some grades of Western are also higher.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @—
White .....	Nominal
Western State sacked Yellow, new.....	1.60 @1.65
White, in bulk.....	1.52 @1.55
Mixed, in bulk.....	1.50 @1.52½
Brown Egyptian.....	1.37½@1.42½
White Egyptian.....	1.60 @1.70

### RYE.

There have been no further receipts of Utah or Oregon stock, and these grades continue nominal. There is still a slight activity in the California grain, which is quoted higher, some having been sold at \$1.52½.

California .....	\$1.50 @1.52½
Utah .....	Nominal
Oregon .....	Nominal

### BEANS.

The movement in the bean market continues of good proportions, with a strong demand for the southwest. Stocks in the growing sections are rapidly diminishing. Prices are about steady, though some lines are easier, and a few have declined slightly. Whites and pinks are somewhat lower, but limas are very firm, and red beans have advanced.

Bayos, per ctl.....	\$3.15 @3.25
Blackeyes .....	3.75 @—

Butter .....	4.50 @5.00
Cranberry Beans .....	2.75 @3.25
Garvanzos.....	3.50 @3.75
Horse Beans .....	2.25 @2.75
Small White .....	3.40 @3.65
Large White .....	3.20 @3.25
Limas.....	4.75 @4.85
Pea .....	3.50 @3.60
Pink .....	3.10 @3.25
Red .....	3.50 @4.00
Red Kidneys.....	3.25 @3.85

### SEEDS.

The movement of seeds continues very lively, with a good demand for all garden varieties. There has been a heavy demand for alfalfa, especially from the southern part of the State. There is little change in prices, but a few varieties are lower, and timothy is nominal.

Utah Alfalfa .....	18 @ 19 c
Turkestan alfalfa.....	18 @—
Alfalfa .....	17½@ 18 c
Broomcorn Seed, per ton .....	\$22.00@25.00
Brown Mustard, per lb.....	3½@—
Canary .....	3½@ 4 c
Flaxseed .....	Nominal.
Hemp.....	4½@ 4½c
Millet.....	2½@ 3½c
Timothy .....	Nominal
Yellow Mustard.....	5 @ 5½c

### FLOUR.

Flour is rather quiet, with no increase in the demand, and prices holding steady with limited offerings. Some of the railroads of the Northwestern producing district are trying to open up trade with California. An Eastern miller now in San Francisco predicts an increasing Oriental trade as a result of the modernizing movement now going on in China, but there is no demand from this quarter at present, and none is expected at present prices.

California Family Extra, per bbl. ....	\$5.40 @6.00
Bakers' extras .....	5.40 @5.65
Superfine .....	4.20 @4.50
Oregon and Washington, Family .....	4.75 @5.25

### HAY.

There was a still farther drop in the amount of hay received here during the week, the receipts being only 2130 tons, as compared with 2350 tons during the week preceding. The weakening effect of the heavy rains, however, easily offset the tendency to stiffen the market which the diminished receipts might otherwise have had. It is generally believed that the receipts here will be rather light from now on, and some San Francisco holders will be conservative as to unloading their warehouses. Some holders both here and in the country may conclude to carry their holdings over another year, in the belief that better prices will then prevail. If the weather continues as favorable for a good grain crop as it has been recently, it may lead to a smaller crop of hay than for several years. Prices are about as heretofore, and until the weather brightens there is little prospect of any very material changes or of any large movement of stocks.

Choice Wheat, per ton .....	\$16.00@17.50
Other Grades Wheat .....	11.00@15.00
Wheat and Oat.....	11.00@15.50
Tame Oat.....	11.00@15.00
Wild Oat.....	9.00@12.00
Alfalfa .....	9.00@13.50
Stock .....	7.50@ 9.50
Straw, per bale.....	50@ 90c

### MILLSTUFFS.

Bran, shorts, and middlings are characterized by extreme firmness, and the trade sees no indications of lower quotations for some time to come. There were only 28 tons of bran in local warehouses Feb. 1, a heavy decrease since last month, and with little coming in, the market is practically bare. All descriptions are in good demand, even rolled barley showing no decline, in spite of the weakness of feed grades of barley. Prices are the same as last week on all lines.

Alfalfa Meal (carload lots) per ton.....	\$22.00@—
Jobbing .....	23.00@—
Bran, ton .....	29.00@30.00
Broom Corn Feed, per ctl.....	90c@ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00@—
Jobbing .....	26.00@—
Corn Meal.....	37.00@—
Cracked Corn.....	38.00@—
Mealalfa.....	22.00@—
Jobbing .....	23.00@—
Middlings .....	32.00@35.00
Mixed Feeds.....	26.00@27.00

Oil Cake Meal, per ton.....	38.50@39.50
Rollod Barley.....	33.50@34.50
Shorts.....	30.00@31.00

### POULTRY.

No large quantities of native poultry have come in this week, but arrivals of eastern stock are unusually heavy, five cars having been received early in the week. Considerable of last week's arrivals, which amounted to ten cars, remain unsold, and as a result the market has opened up rather weak for all lines except broilers and fryers. Trade is dull, as the retailers are not purchasing as freely as usual, most of them being well stocked with last week's purchases. Dressed turkeys are selling at about former quotations, while live ones are neglected.

Broilers .....	\$5.00 @ 5.50
Small Broilers.....	3.50 @ 4.50
Ducks.....	4.00 @ 7.00
Fryers.....	5.50 @ 6.00
Geese .....	2.00 @ 2.50
Hens, extra .....	6.50 @ 8.50
Hens, per doz.....	5.00 @ 6.00
Small Hens .....	4.00 @ 4.50
Old Roosters.....	4.00 @ 4.50
Young Roosters .....	6.00 @ 7.50
Pigeons .....	1.00 @—
Squabs .....	3.00 @ 3.50
Hen Turkeys, per lb .....	15 @ 17 c
Gobblers, live, per lb .....	14 @ 16 c
Turkeys, dressed.....	18 @ 20 c

### BUTTER.

Receipts of butter are increasing from week to week, and the local market shows a still further decline, while the markets all along the Coast are in a very poor condition. The surplus in Oregon is going into eastern markets. Liberal shipments are coming into San Francisco from the south, and it is expected that the output of the San Joaquin Valley creameries will move this way. The trade is accordingly showing little interest in present offerings, and little movement is noticed.

Cal. (extras) per lb.....	27½c
Firsts.....	25 c
Seconds .....	22 c
Thirds .....	—
Fresh Eastern, extras.....	—
Fresh Ladies, extras.....	—
Fresh Ladies, firsts.....	—
Storage, Cal., extras.....	23 c
Storage, Cal., firsts.....	22 c
Storage Eastern, extras.....	23 c
Storage Ladies, extras.....	20 c

### EGGS.

Fresh eggs have been extremely weak most of the time, extras selling down to 18 cents on the exchange a few days ago, but the feeling is much stronger during the last few days. Low prices have increased the demand for the better grades, while the recent storms have interfered with production, and receipts have fallen off considerably. The better grades of fresh stock are quoted higher than last week. Storage goods are still offered in large quantities, and while this stock brings quotations, prices are very low.

California (extra) per doz.....	26 c
Firsts.....	23½c
Seconds.....	22½c
Thirds .....	20 c
Storage, Cal., extras.....	17 c
Storage, Eastern, extras.....	15 c

### CHEESE.

New fancy flats are again lower, and Young Americas, which have been firm, have dropped a cent. The market is well supplied, with large receipts, and trading of small proportions. Oregon goods are lower, and everything on the list is described as weak.

Fancy California Flats, per lb...	14 c
Firsts.....	13½c
New Young Americas, Fancy....	14 c
Storage, do.....	15 c
Eastern, New.....	Nominal
Eastern, Storage.....	17½c
Cal. Storage, Fancy flats.....	15 c
Oregon, Fancy.....	14½c

### POTATOES.

Seed potatoes remain as last week. The market on table varieties is still overstocked, and business is depressed, with retailers taking little interest. All the better grades have declined, and large lots of Oregon and River stock go at concessions. Sweet potatoes show a slight decline, under larger receipts.

Oregon Burbanks.....	85 @1.00
Burbanks, Salinas, ctl.....	85 @1.10
Lompoc Burbanks.....	1.25 @1.35
Burbanks, River, bag .....	40 @ 85
Early Rose, ctl.....	1.00 @1.25

## LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best for the West—all other sorts being discarded. Why experiment, why take chances? You can absolutely depend on **LILLY'S** seeds. Our catalogue for 1908, consisting of 112 pages, 16 colored pages made from actual photographs, with full cultural directions, is yours for the asking. You'll also find that **LILLY'S** seeds are **SOLD BY DEALERS** The Chas. H. Lilly Co. Seattle, Portland, San Francisco.

Garnet Chiles.....	90 @1.10
Sweet Potatoes, per ctl .....	2.25 @2.50

### VEGETABLES.

Onions are slightly firmer, with nothing offered below \$2.85. A shipment from Ohio sells below Oregon stock. Goods from the south are coming in larger quantities, with a few reductions in price. There is a wider range in prices on some lines, as there is a good deal of stock damaged by the rains. Further arrivals of Mexican tomatoes are reported. Some asparagus has been received from the River district, and sells for 25 cents a pound.

Garlic, per lb.....	5 @ 70
Green Peas, per lb.....	2 @ 10c
Chile Peppers, per lb.....	4 @ 70
Bell Peppers .....	12½@ 17½c
Cabbage, per ctl.....	60 @ 65c
Onions, per ctl.....	2.85 @ 3.00
String beans, per lb.....	17½@ 20c
Tomatoes, crate.....	1.00 @ 2.50
Marrowfat Squash, per ton.....	10.00 @15.00
Carrots, sack .....	75 @—
Hubbard Squash, ton.....	10.00 @15.00
Summer Squash, ½ box.....	1.50 @ 2.00
Celery, crate, small.....	1.00 @ 1.25
Egg Plant, lb .....	8 @ 12½c
Rhubarb, box.....	1.25 @ 1.50
Mushrooms, lb.....	10 @ 25c
Asparagus, lb.....	25 @—

### FRESH FRUITS.

Prices of apples and pears are unchanged, but business is unsatisfactory, the bright weather having caused no improvement. Retailers are still limiting their stocks, and show little interest.

Apples, fancy .....	1.25 @ 2.00
Apples, common to choice...	60 @ 1.00
Pears—	—
Winter Nelis.....	2.00 @ 2.25

### CITRUS FRUITS.

Sales of oranges are only in small lots, and the peddling business is exceptionally slow. Arrivals are smaller, but supplies are still large and stocks are deteriorating. The whole citrus market is decidedly weak, everything but limes and grape fruit being lower.

Choice Lemons.....	\$1.00 @1.25
Fancy Lemons.....	1.50 @2.25
Standard .....	75 @1.50
Limes.....	3.00 @4.00
Oranges—	—
Fancy.....	1.75 @2.25
Standard.....	1.25 @1.75
Tangerines, large box.....	65 @1.15
Grape Fruit.....	2.25 @3.00

### DRIED FRUITS.

Prices are unchanged in the local market, but there is a firmer feeling in prunes, stocks being unusually low, both in packers' and growers' hands. Other lines also show signs of greater activity and eastern buyers are showing more interest in the market.

Evaporated Apples .....	7½@ 9
Figs, black .....	23½@ 3
do white.....	3 @ 4
Apricots, per lb.....	18 @21
Fancy Apricots.....	21 @22
Peaches .....	9 @11
Prunes, 4-size basis, 1907 crop..	4 @ 4½
Pears.....	9½@12



## RAISINS.

2 Crown .....	4 1/2 @	—
3 Crown .....	5 1/2 @	—
4 Crown .....	5 1/2 @	—
Seeded, per lb.....	7 1/2 @	7 1/2 c
Seedless Sultanias .....	5 1/2 @	7 1/2 c
London Layers, per box .....	\$1.25 @	1.40
London Layers, cluster.....	1.30 @	2.00

## NUTS.

Continued quietness prevails in nuts, and all prices remain as last quoted. There is more inquiry, however, and more activity is expected in the near future.

Almonds, Nonpareils .....	15 c
I X L .....	14 1/2 c
Ne Plus Ultra.....	14 c
Drakes .....	13 c
Languedoc .....	12 c
Hardshell .....	8 c
Walnuts, Softshell No. 1.....	14 1/2 c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @ 12 1/2 c

## HONEY.

Business in honey shows no appreciable increase, and the movement is very slow. Stocks, however, are small, and gradually decreasing, and prices on all grades are firmly held.

Water White, Comb .....	16 @ 17 c
White .....	15 @
Water White, extracted.....	8 @ 8 1/2 c
Light Amber .....	7 @ 7 1/2 c
Dark Amber.....	6 1/2 @ 6 3/4 c

## WOOL.

There is no general movement in wool, California clips being generally neglected in the eastern markets, though some sales of low-grade stock have been reported. Prices are practically nominal and unchanged.

Humboldt and Mendocino, year's staple.....	22 @ 23 c
Fall clip: Northern free, mountain .....	8 @ 11 c
do. defective .....	6 @ 8 c
San Joaquin and Southern.....	5 @ 8 c
Fall Lambs, Northern.....	9 @ 11 c
Fall Lambs, Southern.....	7 @ 9 1/2 c
Nevada.....	12 @ 16 c

## HOPS.

There is a movement on foot among the growers to decrease the hop acreage, as it is said that present prices are below cost of production. Northern growers show some reluctance to contract future crops. The local market continues steady, with prices unchanged.

1906 crop .....	2 @ 3 c
1907 crop.....	6 @ 9 c
1908 (contracts).....	10 @ 11 c

## MEAT.

The market on all lines of cattle and sheep is very firm, for both live and dressed stock, dressed steers showing a further advance. Dressed mutton is also higher. The weakness on live hogs continues, though there is no great decline in prices.

Beef: Steers, per lb.....	7 @ 8 c
Cows .....	6 1/2 @ 7 1/2 c
Heifers .....	6 1/2 @ 7 1/2 c
Veal: Large.....	8 1/2 @ 9 1/2 c
Small.....	9 1/2 @ 10 c
Mutton: Wethers .....	11 @ 12 c
Ewes .....	10 1/2 @ 11 c
Lamb .....	13 @ 14 c
Spring lamb.....	15 @ 16 c
Hogs, dressed.....	9 @ 10 1/2 c

## LIVESTOCK.

Steers, No. 1.....	8 1/2 @ 9 c
No. 2.....	7 1/2 @ 8 c
No. 3.....	6 1/2 @ 7 c
Cows and Heifers, No. 1.....	6 1/2 @ 7 c
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	3 1/2 @ 4 c
Calves, Light.....	5 @
Medium .....	4 1/2 @
Heavy .....	3 1/2 @ 4 c
Sheep, Wethers.....	5 @ 5 1/2 c
Ewes.....	4 1/2 @ 5 c
Lambs .....	5 1/2 @ 6 c
Hogs, 100 to 200 lbs .....	6 @ 6 1/2 c
200 to 300 lbs.....	5 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

### Registered Holstein Bulls AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.

**PIERCE LAND & STOCK CO.,**  
Riverside Ranch, Stockton, Cal.  
Phone Main 1597. Send for Catalogue.

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## POULTRY.

**FEATHERLY FARM BUFF, BLACK, WHITE, ORPINGTONS.** The greatest prize winning and heavy egg laying strain in the West. Free catalog of matings. Featherly Farm, Box R, Redlands, California.

**BROWN LEGHORNS AND BARRED PLYMOUTH ROCKS.** Eggs for hatching a specialty; cockerels for sale. Walter Curry, R. D. No. 21, San Jose, California.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

## Cocoanut Oil Cake

## THE BEST FEED

FOR STOCK, CHICKENS AND PIGS.

FOR SALE IN LOTS TO SUIT BY

## EL DORADO OIL WORKS

2404 Broadway, San Francisco, Cal.

## NOW READY

## THE BOOK OF ALFALFA

History, Cultivation and Merits. Its Uses as a Forage and Fertilizer. By F. D. COBURN, Secretary Kansas Department of Agriculture.

The appearance of F. D. Coburn's little book on Alfalfa, a few years since, has been a complete revelation to thousands of farmers throughout the country and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is, by far, the most authoritative, complete and valuable work on this forage crop ever published.

One of the most important movements which has occurred in American agriculture is the general introduction of alfalfa as a hay and pasture crop. While formerly it was considered that alfalfa could be grown profitably only in the irrigation sections of the country, the acreage devoted to this crop is rapidly increasing everywhere. Recent experiments have shown that alfalfa has a much wider usefulness than has hitherto been supposed, and good crops are now grown in almost every state. No forage plant has ever been introduced and successfully cultivated in the United States possessed of the general excellence of alfalfa.

The plant although known in the Old World hundreds of years before Christ, was introduced into North America only during the last century, yet it is probably receiving more attention than any other crop. When once well established it continues to produce good crops for an almost indefinite number of years. The author thoroughly believes in alfalfa, he believes in it for the big farmer as a profit bringer in the form of hay, or condensed into beef, pork, mutton, or products of the cow; but he has a still more abiding faith in it as a mainstay of the small farmer, for feed for all his live stock and for maintaining the fertility of the soil.

The treatment of the whole subject is in the author's usual clear and admirable style, as will be seen from the following condensed table of contents:

History, Description, Varieties and Habits, Utilization of Alfalfa, Yields, and Comparisons with Other Crops, Seed and Seed Selection, Soil and Seeding, Cultivation, Harvesting, Storing, Pasturing and Soiling, Alfalfa as a Feed Stuff, Alfalfa in Beef-Making, Alfalfa and the Dairy, Alfalfa for Swine, Alfalfa for Horses and Mules, Alfalfa for Sheep-Raising, Alfalfa for Bees, Alfalfa for Poultry, Alfalfa for Food Preparation, Alfalfa for Town and City, Alfalfa for Crop Rotation, Nitro-Culture, Alfalfa as a Commercial Factor, The Enemies of Alfalfa, Difficulties and Discouragements, Alfalfa in the Orchard, Practical Experiences with Alfalfa. Illustrated. 6 1-2 x 9 inches. 336 pages. Cloth. Price \$2.00.

PACIFIC RURAL PRESS

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**

Importer and Breeder of

## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SO NOMA CO., CAL.



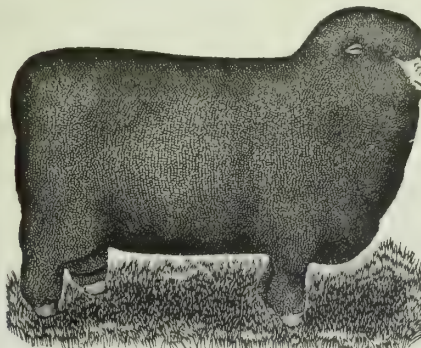
## FRANK A. MECHAM

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



## FRANK A. MECHAM, Importer and Breeder

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## BUFF ORPINGTONS

Eight years careful selection gives our COM-MONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

## A NEW SHEEP BOOK.

"Modern Sheep; Breeds and Management," by "Shepherd Boy," author of "Fitting Sheep for Show Ring and Market," is the latest work from the American Sheep Breeder press of Chicago, and it is perhaps within bounds to say that it is the best work on sheep ever published in this or any other country. It contains over 100 halftone engravings, among them being something like thirty of different breeds of sheep from different parts of the world. The subjects covered by this work are divided into eight parts: Part I deals with History and Breeds; Part II, General Management; Part III, Sheep Management in the Western States; Part IV, Fitting Sheep for Show; Part V, Raising House and Lamb; Part VI, Dressing Sheep and Lambs; Part VII, Pastures, Forage Crops, etc.; Part VIII, Diseases. The author of this work is one of the world's best known authorities on sheep, having had practical management of flocks in several different countries, and is at present associate editor of the world's leading sheep journal. A unique feature of this work is that wherein the author seems to upset the theory advanced by some scientists that on account of the differences of the genus of the sheep and goat a hybrid from such a mating is impossible, since the pages of this volume contain a halftone engraving from a photograph of the produce of such a mating and the statement of a member of the Government Bureau of Agriculture giving his opinion that this hybrid is genuine. This is a book that will be read with interest and profit by the veteran sheep breeder as well as the novice. It can be ordered through the PACIFIC RURAL PRESS at \$1.50, postpaid.

**FARM CONVENIENCES.**—A manual of what to do and how to do it. Describing all manner of home-made aids to farm work. Made up of the best ideas from the experience of many practical men. With over 200 engravings. 256 pages, 5 by 7 inches. Cloth.....\$1.00

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L.....	89
Beckman, Geo. V.....	95
Blake, Moffitt & Towne.....	87
Bosanko Medicine Co., Dr.....	92
Breeders' Directory.....	95
California Fruit Exchange.....	93
Coates Nursery Co., Leonard.....	89
Croley, George H.....	95
Curry, Walter.....	95
De Laval Dairy Supply Co.....	91
Deming Co., The.....	92
Dewey, Strong & Co.....	93, 95
Disbrow, F. H.....	89
Driver, E. S.....	95
El Dorado Oil Works.....	95
Fancher Creek Nurseries.....	89, 90, 91
Featherly Farm.....	95
Ferry & Co., D. M.....	90
Folding Sawing Machine Co.....	87
Fresno Agricultural Works.....	90
Fresno Nursery.....	87
German Kall Works.....	86
Golden Rule Nursery.....	89
Gregory & Son, J. J. H.....	87
Gurr, A. R.....	90
Hart, Ed.....	95
Hecke, G. H.....	90
Hess & Clark, Dr.....	87, 93
Holcombe & Co., R. A.....	86
Hopkins, G. H.....	89
Howard Cattle Co.....	95
Hoyt's Tree Support Co.....	—
Jackson & Co., T. W.....	86
Lawrence-Williams Co.....	90
Lilly Co., Chas. H.....	94
Lister, Henry B.....	92
Ludemann, F.....	89
Luther, A. W.....	89
Lynch, John.....	95
McClanahan, E. E.....	—
Meacham, Frank A.....	95
Miller, F. A.....	89
Mills, A. A.....	89
Morse & Co., C. C.....	91
Mountain Copper Co.....	86
Myers, Wm. S.....	90
National Wood Pipe Co.....	92
Oakland Poultry Yards.....	95
Orange County Nursery & Land Co.....	92
Oregon Nursery Co.....	87
Pacific Coast Business College.....	89
Pacific Guano & Fertilizer Co.....	86
Pear Blight Remedy Co.....	93
Pierce Land & Stock Co.....	95
Reeves & Co.....	96
Rhodes Mfg. Co.....	92
Roeding, Geo. C.....	95
Scheidecker, A. F.....	9
Seulberger, J.....	89
Shaw, Henry.....	90
Sharples Separator Co.....	92
Silva & Bergtholdt Co.....	96
Simmons Hardware Co.....	—
Smith, Francis.....	92
Snow, D. A.....	87
Stanford Ranch.....	95
Stewart, W. A.....	89
Stowe, C. A.....	95
Stratton, W. A. T.....	93
Sullivan, W.....	95
Sure Hatch Incubator Co.....	90
Swett & Son, John.....	89
Teague, R. M.....	87
Temple Pump Co.....	93
The Cutter Laboratory.....	92
Tribble Bros.....	89
Trumbull Seed Co.....	87
Tuttle's Elixir Co.....	90
Van Der Naillen, A.....	92
Vermont Farm Machine Co.....	92
Wagner, J. B.....	89
Waite, Thos.....	95
Western Meat Co.....	87
Willson, F. C.....	89
Wright Brothers.....	92

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## FOR SALE

A few thoroughbred registered Poland China service boars.

Registered Holstein Friesian service bulls and bull calves from Advanced Registry Stock.

**STANFORD RANCH,** : Vina, Cal.



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

**OUR STOCK**

Comprises all profitable commercial sorts of

PEACHES,	CHERRIES,
PLUMS,	ALMONDS
PEARS,	APRICOTS
APPLES,	and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

**PLACER NURSERIES**

**SILVA & BERGTHOLDT CO.**

NEWCASTLE, CAL.



The above cut shows in actual field operation our 32 H. P. Cross-Compound Engine and 12 Bottom Flexible-Frame Steam Plow. WILL PLOW ANYTHING ANYWHERE

# Plow! Thresh!

WITH

## REEVES MACHINERY

**Nothing Experimental**

Our engines are of the double-cylinder type only, locomotive-style boiler, and when so ordered are specially equipped for pulling a combined harvester. :: ::

Our special catalogue will also tell you about our Compound Grain Separator.

**Write for Catalogs and Full Information.**

WE CARRY SUPPLIES, AND OUR CALIFORNIA TRAVELERS MAKE HEADQUARTERS AT STOCKTON.

# REEVES & COMPANY

Western Branch  
DENVER, COLO.

Factory  
COLUMBUS, INDIANA



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 7.

SAN FRANCISCO, SATURDAY, FEBRUARY 15, 1908.

Thirty-eighth Year.

## ORIZABA AND POPOCATEPETL.

For the entrancing sight of two of the great mountains of Mexico which this page affords we are indebted to the excellent engravings which adorn the new book, "Journeys of Observation," by Mr. T. A. Rickard, to which we have previously alluded. Of course the greatest thing about a great mountain is the actual sight of it with an appreciative eye. Next to such a sight comes a good picture, but unless the picture be in colors from the hand of a great master an adequate description must be at hand to aid the beholder to understand its signification. Even a very good photograph, and as good an engraving as can be made from it, need interpretation to produce the proper impression upon the untraveled mind. How well Mr. Rickard performs this service for his readers a quotation will show.

The author was approaching Vera Cruz by sea from New York—let his words follow:

"At last, three days overdue, we arrived within sight of the Mexican mainland. It was a sunny morning, with a breeze raising whitecaps on the sea and moving masses of cloud from off the dark bank on the western horizon that marked the land of the Aztecs. Clouds obscured the view, mountains loomed to the northward, and among them the gleam of snow; straight ahead the sun shone on the white buildings of Vera Cruz, making a beautiful fringe along the shore. But no sight of Orizaba, the volcanic mountain, 17,356 feet high, which rises from the flats behind Vera Cruz and forms a great landmark in this part of Mexico. Borrowing a telescope, I could distinguish, over the dancing blue waves, the yellow strand of St. Juan de Ulua and behind it the towers, graceful as campaniles, of the town of Vera Cruz. The white wings of fishing boats came into



Orizaba, From a Photograph by C. B. Waite.—By Permission.

the picture, and northward forest-clad mountains rose massively, some of their summits crested with snow. But there was no peak of Orizaba. Almost by accident, I shifted the telescope to a higher angle and then, suddenly, in startling beauty, above the clouds, almost in mid-sky, there stood the vision of a glorious mountain, the sun shining on the snow-fields and defining the ravines, a vivid picture, strangely silent, rising above the darkly wooded slopes that in their turn rose from white cumuli, below which level lines of heavy cloud served to accentuate the loftiness of

the peak and also to divide the vision piercing the upper sky from the panorama of sea and shore. It was a delicious moment; no one on the ship had caught sight of the mountain; the unexpectedness of the apparition and the vividness of it intensified the deep delight produced by one of the most glorious pictures that ever awakened an artist or inspired a poet. It seemed so high above all meaner things, rising sheer from the sea, the intervening flat layers of mist emphasizing the height, while the brilliant sunlight upon the snowfields made it appear closer than the low-

lands at the base. In a way, it reminded me of my first view of the Southern Alps of New Zealand, as seen one morning on board ship coming from Tasmania, when the serrated peaks flanked by pine forests rose above the troublous dark green waves following in the wake of a storm. But in that picture there was a series of high crests; here, there was one in solitary grandeur and without a peer. Scenes such as these compensate for the discomforts of travel and afford a stock of impressions from which one can draw on dark days and in restful hours, when the memory harks back to the past, as to the refrain of some sweet song."

The other mountain upon this page is Popocatepetl (the smoking mountain), whose big cone dominates the foothills to the southward of the City of Mexico. Concerning this famous volcanic uplift, Mr. Rickard recalls sulphurous history which is interesting. It seems that much talk about brimstone in the crater of this mountain resulted in a mining venture, and a company was formed to exploit it, obtaining some notoriety, if not sulphur.



Popocatepetl, Dominating the Foothills, Southward of Mexico City.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.	- - -	PUBLISHERS
E. J. WICKSON	- - -	Editor
EDGAR RICKARD	- - -	Business Manager

## The Week.

The sulphur question is still burning and apparently much attention is being paid to the California claims, as there should be. Naturally, in the heat of the discussion there may be some things said too broadly or too sharply. For instance, we have a personal letter which assures us that "Dr. Wiley did not advocate the use of a salt solution for the treatment of stone fruits, and only suggested it for core fruits such as apples and pears." This statement liberates Dr. Wiley from some reflections which the telegraphed report of his remarks seemed to warrant; but it does not allay the apprehension felt in this State, because apparently the cured stone fruits, which are our chief product, are overlooked in the eastern end of the sulphur discussion, except as our California representatives force them upon attention. But the quotation from a personal letter which we have made above does not settle even the apple and pear, from our point of view, because it is our style to sun-cure the pear in halves or quarters, according to the size of the fruit, and for success in the handling of such large sections, the sulphur treatment is, as we have previously claimed, essential if the popular standards of appearance and flavor are to be attained. The conclusion of the whole matter must be that there is a great deal more involved in California sun-curing of fruits than distant people know anything about, and we are in danger of losing by ignorance of our methods and points of view unless the matter is looked into very broadly, carefully and intelligently. Secretary Wilson is actuated by the desire that such inquiry shall be made. He has, according to telegraphed reports, said to California congressmen that, pending the appointment of the referee commission, "the regulations affecting fruit curing would be so modified that business could be carried on without difficulty. Probably, however, it will be necessary to indicate on the packages that the fruit is cured with the use of sulphur." The California congressmen asked that the commission to be appointed be allowed to go to California to see the entire process of fruit drying. Secretary Wilson said: "The commission will have plenty of time and money and its own chemist, and that it would be entirely independent of the Department of Agriculture or anyone else, and as free as possible to conduct its investigations in its own way." He also declared that the producers would be protected to the fullest extent of his ability. Thus the matter must stand until the commission is named by President Roosevelt. Meantime the producers, under the leadership of Mr. Arthur R. Briggs, president of the State Board of Trade, are doing everything possible to have the matter fully and fairly considered.

California is clearly contributing to agricultural light in Asia, and our institutions receiving wide recognition among old nations which are born anew industrially. Prof. Wickson has received information that Mr. Chun See Chan, who graduated last spring from the University of Cali-

fornia College of Agriculture, has been appointed director of a new agricultural experiment station in Moukden, Manchuria. Mr. Chan writes to his old teacher that the station of which he is in charge was organized nearly a year and a half ago and is now in possession of about 500 acres of land, an agricultural school and a chemical laboratory. It is equipped with a number of American machines and has engaged the services of seven Japanese experts, most of whom are graduates of Japanese colleges or schools. This new agricultural experiment station, in this remote part of the world, to be directed by a graduate of the University of California, will naturally command appreciative attention from those who directed his studies while in California.

California potatoes need a few more hungry people. We apparently, in spite of the overflow of the islands last spring, have made such an effort not to have too few that there are now rather more than at present required. Stockton reports are that on the islands and the reclaimed river districts there are 500,000 sacks awaiting purchasers. The demand is merely local, and not heavy at that. The Salinas and Lompoc districts on the coast also report stagnation, over 100,000 sacks being held there. In Stockton the tubers are selling at from 50 to 60 cents, and in some instances less. Arizona, New Mexico, and Texas heretofore have bought freely in the Stockton market, but Colorado growers managed to get in first, helped by lower freight rates, and about cleaned up the territory. Oregon also competed, notwithstanding the distance, as freight rates are equal if not more favorable for Oregon growers. A plentiful supply of potatoes for seed at a low price is about the only consolation local men look forward to, unless the coming of the warship fleet and the government purchases help out. There will also be a great rallying of landmen from all parts of the country to welcome the fleet. It is to be hoped they will bring their appetites along.

We have had many notes of the wonderful progress of the cantaloupe industry in the Coachella and Imperial valleys of the Colorado desert region of California. It is almost incredible that an increase of more than 400 per cent in the cantaloupe crop of the Imperial valley this year is indicated by reports received by officials of the Pacific Fruit Express, which will carry the crop. It is said that the acreage now in sight indicates two thousand cars of melons for the eastern markets this summer. Last year the shipments aggregated less than 500 cars, and it has been only three years since the first car of cantaloupes went out of the Imperial valley. These cantaloupes will go all over the east, and coming several weeks in advance of the famous Rocky Fords of Colorado, they command the highest market prices. Shipments are expected to begin about the middle of June. Besides the cantaloupes, the Imperial country will probably ship about 100 cars of tomatoes this summer, beginning June 1. How it is that the southeast corner of the State can get in so early with these tender crops can be better understood when it is known that they are now planting melons in the Imperial valley and apparently have no fear of frost injuries.

It is encouraging to see signs that California pomeloes may strike a higher level at the east. Some growers have expected this for some time and have looked forward to it. There may be something of advantage in early shipments from the districts where the citrus fruits come earliest

into marketable shape. In Boston by the middle of January pomeloes from Lemon Cove, Tulare county, were received in exceptionally fine condition and quality, according to local letter writers. Much more can be done with them in the northern citrus districts if the fruit suits the eastern people.

## Queries and Replies.

### Peaches on Hardpan.

To the Editor: It was with much interest I read Mr. W. R. McIntosh's article, on Page 372 of the issue of December 14, especially where he says hardpan soil is good peach land, as I have recently purchased 40 acres of such land northwest of Roseville. As I have not examined it closely enough to learn just how deep it is to hardpan, I cannot say positively, but from appearances in a ditch bank just over the fence in the adjoining field, I should judge the soil is two to four feet deep.—Subscriber, Placer county.

It will not do to conclude from what Mr. McIntosh said about growing peach trees on hardpan soil in the Fresno district that such trees would be successful on hardpan soil everywhere. There is, of course, a great difference as to the amount of good soil overlying hardpan; there is difference in the character of hardpan and in the amount of moisture that is available for the tree. Under favorable conditions of moisture, either from rainfall or irrigation, with the most thorough cultivation in order to prevent the drying out of the soil, and by the use of fertilizers as desirable, good fruit trees can be undoubtedly grown on shallow soil over hardpan, but in such shallow situations there is apt to be a lack of drainage for the surplus water in the winter, which may destroy the roots of the tree, or, if this does not occur, it may be impossible for the soil to hold enough water to maintain the thrift of the tree during the long growing season. These unfavorable conditions are sometimes successfully overcome by blasting the hardpan, in order to allow the tree to get deeper rooting and to furnish drainage for surplus water; but we should hesitate to plant fruit trees for commercial purposes on such defective soil and undertake the additional expense of providing for them, so long as there is so much better land available for the purpose in California.

### Irrigation and Fertility.

To the Editor: It is the opinion of a good many here that if a piece of land is irrigated for some time it takes all plant food out, and unless heavily fertilized will become useless. Let me have your views on this very important question.—Subscriber, Healdsburg.

There is no more danger or fear from leaching out by irrigation than by rainfall, if the amount of water is the same. Soil is more apt to become mechanically rebellious by irrigation than by rainfall, consequently more and better cultivation may be required to keep irrigated land in good condition to grow things. So far as restoring plant food goes, that depends upon what you are taking away from the land, and it does not matter whether you take it by irrigation or by rainfall, except that, usually, irrigated crops are larger, and therefore take away more.

### White Astrachan and Sultanina.

To the Editor: Is there any variety of apple that you would recommend for Stanislaus county, about Modesto? I am planting some fruit and would like to grow apples if I could be sure. Is there any immediate danger of Thompson's seedless grapes becoming less valuable? I have been told they are not a staple crop. Can they be



trained to grow on their own stalks, like Tokays? —Planter, Modesto.

The only apples which would seem to be worth growing in your district would be early apples, as winter varieties ripen too soon and do not have keeping quality. From what we have recently seen, the White Astrachan will be very profitable, as it is a splendid fruit from your district, and there is a good demand for it if it can be kept free from worms. We do not apprehend that Thompson's seedless grape will be less valuable. If there should be too many grown for raisins, it is a good wine grape. This variety cannot be profitably grown by such short pruning as the Tokay will endure, because if continually short-pruned it will not bear. This subject was discussed in last week's RURAL PRESS.

#### Myrabolan Root in the Higher Foothills.

To the Editor: I wish to ask your opinion about the Hungarian prune grafted on peach or Myrabolan roots. Peach root seems to do very poorly here, and as the Myrabolan root has had such a bad name in and about Auburn, I naturally considered that stock absolutely worthless. In fact, I know of many parties pulling out all such grafted stock. If you remember when calling on you, I told you of the Hungarian grafted on the French prune making such a perfect union, and of the most thrifty growth. I have since learned, as you suspected, that the roots were Myrabolan stock. Have had occasion to visit another place, and find that their Hungarians which are grafted on Myrabolan stock are of equally as fine a growth and very prolific bearers as those I mentioned as grafted on the French prune. Can you give me any reason why the Myrabolan should do better here, as I did not know of its existence in this locality until recently?—Grower, Colfax.

We cannot give explanation of the facts you mention. There are many things in horticulture which we cannot explain, but which we are exceedingly fortunate in knowing, nevertheless. The success of the Myrabolan root indicates that it is better suited to your conditions, but why, or just in what way, it is difficult to say. The success of the root, however, is clearly indicated, and that is enough to proceed upon.

#### Time to Plant Cover Crops.

To the Editor: At what time is it best to plant peas for a cover crop? Should they be sown later when raised for seed? As they are rather expensive, I wish to grow my own seed.—Subscriber, Stanislaus county.

For winter growth by rainfall, to be plowed under in the spring, peas should be sown in the fall as early as you can get rain enough to start them. The growth of peas for seed is another question, and it is not yet known to us how far you can get a good dry-pea crop on the interior plains. They are not usually produced there. The experiment station now has some trials in progress. Try a small sowing yourself as soon as the ground gets a little warmer, and see what you get.

#### Not Fruit Land.

To the Editor: I wish you would give me information as to whether the land described below will raise apple trees or not. The land lies about two and one-half miles from the coast, in Mendocino county, Cal. It is surrounded by a forest of large brush and trees and lies on top of a ridge. It is covered with low scrub brush, such as manzanita, rhododendron, and huckleberry. The soil is very poor and is nearly all sand. The loose ground on top is from one to two feet deep, and under this is a hard-pan of yellowish color and nearly as hard as sandstone. I am afraid the roots of the apple trees cannot penetrate this hardpan.—Enquirer, San Francisco.

Judging from your description we should say

that it is undesirable to plant apple trees on the shallow, poor land which you describe. The apple tree needs a good depth of soil, of good richness and not disposed to dry out too much during the summer season. We do not consider such soil as you describe as desirable for the planting of any kind of fruit.

#### Restoration of a Neglected Cypress Hedge.

To the Editor: I have an evergreen hedge (cypress) which has been neglected for several years. The consequence is that from its former shape of hedge it has grown up into trees attaining a height of from 14 to 18 feet, with side branches grown out proportionately. I wish to cut these back to the form of a hedge. Is there a time of the year most appropriate to do this? Will the trees die if severely pruned back?—Subscriber, Contra Costa county.

We never saw a cut-back overgrown hedge row which was anything but an eyesore. Most of the trees die, and are sometimes so long about deciding whether to die or to make an ugly, scanty growth, that you feel like killing them. Make firewood of your old hedge, unless you can grow it to advantage as a high windbreak, and plant a new hedge with seedlings about a foot high. Such a hedge comes so quickly in California that there is no sense in trying to reform the product of neglect.

#### Killing Morning Glory.

To the Editor: Seeing your reply to "Farmer" of Santa Barbara on killing morning glory, I thought I would give you my experience. In the spring of 1906 I plowed up a piece of old grain land to plant in vines. The morning glory roots were so thick in spots that I frequently gathered up a pitchforkful in a few yards. The new growth came up thick and vigorous. From July to October I cut them every two weeks with a sharp weed cutter, and followed each time with push hoe, and cut by hand all that had been skipped. After the first few cuttings they declined rapidly in growth and color. Last summer there was not a hatful left on ten acres. The neighbors to whom I bragged about this replied that there were two kinds of morning glory, and that mine was not the bad kind.—Vine Grower, Lodi.

Yours was the bad kind all right, but your work was well done.

#### Thornless Cactus.

To the Editor: I wish to ask regarding Burbank's Thornless Cactus. Will the plant thrive only on arid desert land, or can it be grown in a climate where the frosts destroy citrus fruits?—Subscriber, San Francisco.

Mr. Burbank is the best authority on this subject, and the very full article which we published in THE PACIFIC RURAL PRESS of September 14, 1907, is the best we know of. Cacti do not require desert conditions: they endure them. Mr. Burbank gets a better growth of cacti in his garden at Santa Rosa than can be secured in a desert. A cactus is a plant with a whole lot of sense and knows a good thing. As for temperatures, the Burbank varieties will endure frost which will kill orange trees, and it needs such endurance to live in a desert. You seem to think that an arid desert is always hot; in that you err.

#### The Plant Disease Called "Roncet."

To the Editor: I have a request for information in regard to the disease commonly called roncet in Europe, and will confess that I do not know the disease by this name, and therefore take the liberty of asking you for information in this regard.—Reader, San Francisco.

There is exceedingly scant information concerning the disease called "roncet" in our hands. We find in the Atlas de Pathologie Vegetale, by C.

deCroix, a mere mention of this disease and illustrations indicating that it is not a parasitic disease, but a physiological malformation through which the longitudinal veins of the leaf become multiplied and enlarged and the intervening tissue atrophied, producing a finger-like appearance, more or less. Sometimes the failure of intervening tissue reaches well toward the base of the leaf, sometimes it only affects the edge. It is only mentioned in connection with the grape vine.

#### Bearing of the Date Palm.

To the Editor: Will the phoenix dactylifera palm seed produce trees that will bear fruit in the Sacramento Valley? I have thirty trees two years old, grown from seed, and I want to know what to do with them—how to care for them, when to transplant them—and about their fruit-bearing qualities.—Reader, Galt.

Seedlings of the common, dried dates will produce plants which will bear fruit, providing there is proper association of staminate and pistillate trees, because the date palm is dioecious. Whether you have both kinds of trees cannot be told until they come into bloom, which they usually do at from six to ten years of age. If you plant them out in a clump or grove or in a row about 30 feet apart the probability is that you will have both kinds associated, and the fertilizing influence of the staminate trees is naturally conveyed for considerable distances. Transplant as soon as the ground becomes warm, and treat them just as you do the adjacent fruit trees, in the way of cultivation and irrigation.

#### Worms at High Levels.

To the Editor: We have recently discovered barren patches in our pasture lands, and upon investigation find that about an inch beneath the soil the ground seems literally alive with a brown worm about an inch in length. The worm seems to be living upon the roots of the newly growing grass, and I am informed that in some places this worm has destroyed the feed acres in extent. Is this pest something new, and is it likely to become a dangerous one?—Reader, Knight's Ferry.

It is not new. The "worms" are often the larvae of crane flies, which are forced to rise as the soil becomes full of water, and eating the roots so near the crown kills the grass or grain. Ordinarily they would feed upon lower roots and not do so much injury.

#### Salt Not a Substitute for Sulphur.

To the Editor: The thanks of the California growers are due you for your vigorous reply to Dr. Wiley's salt theory for bleaching fruits. This is an old theory, and while a student at the "Geisenheim" School for "Obst and Weinbau," we used a salt bath for drying apples, but only for the purpose of keeping the freshly sliced fruit from turning dark before it was turned into the sulphur apparatus. During the early Klondike excitement I dried carloads of potatoes, and I used the salt bath for the same purpose as above, that is, to keep the sliced potatoes from turning before my men had a chance to put them into the sulphur.—G. H. Hecke, Woodland.

This experience is pertinent and interesting.

#### A Half-Dwarf Proposition.

To the Editor: While it is true trees grafted into quince will root on its own stalk, it is not thereby made a standard tree, but is by many called a half dwarf. A tree thus planted will do far better and be more profitable than if planted otherwise. I would not recommend planting dwarfs in an orchard.—Jos. F. Fritts, Mountain View.

We presume this will work for a time: that is, until their "own roots" fully assert themselves.



## Sylviculture.

### A DISCUSSION REGARDING ORNAMENTAL TREES, WITH SPECIAL REFERENCE TO THE EUCALYPTUS.

To the Editor: The weather in California for the last three or four years has been on its good behavior, so much so that there has been no need of discussing rain probabilities which I have so often had occasion to express in the *RURAL PRESS*. My discussion this time will be about the planting of ornamental trees. Considerable information is given out occasionally in this paper. I do not know as I have anything new to write about, only that I wish to emphasize my own observations and those of the specialists who have investigated the merits in particular of eucalyptus trees, with a briefer reference to a few other beautiful and well acclimated shade and ornamental trees.

Southern California pays far more attention to evergreens than to deciduous trees, which are more in favor farther north. As I walk through the streets of Berkeley during the winter months the street trees, mostly of deciduous type, contrasts very unfavorably with those of Los Angeles, Riverside, or Pasadena. The single excuse of the bay cities for so many deciduous trees is that they give less shade in winter. Certain slow, bushy-growing eucalyptus would not give any more shade than the large overspreading bare chestnuts, walnuts, elms, or maples; the latter already shedding its leaves in September. The main objection to trees that shed their leaves through the winter is their bleak, wintry-like appearance, and this is why Southern California to give eastern people a telling illustration of the mildness of California winters, plant out along roads and highways palms and evergreens. There is still another telling reason why evergreens are better in our climate than deciduous trees—they grow more in a given twelve months' time. Along the coast where winter colds are not very severe evergreens continue their growth and have at least five months more growing time than deciduous trees. Late in summer our deciduous trees, if unirrigated, do very little growing. This apparent fact has seldom if ever been noticed. My attention was personally called to it by the contrasting growths side by side between the fast-growing deciduous and the evergreens; and the same applies with relative slow growing types of both varieties.

**Acacias.**—We will say but little of this beautiful type of tree. They are mostly too large for street planting, unless on broad boulevards. The species that have the slowest growth, and therefore will answer best for streets, are the *Melonoxylon* and the *Baileyana* (Blue Acacia). The *Melonoxylon* is a very well known species and makes a very stately ornamental street tree; but (and we would emphasize this fact) it requires more water than any other acacia, and if not given sufficient will show a very ragged appearance late in summer. Hardiness and drouth resistance is always a question to be considered in tree planting. This is one reason why the eucalyptus, even the new introductions, are so desirable for street planting. Certain varieties of them can resist a wonderful amount of drouth and neglect. The *Baileyana* acacia is a very handsome blue tree; blooms very early with a typical yellow acacia blossom, and has been well introduced in Southern California, and occasionally as a garden tree northward. A reasonable amount of attention in caring for the tree would make this a handsome street tree.

Of the wide-spreading acacias, the *mollissima* is really not the best, the *decurrens* and *dealbata* are both handsomer and just as quick growing trees. These trees in three years from planting, if reasonably cared for, will make fine shade trees and will show as much spread as the pepper tree in seven years. For a beautiful garden tree acacia *floribunda* or *liniaris* deserves notice; both are very rapid growers. For oddities *pycnantha* and *saligna* deserve attention. I first noticed them growing in the handsome grounds of the Coronado hotel.

In Santa Barbara, where for 40 years fine gar-

dens have been planted, several striking varieties of the following trees are worthy of note, for ornamental purposes in particular: *Cocos plumosa* and *Seaforthia elegans* in palms; *Eugenia myrtifolia* for a beautiful spreading tree, than which few are prettier; the Brazilian jacaranda with its fernlike leaves and blue flowers; then the *Araucaria excelsa* (Norfolk Island pine) and *Araucana Bidwelli* after a quarter of a century's growth are noble trees.

But these are not trees for the street. The *Washingtonia robusta*, California fan palm and the date palm (*Phoenix Canariensis*) are considered the best all around street palms, when they receive attention.

**The Eucalyptus.**—Of all the Australian tree introductions the eucalypti lead. California and Arizona are the only States in the Union that can grow these trees successfully. The uses for this genus have the widest of application—timber, shade, windbreak, firewood, and in certain localities hygienic purposes. And for reforestation where climatic conditions will allow, it is a wonderful transformer of barren ground, as it grows so rapidly and certain varieties, like the *rudis* and *corynocalyx*, are drouth resistants as well.

The species of eucalyptus planted in this State number at least 100; of these about 20 only have special merit. Most California nurserymen are now growing certain species only that are found adaptable for three particular purposes: street planting, garden and ornamental, timber or forest use.

Among all these species, eucalyptus *globulus* or the ordinary blue gum is not once included. Though for windbreak and for firewood it is as good as any, for good solid timber and ornamental purposes it does not compare with the rest. In considering the species to plant, temperature must be taken into account as most of the varieties of gums do not stand a temperature of less than 26 degrees, especially when young. The coast from the bay downward to San Diego seldom has any temperatures as low as this, and with the exception of the *ficifolia*, all other varieties can be readily grown. The four species that have most combined merit, for hardiness, for beauty, and for lumber purposes, are the *corynocalyx*, the *rostrata*, the *rudis*, and the *tereticornis*.

For forest growth alone the *corynocalyx* (sugar gum) and the *rostrata* or true gum excel all others. They not only grow rapidly, but have a beautiful wood. The *rostrata* in particular is as handsome as mahogany, an enormous price is today offered for large enough hardwood gum trees to make furniture of. On good soils these trees when 15 years old are available for such purposes. The eucalyptus is the only hardwood tree that makes rapid growth. All other hardwoods are of very slow growth. The following is one of a number of descriptions given of the *corynocalyx* or sugar gum: "It is very ornamental and useful, timber very durable for many purposes, even for railroad ties, and for the usual hardwood purposes."

The *rostrata* is one of a number of so-called red gums, but is the best of this type. The *rostrata* is a beautiful appearing tree, the timber cannot be surpassed for furniture or cabinet use and makes even a fine ship-building timber.

The *tereticornis* much resembles the *rostrata* and is known as the forest red gum; it is particularly hearty and a large-growing tree. Some railroad people in San Diego county are specially planting the *tereticornis*, *corynocalyx* and *rostrata* for hardwood, for railroad ties and for tall poles. While our redwood and pine forests are the pride of our country when once cut down, it takes too long to grow them again, but the eucalyptus in 15 or 20 years stands ready for all timber purposes. Some wide-awake planters in Southern California are contemplating large plantations of these trees.

The *rudis* is particularly valuable in drier climates, growing in the colder winters of Arizona, but it is not as rapid a grower as the *rostrata*. No such overly hardy trees grow as fast as others.

For street purposes the smaller or dwarf varieties of gums are often preferred. The most beautiful of these is *ficifolia*, with beautiful red flowers, but it will not stand frost. The willowy leafed *leucosylon* is a close second, but for bushy

growth in parks and gardens the *cornuta lemoni* seems coming in favor. The best samples of this we have seen in San Diego. The *polyanthema* is another handsome street tree easily obtained from California nurserymen, a strong hearty grower with persistent bark (a fault that many gums have is dropping the bark), and it is therefore worthy of particular attention for street planting purposes. We have not mentioned the *robusta*, which is so widely planted in some localities, because it is so brittle, so apt to break its limbs in the storms, though for a showy leaf it almost equals the *ficifolia*.

Now, to summarize for the best street and sidewalk planting, while the *ficifolia* and *leucosylon* are among the prettiest, on account of their sensitiveness to frost they are not as desirable as the *polyanthema* and the *corynocalyx*. The *cornuta* and the *saligna* (a willowy leafed type) are also sensitive to frost. These trees are beautiful grown in gardens or parks in irregular clusters, including also the *citriodora*, a lemon scented gum. Different nurserymen differ in the recommendation of trees, but for timber and profit, growing the four varieties first mentioned in the following order cannot today be superseded, besides having the advantage of being grown in commercial quantities of the seed obtainable with an absolute certainty from many reliable seed men. These varieties are: *Corynocalyx*, *rostrata* next, then *tereticornis*, and *rudis*, but the latter is a slow grower, and that fact must be considered against it on this coast, and so we would much prefer to substitute *sideroxylon*. The *sideroxylon* besides is a handsome tree for parks, has a large thick leaf, and a very pretty white blossom.

That we have not yet mentioned the pepper tree (*shinus molle*), one of the most widely grown and beautiful street trees of Southern California, may strike your readers as strange. We do this because we believe the beauty of the pepper is not overrated, but that unless it is irrigated it is too slow a grower. It takes fully two to three times as long to make the same growth that the eucalyptus or the acacias do. Besides, the limbs have a tendency to straggle, and are persistently in the way unless kept well pruned, and most people will not prune their street trees regularly. It pays, as a whole, to irrigate ornamentals, by the increase of growth, the freshness of the leaves, and general better appearance the year round; but it is better to recommend a street tree that after the second year can take care of itself if need be; and this is best found among acacias and eucalypti.

It pays to properly care for street trees. They must be fertilized, cultivated, and for the first summer or two irrigated. They are responsive to good treatment by added growth and beauty. It is yet ample time to plan tree planting; prepare the ground now and the trees will do to put out from now till April. The season shows enough wetness to insure their growth. We need more of the aesthetic in this practical world. A barren, treeless yard or street is the most unattractive spot there is. A lover of trees has some beauty in his soul, and at least he is making the world more beautiful for the tree planting.

But one word more: eucalypti and acacias can be had very often in the seed-box (75 to 100, in a flat, as it is called); they are very cheap when bought in this manner, and by care in staking out can be made to answer, especially where extensive growth is contemplated.

L. E. BLOCHMAN.

Santa Maria.

[This is a very timely contribution. The interest in planting shade and forest trees was never so keen as at present.—Editor.]

#### The Manna Gum.

To the Editor: In the *PRESS* of January 18 you say: "If anyone has seen the manna in this State, we would like to know it."

About 25 years ago I visited the grounds of an Oakland nurseryman (I am not now able to recall his name), where about 30 species of *Eucalyptus* were growing. Among them were one or two specimens of the manna gum, which at that time were exuding an abundance of "manna." The substance was adhering to the bark and leaves,



and was quite abundant on the ground under the tree. In taste and appearance it was just as described in Mr. Hall's communication.

G. P. RIXFORD.

San Francisco, Jan. 31, 1908.

## Horticulture.

### LOGANBERRY GROWING IN OREGON.

From a paper by Mr. A. M. Aspinwall of Brooks, Oregon, at the Oregon State Horticultural Society:

In Western Oregon and in the Puget Sound country the loganberry finds ideal conditions in which to reward the painstaking grower with its burden of luscious fruit. The vines winter well on the trellis without protection. The blossoming period is late, escaping the danger of frosts. The fertile soil and humid climate produce a vigorous plant capable of maturing its clusters of large purple berries.

There are several ways of propagating the loganberry. My practice is to bury the ends of the vines in the fall several inches under ground. During the fall and winter these tip ends strike root when, during the warm days of spring, they can be cut from the parent vine and transplanted. I very much prefer good strong tips to transplants a year or more old. A much larger percentage will live and the canes produced from tips will be stronger.

As a yielder the loganberry has no equal. On good soil and with proper cultivation an acre of the vines will give an average yield of 500 crates weighing twenty-four pounds each, or a total of six tons of berries. Under more favorable conditions, eight tons per acre is not an uncommon crop.

To select a suitable location, a level tract is preferable to a hillside because of the greater ease of cultivation and trellising and the less likelihood of the winter rains washing the soil. Select a deep, rich, dark loam, if you have it. The plants and berries will then reach their maximum growth. A clay subsoil is to be preferred to one of sandy or gravelly texture because of the added moisture within reach of the roots while the berries are maturing.

Any good soil with a fair amount of fertility, however, will grow an average crop of berries, if properly handled. Good returns are secured from sandy or gravelly loams where there is enough fertility to grow grain crops profitably.

Drainage is important. Keep the water from standing on the surface. If the water does not draw off naturally, tile draining should be provided.

**Planting and Training.**—Do not make the mistake of crowding your plants. Give them plenty of room to secure the necessary air, sunlight, and soil in which to spread their roots. I prefer to set the plants in rows eight feet apart each way, making 680 plants to the acre. Most of the cultivation can then be done with plow, harrow and team.

The first year the vines will not make much growth and do not interfere materially with their cultivation until about the first of August, after which they frequently shoot out eighteen or twenty feet or even more before winter. The second year about one-third of a crop may be expected. The vines should be trellised during the previous fall.

Build your trellis substantially. Use good strong cedar posts and set them not over thirty-two feet apart in the berry rows. Securely fasten to these three or four No. 12 galvanized wires, spacing them equal distances apart. Now train each vine separately on the wires. Distribute evenly and see that each wire carries its full share of the weight. If practicable have the trellised rows running north and south, thus the vines are much better protected from the winds and ripen more evenly as they get both morning and afternoon sunshine.

As a general rule the loganberry needs but little pruning. Do not thin out until more than a dozen vines appear in a hill, and then remove only the weaker canes. The yield will be larger and quality of fruit improved if the pruning

shears are not used too freely. A fair amount of foliage on the vines for shade is an advantage.

**Cultivation.**—Cultivation should be thorough and frequent. I prefer to plow both in the fall and spring, turning the furrow against the row in the fall, where it is left undisturbed till spring, when I turn it into the center between the rows, then use either the disk or the spring-tooth harrow until in July, or at least until harvesting begins. Start the cultivation in the spring as early as the ground can be worked and go over the surface, at least once each week, to retain as much moisture as possible. This will add greatly to the health and vigor of the canes and is of the first importance in the development of a full crop of large, firm berries. As the season advances, see that the harrow is set more shallow with each successive cultivation, and followed each time by the clod-masher, which will make a dust to hold the moisture. Have a careful trainer go ahead of cultivator to turn in all arms that dangle out from the trellis, to prevent the team from breaking them.

**Marketing.**—The time of harvesting varies somewhat with location and nature of the soil. In the Willamette valley the first berries are usually ready for gathering by the middle of June. The ripening will increase steadily each day until in July, when the full harvest is on. The harvest continues six weeks, during which time the vines should be carefully gone over every alternate day and the ripened berries gathered. Do not allow the fruit to get over-ripe. It will not handle so well in shipping.

When the season for gathering the berries shall have arrived, everything for handling the crop should be in readiness, plenty of crates on hand ready to be made up, enough pickers and other attendants engaged—in fact, all details carefully worked so that the crop may move uninterruptedly into the market. It requires about ten good pickers for each acre of berries.

As to the outlook of the commercial side of the loganberry industry, I believe it to be very encouraging. Because of the vigor of the plant and its remarkable yield each season, it has found great favor with all berry growers who have given it an opportunity to demonstrate its powers as a cropper alongside of other allied berry fruits. As a shipper the loganberry stands up well, and under refrigeration should carry to almost any market. They sell readily, and where the transportation facilities are good and the means of reaching the world of consumers work expeditiously, they can be marketed right from the vine in almost unlimited quantities.

The canneries are taking hold of the market side of the loganberry business and are developing a new channel of trade. The pack is each year increasing, and we are assured by one of the largest canning firms in the Northwest that they will take hold of the loganberry business in earnest, can large quantities of the fruit, send trial shipments to central markets throughout the world in the belief that an extensive market will be developed, and thereby share with the grower the profits of the industry.

There is still another channel of trade now opening up for the marketing of the loganberry, and that is through the evaporator. The fruit, in process of evaporation, is reduced to one-fourth of its original weight. Put up in packages the berry can then be transported to any market, safely, economically, and without fear of deterioration. This process has been tested in a limited way and the dried fruit pronounced by experts superior to the best evaporated raspberries.

In the manufacture of jellies and jams the loganberry has no equal, and considerable of the yield is each year converted into these commodities. The loganberry is also said to make a wine not surpassed by any of the product of the American grape or by the imported article.

All things considered, the commercial side of the loganberry industry is full of encouragement, and each year's development tends to establish it as one of the leading branches of horticulture in the Pacific Northwest.

[California readers will of course remember that the culture processes described, though of much interest, may have to be modified somewhat for our conditions.—Ed.]

### WHO INVENTED THE SAW GRAFT?

To the Editor: In the article on "Top Grafting" by M. F. Femmons he speaks of the saw graft as originating with a Mr. W. S. Coburn of Colorado. I wish to state that the saw graft was used by me twenty-two years ago, and up to that time had not been used before. I have never used a split graft on trees or vines in that time, and it is the best way to work over old trees.

J. G. GRUNDEL.

Alma, Santa Cruz County.

## Fruit Marketing.

### NOTES ON EASTERN FRUIT PRICES.

To the Editor: Some of your readers may have enjoyed intensive rather than quantitative horticulture in California, and may therefore be interested in prices for such products in the East.

Last summer at Montreal I wrote the melon jobbers for prices on Canadian melons, thinking that in their home they might be cheap enough for purchase by ordinary people. Quotations were made me of \$18 per dozen f.o.b., with notice that 30 days' advice of intention to buy might be wise, as demand always exceeds supply. On my statement that I wanted cheaper fruit, they replied, "a limited supply of cull fruit may be on hand at \$12 per dozen. Orders should be booked at once." Investigation through a local wholesaler proved these to be correct prices. These are the melons which supply the best trade in Boston and New York.

It would be interesting to calculate the value of a carload of California musk melons at these prices, and compare with carload prices now paid.

Apples are a part of daily food. I have unwillingly paid ten cents each all winter, and at intervals, fifteen cents. The fruit is all from the west coast, Oregon largely; and jobbers tell me that at fifteen cents (retail) each, 64-size boxes cannot be had to fill the demand, whereas the only boxed Eastern apples I have seen this winter sold eight apples for five cents, and little demand.

Eastern apples are scarcely seen, except on street barrows and in groceries. Practically no eastern apples are boxed, and the demand for them is so poor that last fall I saw hundreds of acres of apples throughout New England, either allowed to rot on the ground, or sold to cider and vinegar mills for practically the cost of picking. One friend who owns close to one hundred acres of such trees assured me he could not get the cost of picking, freight, and barrels back, if he shipped them, and was quite proud of having secured the trade of a local fruit store. Yet most of these apples are not very bad. I spent a Sunday apple tasting in this orchard, and while size was poor, quality was fair.

Celery has also interested me. On Santa Fe and Pennsylvania dining cars I find occasionally a very short, ugly looking celery which is so good that when I find it, I always make my lunch from celery and bread and butter. Such private houses as grow their own vegetables, also provide this luxury. Perhaps because it is out of my line, I have been unable to find it in market, and can get no quotations. "That's private sale stuff, sold a year ahead and never reaches the general market," is about all I hear.

On the other hand, one finds everywhere, even on street corners, at ridiculously low prices, a tall, finely bleached, good-looking celery. Prices one would think too low to yield much profit, especially on long shipment. Quality also is such that one trial usually satisfies most people. In fact, I agree with a friend who says the Cordage Trust neglects a cheap source of fibre when it refuses to buy such celery for rope-making.

The time will come when California will see the advantage of such intensive culture products. It is work which can be done by women. There need be no hired labor. No Chinese or Japanese problem, and the profits per acre are beyond belief—so high that even the swindling express companies can be neglected, if producers and consumers get together, as is the present tendency here.

HACIENDA.



## The Poultry Yard.

### POULTRY PHILOSOPHY.

To the Editor: Poultry ethics to not a few may seem hardly worth considering, but it is well to bear in mind that everything connected with the business is not strenuous toil and constant drudgery. In fact, there is very much that renders poultry keeping interesting, instructive, entertaining, uplifting, and tending to character expansion.

It is because sentiment may walk hand in hand, in close companionship with utility, that poultry keeping has many and varied attractions for the enthusiast.

Enthusiasm, held well in hand, is a characteristic trait of the majority of successful poultry keepers. It is, in fact, one of the prime requisites. It has accomplished the wonderful progress made, of late years, in the fine breeding of fowls and in the development of very popular varieties that have a high rating in the standard of perfection.

Coupled with enthusiasm is love for the beautiful, which has its outward development in breeding birds that afford a continual feast to the eye and prove a joy forever. Even the most cursory inspection of any of our fairs will indicate that beauty has many a worshipper among plain looking poultrymen. Inwardly this love of the beautiful exercises a subtle refining influence upon the heart and mind of the breeder of good fowls that deeply affixes its stamp upon his character.

Ideality is fostered and developed in the making up of the one who breeds toward a high standard, fixed and never lost sight of. We aim toward a certain degree of excellence which shall materialize in the well developed, finely feathered bird our fancy pictures—a combination of beauty and utility—and press forward toward the full realization of our ideal.

Application is ever to the front with the successful poultryman, for without this trait failure will result. Perseverance is at all times requisite; is especially needed when one by carelessness, or even when proceeding with the best of intentions, makes mistakes which materially affect the pocketbook. Some of the most successful poultrymen of our day have attained their well earned prominence because they were wise enough to profit by their own mistakes, as well as by those of others. Cheer up. Try again.

Carefulness in arranging for the health and comfort of fowls is needed at all times. Cleanliness, which must be continually practiced, while resulting in the physical and monetary welfare of our pets, has its reflex influence upon our characters, though we may not note its full development. A wise economy is always observed and must never be lost sight of. It is false economy to keep any but the best fowls of whatever variety we may choose. False economy, also, to stint their feed, either as to quality or quantity. There are by far too many leakages in a vast number of the poultry plants, large and small, all over the land.

A subtle refining influence emanates from the little members of the flock as from the day they emerge from their white-walled prison houses we minister to their comfort by providing necessary warmth and food. Felt the more is this influence when the care-taker happens to be a woman, whose greater refinement and motherly instinct far better equip her for the successful rearing of the young of the flock than man, however gentle he may be.

The wonderful success of many a poultrywoman

in all parts of our land is worthy of note. Many do their own work; some hire the drudgery done—the heaviest of the labor. The aggregate volume of the poultry business in the United States is enormous. Secretary of Agriculture Wilson says that last year the figures reached \$600,000,000, and yet this is made up of single units, and most of those are farm flocks. Tens of thousands of households would fare slim did not the industrious, provident, painstaking housewife give, aside from her indoor duties, extra care and attention to the poultry under her charge. Sex does not debar one from engaging in this elevating, useful, profitable occupation, which, it ought to be remembered, should be a stepping stone to something higher.

We develop the beautiful, useful characteristics of our birds—why be so short-sighted as to neglect to develop ourselves? To remain in any way of a dwarfish nature when it lies within our power, and right at hand, to continually expand? Certainly we shall never reach perfection in the poultry yard if we do not aim at that mark, and will fall far short of our privileged destiny if we lose sight of the mark of the high calling open to all poultrymen.

Tender care at the early stage of the chick's life is absolutely necessary—a watchful, provident lookout for their welfare. We minister to their wants, anticipate their needs and, going before, endeavor to make all things work together for their progress. So we, as children of our heavenly Father, are by him kept continually in mind. The chick grows if we give it due care; it cannot help so doing. So do we expand in character-growth (or contract), and what to some seems the very humble occupation of poultry-keeping may prove but a stepping-stone to higher things, if so we will it, in the ethics of life. It is our loss if we allow the drudgery of the work—the "carking care" of the passing days—to shut out from our view the elevating influences of our vocation.

What a wonderful privilege is ours, as we develop our fowls at will until they arrive at a stage of perfection, by obeying the inexorable laws of breeding, remedying defects, and perfecting all desirable qualities! Patience here, step by step, has brought many varieties to the front rank, and each keeps step with the other until we have birds of the most marvelous beauty of plumage, stateliness of form, stylishness of carriage, which never fail to attract the attention of the most casual observer. Noble creatures and fowls, withal of utility.

Sentiment and usefulness combine, and the end is not yet. No genuine poultryman—no poultryman worthy the name—is satisfied with results attained, whether it be in the matter of breeding, of feeding, or of general management.

We ought to be honest with our birds, young and old, in order to get the best results. Otherwise we stand in our own light; we do not receive the cash returns we ought. By all means should we be honest in our every dealing with our customers. A satisfied customer is our best advertisement.

Our chickens grow under our fostering care. They do so without the least thought on their part. They are devoid of reasoning, reflective powers, and are in a way like the lilies of the field the Great Teacher cited as illustrations of trust in God. But we are much more fully developed, and while the chick lives only for a brief period, many of us expect to take a step higher when our time-limit expires. Then, when we say a regretful farewell to the innocent, harmless,

dependent birds that have so long been the object of our tender care, a broader field of usefulness will await us, we reason, if we have sedulously striven to develop worthy traits of character, given prominence, solidified, enlarged by our humble work in the poultry yard.

A. WARREN ROBINSON.

Twin Lakes, Santa Cruz.

## The Field.

### STARTING SWEET POTATOES.

As the time is approaching for starting sweet potatoes, beginners may be helped by the following from the California Cultivator: For growing sweet potato plants, select some well-sheltered spot that will get the sun most of the day. Often such a spot can be found on the south side of some building. Spade up the soil eight or ten inches deep, making it as fine and mellow as possible, and rake it level. About the first of April select medium-sized sweet potatoes and place them upon this bed of soil quite close together, allowing about half an inch space between the tubers. If some of the tubers are quite large cut them in two lengthwise and lay them with the flat side down. If the bed has been made alongside a building, do not make it more than four feet wide, as it will be hard to reach the young sets later on. I have overcome this objection by setting up two boards parallel with the building, allowing the board next the building to be eighteen inches or two feet away, so that one can get between it and the building. These boards need be only about eight inches wide, and no matter if the bed is eight or ten feet wide, you can lay a heavy board across the bed, upon which to stand when getting your sets. After your tubers have all been placed, cover them with clean fine sand to the depth of about one and one-half to two inches, and give them a thorough wetting with the sprinkler. Do not water too freely after the first time, until the sets begin to show up through the sand, but on the other hand examine the soil every day to see that it does not dry out. After the sets begin to grow the bed can be watered more freely. Some growers plant the sets out in the field as soon as they are large enough, while others go over the bed from time to time and break off the sets from the potato, allowing the potato to remain in the bed, and transplant the sets very close together in rows. They are set a couple of inches apart in the row and the rows can be any width from twelve inches up. If the soil is very sandy and they are freely watered, they will throw out a mass of fibrous roots that makes it an easy matter to transplant them into permanent quarters. I think it pays well to pursue this latter method.

They are always set on ridges, which can be about two and one-half to three feet apart. These ridges can be made quickly by putting a large single shovel on a one-horse cultivator. Set your plants along the tops of the ridges every fifteen inches. Set them well down in the soil and leave a basin round each plant that will hold a quart of water. When the water has disappeared, or not later than the next day, fill up the basins with earth; after that give such cultivation and water as they need.

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

### R. A. HOLCOMBE & CO.

50 Clay Street, San Francisco, Cal.



268 MARKET STREET  
San Francisco

MANUFACTURERS OF

## Special Fertilizers for all Crops

Our New Catalogue

"The  
Farmer's  
Friend,"

is just out and we shall be glad to mail you one. They are full of practical information to the grower and farmer.



## Fertilizers and Fertilization

### Conditions for Celery Culture.

For the most successful results with this highly prized vegetable there should be selected a rather moist, peaty soil, black and rich. While the soil should perhaps be called a marl soil, yet it should be thoroughly drained. This plant is not adapted to a very wide range of soils, although it may be successfully grown upon clay soils, under which circumstances the flavor is usually better than when the plant is grown upon peaty soils; the yield, however, not being so large unless the crop is highly fertilized. The plant will not stand drought, and wherever there is danger of even mild drought, provision should be made for irrigation. If the celery plant is to be made from seed, the seed should be planted as early as possible in cold frames. The seeds are very small and very slow in germinating. They require a comparatively low temperature and considerable moisture. As soon as the ground will do to work, the celery seed should be sown; generally somewhat after the period when onions would be seeded. The ground should be made quite mellow, the seed not covered deeper than  $\frac{1}{8}$  of an inch. At the outset the bed should be kept amply moist, but after the plants are up somewhat less moisture will be required. If too much is used, it may result in the development of fungus diseases. When the plants are well up, say about three inches tall, they should be transplanted into another bed, set in rows about six inches apart and about three inches apart in the row. When the plants are about six inches high they should again be transplanted into the bed where they are finally to be grown and bleached.

In this second transplanting they should be set in rows about four feet apart and about four inches apart in the row. As soon as the plants have made the proper growth and have attained proper height, the leaves should be drawn together and enough earth banked around the plants to counteract their tendency to spread out flat upon the ground and to hold the leaves upright. When ready to bleach, boards may be placed close to each side of the rows, or the plants may be wrapped in manila paper and the dirt drawn up around them. The plant requires a great deal of moisture, and care must be taken to protect it from drought in every possible way.

If the celery plant is upon rich, peaty soils only small amounts of nitrogen need to be applied, but on clay nitrogen can be used quite liberally. Potash, however, should be one of the main ingredients of the fertilizer which is used upon peaty soils. The plant is not a heavy user of phosphoric acid. The formula which is suggested as likely to give good results on clay soil is: Nitrogen 4%, potash 8%, available phosphoric acid 6%; and on peat soils, 2% nitrogen, 10% potash, and 5% available phosphoric acid.

The above fertilizer may be used at the rate of 1500 to 2000 lb. per acre.

### Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c.

Like asparagus, this crop is a very profitable one when grown under the proper conditions. While a large part of both asparagus and celery is grown in large tracts in California, yet there are many places along the bottom lands in which both of these crops could be profitably grown on a smaller scale by a general farmer who has somewhat of an aptitude for market gardening.

GEORGE WRIGHT.

## Patrons of Husbandry.

### Tulare Grange.

To the Editor: Tulare grange convened in its hall on Saturday, the 1st of February.

After reading the minutes of the last previous meeting the Worthy Master gave out the annual word for 1908. The first and second degrees were then conferred in an impressive manner.

The subject of the day, "What can be done to organize more granges and increase their membership?" was gone over quite thoroughly by all Brothers and Sisters present.

The grange, properly speaking, the Order of Patrons of Husbandry, the grange being equivalent to lodge in other orders, is an association of farmers having for its objects the promotion of agricultural interests. It aims to promote its own and the public welfare, educationally, industrially, financially, morally. It seeks no favors but those the public welfare and equity require it to have. These aims give the order good repute and high commendation in the community. They bring into the order a reputable and thoughtful class of members. Still there come periods of, if not indifference, at least lack of interest, during which membership declines and granges surrender their charters. What, then, is there besides public good and social intercourse which will better keep up the membership in the order? The subject was considered from every point of view. In the Eastern States, including New York, New Jersey, and Pennsylvania, numerically the order is most prosperous. Connecticut claims, and I think justly, more granges to the square section than any other State in the Union. Maine has close to 57,000 members in good standing, has one grange of over 900 members, has co-operative stores, one doing a business of \$110,000 a year; co-operative banks, and a co-operative mutual fire insurance for members in good standing only, writing risks to the amount of \$24,000,000, at a rate of  $\frac{1}{4}$  of 1% per annum. Pennsylvania at its State grange session in December had an attendance of over 1200, and conferred the sixth degree on a class of 500. New York, in membership and in grange business institutions, compares well with the States named. It will be noticed that wherever the order is most prosperous, business institutions within it tend largely to make and keep it so. Is that where in the order in California is lacking?

In California the order advocates and stands for education and educational opportunities for even the lowliest in the land, for better and more industrial education, that in all our industries we may excel; for the tillers of the soil being owners

# BEEF SCRAPS

Guaranteed 65 per cent Protein

# RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

## WHEAT GROWERS!

SPEND \$1.00 PER ACRE

for the unsurpassed cereal phosphoric acid fertilizer, SUPERPHOSPHATE, and greatly increase your crops. Read what growers are doing in South and Western Australia. Yields are increased 50 per cent. there by using small quantities of superphosphate.

Wm. Angus, the leading Agricultural Expert of South Australia, writes: "In modern agriculture probably no practice has been followed with such marvelous results as applications of superphosphate."

GET PARTICULARS FROM

**The Mountain Copper Co., Ltd.**  
150 PINE ST., SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

thereof; for safety in our land titles and simplicity and ease in proof of title; for a revenue system bearing equally on all and not unjustly on any industry; for the preservation of our forests, for the conservation of our waters. For all these things and many others, where known, the order gets due credit, but do they get it membership, or when membership is got, do they keep it? Hardly. Why shall not the order in California introduce and establish business institutions for the benefit of its members only? In fourteen States they have grange mutual fire insurance, eligible to members only. Some of these have done business for twenty years, the cost not exceeding that of Maine,  $\frac{1}{4}$  of 1% per annum. This is one business institution that should appertain to the order in California.

The laws of California recognize and provide for fraternal life insurance. This is a leading feature in most of our fraternal orders. This it is that draws membership and keeps it. The laws of California do not provide for fraternal fire insurance, and yet it has all the desirability and all the equity of fraternal life insurance. It is fair to assume that when the lawmakers of our State are advised of the desirability of fraternal fire insurance, that, too, will be provided for. Let the order in California ask for a fraternal fire insurance law for the State; let it be established in the order, and let us see the results in benefits and in membership. In ten years it ought to have risks out to the amount of \$24,000,000 and a membership of 57,000.

Much interest was taken in the discussion. It kept the grange in session to a late hour.

The next meeting will be on the 15th. Mr. P. D. Fowler, the Horticultural Commissioner for this district, will read a paper on the "Desirable Varieties of Canning Peaches for This Locality."

J. T.

### More Buildings for University Farm.

The plans for two more buildings for the University farm at Davis are completed, and are now awaiting the approval of the authorities at Berkeley. It is hoped that actual work will be under way before long. The first building is a seed-house, containing laboratories, store-rooms, and testing rooms for the work of sorting and classifying seeds. The second building is a dairy barn, which is to house eighty cows. The barn is constructed with all the modern improvements for the purpose of showing as nearly as possible a model dairy barn, sanitary and convenient, as well as a barn for experimental purposes and for the instruction of students. It is the purpose of the department of agriculture to install two kinds of milking machines, as well as many other modern appliances.

### That Gas and Water Separator.

To the Editor: If "Reader" from Tulare county, who some weeks ago inquired about a method for separating the water from the gas in a natural gas well, will write Lea W. Taylor at Suisun, he may find what he wants. Mr. Taylor has a contrivance for that purpose in successful operation, but a description here would require too much space.

LEA W. TAYLOR.

Suisun.



## The Home Circle.

### Now I Lay Me Down to Sleep.

The fire upon the hearth is low,  
And there is stillness everywhere;  
Like troubled spirits here and there  
The firelight shadows round me creep.  
A childish treble breaks the gloom,  
And softly from a farther room  
Comes: "Now I lay me down to sleep."  
And, somehow, with that little prayer,  
And that sweet treble in my ears,  
My thoughts go back to distant years  
And linger with a dear one there;  
And as I hear the child's "amen,"  
Crouched at her side I seem to be.  
My mother's faith comes back to me,  
A mother holds my hands again.  
Oh, for an hour in that dear place!  
Oh, for the peace of that dear time!  
Oh, for that childish trust sublime!  
Oh, for a glimpse of mother's face!  
Yet, as the shadows round me creep,  
I do not seem to be alone—  
Sweet magic of that treble tone—  
And "Now I lay me down to sleep."

—Eugene Field.

### Airships.

I reckon we'll have airships at no very  
distant day,  
It won't be up to date to travel any other  
way;  
Each one will have a lot o' wings an' cogs  
an' gasoline  
An' any quantity of things whose like  
was never seen.  
But it won't have any hoofs to beat a  
rhythmic measure glad,  
There wouldn't be no road for them to  
beat on if it had,  
An' when you feel like lookin' 'round an'  
takin' in the view,  
There won't be any scenery, except a  
cloud or two.  
It won't have any cars to settle back an'  
let you know  
That it has heard the order when you give  
the word to go;  
It won't have any head to toss or sniff  
the frosty air,  
Nor tail to throw across the lines an'  
make you want to swear;  
An' if it went the same old route for years  
'twould never learn  
The proper road to follow an' jest when to  
make a turn.  
In human progress airships mean a most  
important step,  
But gimme somethin' that'll listen when  
you say 'Giddep!'

—Washington Star.

### BASHFUL, YET FEARLESS.

If I had been caught in such a situation by anybody but John Benton I should have been terribly annoyed.

There I was sitting on the floor of the nursery, with hair tumbled, my face red, and a great rent across the front of my skirt, where it had been caught by a nail a few minutes before during a fierce blindman's buff scrimmage.

My little sister Alice was having a party, and of course I had to assist in entertaining the guests. There were just twelve, seven boys and five girls. When John Benton tapped at the door I said "Come in," carelessly, supposing it was one of the servants.

"I beg your pardon, Miss Latour. They said I should find you here. But perhaps I have made some mistake."

"Not at all, Mr. Benton," said I, as I scrambled to my feet. "We are pleased to see you. Sit down on—on the piano stool. The chairs have been taken into the other room. We have been playing blindman's buff."

"I—I received this invitation," went on Mr. Benton, taking an envelope from his pocket.

The gilt-edged card within read: "Miss Latour requests the pleasure of your company on Tuesday, December 29, at five o'clock."

I looked reproachfully at my 7-year old sister, Alice. She had sent one of her printed invitations, in

which the printer had neglected to insert the name "Alice," to John Benton, and the great booby had taken it for granted that I was the Miss Latour, so he had come in full dress—a nice contrast to my torn dress and disheveled hair.

I did not care much what I said to John Benton. Ever since I had met him at the Warren's ball, three months ago, my brothers all decided that he was in love with me, but was too bashful to tell me so.

Not that he was backward where men were concerned. My brother Will took me to the Stock Exchange one morning, and I saw John Benton, with his hat on the back of his head, grasping a brass railing with one hand and shaking the other, holding some papers, in the face of a savage looking man, and shouting at him at the top of his voice in the most defiant manner.

But Mr. Benton was not thinking about the market as he walked over to the piano stool in his dress coat and white necktie, and sat there with one of the most sheepish smiles I ever saw on a young man's face.

"Now, Lou, you must sit down on the floor again, so that we can play forfeits. And you, too, Mr. Benton. Come on," said Alice.

John Benton blushed and looked at me.

Most of the penalties were in the shape of kisses, and I felt nervous until my turn came. Alice held the forfeits over the head of a particular friend of hers, a girl of her own age, and it was the duty of the latter to say what should be done with the owner of the article. There was my handkerchief held up threateningly.

I am ashamed to say that my heart beat quickly when Alice repeated the familiar nursery jargon, and it fairly jumped when she, with a mischievous glance at Mr. Benton and myself, stopped and whispered to her friend. Then she went on with the question:

"What shall be done with the owner?"

Clear cut and distinct came the answer:

"She shall kiss Mr. Benton."

"Oh, it's Lou—it's Lou!" shouted Alice.

There was silence as everybody except Mr. Benton looked at me to see the operation performed, when a baby voice at my side said:

"I'll tuss him for you, Lou."

So Stella climbed up to Mr. Benton's neck, with one of her hands on his white shirt front, and, as she said herself:

"I tussed him right on the mouf, and it tittled my nose!"

I did not want to play at forfeits any longer—it was too dangerous, so I proposed that we should all sing.

"Ess, I tan sing. I know lots of songs."

"Yes, Stella, let us hear you sing one all by yourself."

So she commenced deliberately:

"Little bir-die, on-the-tree (a long breath) on-the-tree! (another long breath) on-the-tree!"

Then she stopped, and with a haughty disregard of the desires or opinions of her audience that would have been worthy of a petted prima donna, turned carelessly round on Mr. Benton's knee and looked out of the window, while the company awaited her pleasure.

"Oh, loot—loot at the big birdie on the tree out of the window," she said suddenly, pointing downward

toward where I knew a tall tree grew close to the house.

Mr. Benton was apparently startled by this evidence of Stella's keen vision, for I saw him jump as his eyes followed the direction of her finger. He controlled himself at once, however, as he replied quickly:

"I think that is the shadow of a cloud in the moonlight, and not a birdie, Stella."

"No, no, I saw a birdie on the tree," she persisted.

He put her down and she ran over to me. As I took her on my lap I heard the door close, and saw that John Benton had disappeared.

"I want some more sugar candy," announced Stella, imperiously.

"I shall have to go downstairs for it, Stella. It is all in the dining room," I said.

"Well, do down. I'll be dood."

Of course I had to go. I left Stella to Alice's charge and ran swiftly down the stairs. The nursery was on the third floor. I do not know what induced me to open the door of my parents' bedroom as I passed it. I did so, however. It was quite dark save for one narrow bar of moonlight forcing its way through the branches of the poplar outside the window.

I glanced carelessly into the room, with my hand on the handle of the door, and was about to continue my journey to the dining room when I felt a current of air from an open window, and saw something white gleaming in the moonlight for an instant and then disappear.

"What is that? It looked like a hand," I thought, as an indescribable feeling of terror passed over me and left me shivering.

There was not a sound to be heard in the room save the rustling of the curtains as the light wintry breeze blew them from the window; but I was certain someone was there.

He was inside the room by this time, and I noticed that his footsteps were noiseless, as if he had no shoes on as he moved across the bar of moonlight toward the bureau where my mother always kept her jewelry.

I saw a round patch of bright yellow fall on the keyhole of the top drawer and then heard a metallic rattling. The thief was picking the lock.

If I could only scream or call Will!

The drawer opened; the man was fumbling at its contents, when—crash! The yellow flash of light disappeared and, with a fearful word, I saw the man fall, another man holding him! Then a pistol shot rang through the room and echoed up and down the stairs, and the room was flooded with light. Somebody had switched on the light.

For a few seconds my eyes were so dazzled that I could not see anything. Then I saw two men rolling on the floor in a desperate struggle while a pistol lay just outside of their reach. The man underneath, with his closely fitting plush cap, was scowling at me, as he tried to release himself, and I thought I could see murder written on his thin lips and short, turned-up nose so plainly that I should have been in favor of hanging him on the spot.

In the battle, just as Will and my father reached the room and rushed past me, the combatants rolled over; a very red face, which, however, was anything but sheepish now, was turned toward me. The face of—John Benton!

Will had the thief by the arm in a moment, while John Benton lay

panting on the floor. Then it was I saw a great red stain on the white shirt front. It was blood.

Somehow, I forgot all about the thief, Will, my father—everything, as I threw myself down by the side of John Benton and pressed my handkerchief over the red stain.

"John, John! What is it? Where are you hurt? Oh, father, he is killed!" I screamed. "What shall I do?"

I will never believe again that John Benton was ever bashful, for he just put one of his hands on the back of my head, pulled my face down to his and whispered:

"Do just what you are doing now; and as you have commenced to call me John, do it all the rest of your life, and let me call you Lou."

There was a sudden disturbance. The thief had broken away.

"It was not serious," said John, sitting up. "That fellow cut his hand in some way while opening the bureau and he rubbed the blood all over my shirt; that's all."

I bit my lip and gave John a look that should have frozen him. It did not have the proper effect, however, for he followed me upstairs to the nursery, where the racket of play had rendered the children oblivious to the disturbance below.

As he took Stella on his knee he said:

"You must sing 'Birdie on a Tree' for us again, will you?"

"Ess, I will sing it for you, you must tuss Lou for me now. She has given me lots and lots of tandy."

"Yes, I think so," said John. "And I'll tuss her for you."

And he actually did it.

### Shock to the Railroads.

"Yes," said the railway claim agent in New Orleans, according to an exchange, "we come across queer things sometimes. The queerest thing in my experience was the case of a minister. This man was hurt in a rear-end collision and we gave him \$5000 damages. At the end of the year we got a letter from him that ran something like this: 'My salary is \$2000, and the accident caused me to lose it for a twelve-month. My medical expenses were \$750. My board at a mountain sanitarium for six months was \$850. Other expenses due to this accident were, in round numbers, \$1000; total, \$4600. You gave me \$5000. Now I am back in the pulpit again, as well and strong as ever, and I have \$400 of your money in my hands. Not being entitled to that sum, I do what any other minister would do in my place—I return the money to you as per check enclosed.' How was that for honesty?" said the claim agent. "The ministers are a wonderful lot. We sent the \$400 back to this honest minister and he gave it to charity in our name."

### He Surrendered.

"Did I ever say all that?" he asked despondently as she replaced the phonograph on the corner of the mantelpiece.

"You did."

"And you can grind it out of that machine whenever you choose?"

"Certainly!"

"And your father is a lawyer?"

"Yes."

"Mabel, when can I place the ring on your finger and call you my wife?"—London Answers.



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

### PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

### Tails and Their Uses.

A cat never actually wags its tail. Why should it when it can purr? But nevertheless it seems to serve the same purpose in permitting a temporary expenditure of excess nervous energy when the animal is under great strain. For instance, when carefully stalking a bird or a man, as in the case of a kitten or a lion, the tip of the tail is never still for a moment—every curling and uncurling. We may compare this to the nervous tapping of the foot or fingers in a man. When an angry lion is roaring loudest, his tail will frequently lash from side to side, giving rise among the ancients to the belief that he scourged his body with a hook or thorn which grew from the end of the tail.

When a jaguar walks along a slender bough or a house cat perambulates the top of a board fence, we perceive another important function of the tail—that of an aid in balancing. As a tight-rope performer sways his pole, so that feline shifts its tail to preserve the centre of gravity.

The tail of a sheep seems to be of little use to its owner, although in the breed which is found in Asia Minor and on the tablelands of Tartary, this organ functions as a storehouse of fat, and sometimes reaches a weight of fifty pounds. When viewed from behind, the animal seems all tail, and when this appendage reaches its full size it is either fastened between two sticks which drag on the ground, or it is suspended on two small wheels.

Take another of our animals, a fierce little weasel, clad in summer in a coat of brown, in winter turning white, but always with a jet black tip to the tail. The ermine, as it is incorrectly called in its winter coat, has an easy time of it sneaking on the mice and birds upon which it preys, but when a hawk takes after it, in an open field in the sunlight, or an owl in the moonlight, it would have but short shift with all its sinuous leaping, were it not the black tail tip is so conspicuous that it constantly attracts the eye and allows the pure white of the body to be confused with the spotless snow. Even when we place a dead weasel on the snow and look at it from a distance, we realize how true this is, and how valuable must be the pencil tuft of black hairs to this little vermin who spends his life in hunting or being hunted.—Outing Magazine.

### The Long Conflict.

Little Sally (reading)—What is a prolonged conflict, Harry? Small Harry—I don't know. I asked papa this morning what it was, and he said it was something I couldn't understand until I grew up and got married.—Chicago News.

One secret of sin's hold on us is our hold on secret sins.

Love is the first word and the last in the lexicon of religion.

The man who preaches for a salary never gets anything else.

Lightheartedness never comes from feeding on the froth of life.

It takes more than smooth words to smooth out life's rough places.

When you brand a vice as harmless you have augmented its power to hurt.

The places where we have helped others are our milestones on the way to heaven.

You cannot advertise your own straightness by uncovering another man's crookedness.

Whenever you find a minister who can be hired you never are getting much of a man.

In the final appraisal our increment from life depends on our investment of ourselves in it.

His heart is dead who feels no drawing on things within when a child takes his hand.

There's a lot of difference between sending a petition to heaven and dispatching a prescription here.

The great question for any church is not what contributions can it get, but what contributions can it make to the life of the people.—Chicago Tribune.

### To Strengthen the Eyes.

Unless one has unusually strong eyes, one must not read when one is extremely weary. Exhaustion and fatigue affect all the nerves of the body, and the optic nerve is so sensitive that it should receive particular consideration. Nor should one ever be guilty of the carelessness of reading or writing facing a window. This, too, is a cruel strain on the sight. Washing the eyes morning and night in water as hot as it can be borne is a wonderful tonic for those useful servants which are so easily injured. When we consider how we neglect their welfare by using them by fading daylight and insufficient artificial light, by forcing them to do work when they are weary and by denying them the rest for which they long, we have cause to wonder not that they sometimes become mutinous and refuse to fulfill our demands, but that they are ever faithful in our service. They will, as a rule, be as good to us as we are to them.

### Treating Warts.

Children's hands are often disfigured by warts, and they can be cured in a simple way. Get hartshorn and sweet oil of equal mixture and paint the warts with this each day. It is slow, yet thoroughly satisfactory. Acetic acid touched to the most tenacious warts will in time kill them, and they can be easily removed. Most children, however, object to your cutting even the dead part away, since they have a fear of its hurting. After removing warts, wash the parts with a weak solution of carbolic acid. A drop of peroxide of hydrogen in the cavity will cleanse all impurities. Do not believe in such absurd things as superstitious persons entertain for the removal of warts, for warts are almost as difficult to remove as teeth, and the foolish notion which has ever prevailed of causing them to disappear through some magic is not to be thought of in this enlightened age.—Exchange.

**BEST PILL ON EARTH**  
People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail Write Dr. Bosanko Co., Philada., Pa. Sample Free. **ONLY ONE FOR A DOSE**

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.

### RESISTANT CUTTINGS.

About 8000 well rooted Rupestris St. George cuttings. For price apply to P. O. Box 58, Auburn, Cal.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address

W. A. Stewart,  
Rio Vista, Cal.

## WALNUT TREES

Grown from carefully selected seed  
Postal for prices.

A. A. MILLS, Anaheim, Cal.

## \$5 A THOUSAND

RESISTANT GRAPE CUTTINGS FROM  
IMPORTED STOCK.

VARIETIES—3306, 3309, 1202

A. W. LUTHER Healdsburg, Cal.

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc.

Send for price list.  
A. F. SCHEIDECKER, Sebastopol, Cal.  
Proprietor Pleasant View Nursery.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$80 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery  
Spring of 1908.

**SOUTHLAND NURSERIES,**  
F. H. DISBROW, Proprietor.

Both Phones. R. D. 1, Pasadena, Cal.

## The Crocker Bartlett Pear

DOES NOT BLIGHT

If proven different, purchase price of trees bought from us in 1907 will be refunded. Fruit highly recommended by Luther Burbank. Sample of pears sent on receipt of 25 cents.

See U. S. Year Book of 1905.

Peach Trees, 15c—all leading varieties.

Cherry Trees, 20c—all leading varieties.

### GOLDEN RULE NURSERY

Loomis, Placer County, Cal.

## Pacific Nurseries

San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting  
a full line of

Ornamental Trees and Shrubs, Evergreen and Deciduous, Conifers, Palms, Rhododendrons, Camellias, Ericas, Azaleas, Roses, Eucalyptus, Cypress, Pine, Monterey and Maritima Pittosporum transplanted into plats.

Send for Catalogue

F. LUDEMANN, 3041 Baker Street  
SAN FRANCISCO

### Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, Al, Lady Thompson and Midnight, Pedigree Plants.

### Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

### Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

Dewberry, Loganberry,  
Phenomenal Berry Plants.

Mention this paper and get catalog of prices and cultural directions.

G. H. HOPKINS, Burbank, Cal.

### POSITION WANTED.

A young energetic fruit-grower, two years in my employ, desires to find position as foreman in orchard or vineyard. Can recommend him as absolutely reliable. He has a knowledge of general farming, but more particularly of prune and raisin growing. Apply

G. H. HECKE,  
Woodland, Cal.

## FOR SALE.

Jordan and Drake Seedlings. Nine hundred of each of the above varieties, one year old. About two-thirds from 4 to 6 ft., balance 3 to 4 ft.; exceptionally fine rooted trees. Apply

A. R. GURR,  
R. F. D., Merced.

## Eucalyptus Red Gum Sugar Gum

6 to 8 inches high; packed and delivered you by express or mail. Prepaid \$2.50 per 100. Safe delivery guaranteed.

HENRY SHAW,  
320 River St. Santa Cruz, Cal.

## GRAFTED VINES

FIELD GRAFTING  
BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

JOHN L. AMES,

Elk Grove, Cal.

Red Gum } for  
Sugar Gum } timber,  
Gray Gum } posts, piles,  
Desert Gum } poles, etc.

Best Four. Get Our Prices.

Cling and Free Peaches, Apricots, Almonds, Cherries, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

**Leonard Coates Nursery Co., Inc.**

Morganhill, Santa Clara Co., Cal.

High In Quality Low In Price

## OUR SEEDS GROW

Vegetable, Flower  
and Farm Seed

J. SEULBERGER,

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## BARGAIN BERRIES

Twenty-five Lucretia dewberry, 25 Cuthbert raspberry, 25 Mammoth, 25 Loganberry, 250 strawberry and several other kinds of berry plants, also 1 acacia prepaid for \$2.50. Strawberry plants \$3.00 per 1000 prepaid. Larger lots \$2.50.

TRIBBLE BROS. Elk Grove, Cal.

### WANTED

Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

**FANCHER CREEK NURSERIES**

Fresno, California.

## EUROPEAN LINDEN SEED

Grown in Sacramento; 30 cents per ounce.

F. A. MILLER, P. O. Box 377, Sacramento.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Paper Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



War anted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for

Curb, Splint, Sweeney, Capped Hook, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. 1-oz. bottle of Caustic Balsam sold in Warrented to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

### Grass Stations on the Reserves.

The government has planned a series of scientific reseeding experiments on several of the National Forest Ranges next spring and summer, to determine under what conditions and in what manner those portions of the range which have been seriously damaged by overgrazing may be restored to their former productiveness.

A great deal of the range land in the West is over-grazed and does not carry as much stock as formerly. The method of handling stock, particularly sheep, is perhaps more responsible for this condition than any other cause. But all causes of deterioration and all means for improving the forage crop need to be studied, that the range may be brought into the best condition to meet the imperative demand of the livestock industry.

The plan is to establish experimental stations in several parts of the country. Probably not more than six will be tried at first, but they will be so located as to secure typical conditions. The experiments will be begun on a small scale, on five or six acre tracts. Both native and wild grasses will be tried, but it is believed that the plan of encouraging native grasses will meet with greater success than the introduction of cultivated species, at least in the Rocky Mountain region. In the Coast Ranges, with their greater rainfall, cultivated grasses are more likely to play an important part in range development.

The ranges of the Northwest have not been so seriously damaged by over-grazing as those of the Southwest, perhaps because of superior moisture conditions of the northern part of the country. It is a fact, however, that none of the ranges support the stock which they did formerly, and re-seeding experiments will therefore be undertaken in this section of the country also.

The method of handling stock is also to be considered. Every stockman knows that stock do not waste as much feed when unrestricted in their movements as when close herded. An experimental pasture was enclosed last summer in the Imnaha National Forest in Oregon, which will be a model for others next season. In this pasture sheep were turned loose

without a herder, to shift for themselves. It is too soon to draw positive conclusions from this experiment, but the sheep did well, and there was a decided lessening in the loss of forage through trampling. It looks as though a given area of ground can be made to carry a very large number of animals when they are allowed to graze free, than when close herded. This fact, if established, will be of decided importance to stockmen.

### "A Trust That Plays Fair."

In Everybody's Magazine for February Mr. H. N. Casson gives an interesting account of the International Harvester Company, which has got into trouble with the courts as a trust. Mr. Casson says one interesting thing will have much weight with farmers, and that is that no one accuses the Trust of having unreasonably raised prices. Indeed, it is generally given full credit for holding prices down, in spite of the fact that it is paying from 20 to 80 per cent more for its labor and raw materials than it paid in 1902. Generally speaking, all farm implements except thrashing machines are cheaper now than they were in 1880, when the competition was most strenuous. Binders have dropped from \$325 to \$125; hay rakes from \$25 to \$16; and mowers from \$80 to \$45. There is a demand for cheaper harvesters, of course. A generation of farmers that can buy a watch for a dollar and a daily paper for a cent very naturally feels that a hundred dollars ought to buy a railway.

Has the Trust eliminated competition from the harvesting business? On the contrary, it has very active and able competitors. Binders are made by four large independent companies, mowers by seventeen, corn-shredders by eighteen, twine by twenty-six, wagons by 116, and gasoline engines by 124.

So it is my duty as a reporter to state that on the whole the harvester combine is a good trust and not a bad one. I have found it radically different from the get-rich-quick trusts. It is not a monopoly. It is an advocate of free trade. Its stock is not watered, nor for sale in Wall Street. And the men at the top are very evidently plain, hard-working, simple-living American citizens, who are quite content to do business in a live-and-let-live way. When a North Dakota congressman proposed in 1904 that the International Harvester Company should be investigated, Cyrus McCormick at once sent a message that amazed the Bureau of Corporations: "Please come and investigate us," he said. "If we're not right, we want to get right."

"Yes," said one of the highest officials of the Roosevelt administration, when I asked him whether he could corroborate this very remarkable story, "it is true that since 1904 it has been the continued desire of the International Harvester Company that we should investigate them. In fact, during the last year, they have urged us with considerable earnestness to make this investigation."

And what does it all mean—this federation of thirteen factory cities—this co-ordination of muscle and mind and millions—this arduous development of a new art, whereby a group of mechanics can take a wagonload of ore and a tree and fashion them into a shapely automaton that has the power of a dozen farmers?

## IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

If you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense.

For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading.

The Cloverleaf Endless Apron Spreader  
The Kemp 20th Century Return  
Apron Spreader  
The Corn King Return Apron Spreader

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.  
(Incorporated)

You will make no mistake in buying any one of these right working, durable I. H. C. spreaders.

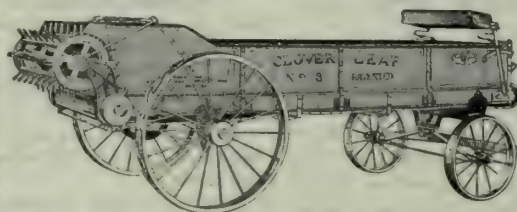
I. H. C. spreaders are not built excessively heavy, but they have the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but all have good strong broad tired wheels, simple and strong driving parts, are easily and conveniently controlled, and do first class work with any kind of manure.

A ny

I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

If you prefer, write direct to our branch house nearest you for any information desired.



The Sower Has  
No Second Chance  
Good sense says make the most  
of the first.

## FERRY'S SEEDS

have made and kept Ferry's Seed Business the largest in the world—merit tells.

Ferry's Seed Annual for 1908  
tells the whole Seed Story—sent FREE for the asking. Don't sow seeds till you get it.

D. M. FERRY & CO., DETROIT, MICH.

PURE BRED  
FRANQUETTE  
WALNUTS  
VROOMAN STON. TRE.  
HARDY, BLIGHT RESISTING  
BEARS YOUNG TREES  
GROWER, LARGE TREES

Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

OREGON NURSERY COMPANY  
SALEM, OREGON.  
Salesmen Wanted.

60—TOURS—60  
TO  
EUROPE  
SEASON 1908

\$150 to \$1165

Other tours to Japan, China, and Siberia. Programmes giving full story for the asking.

THOS. COOK & SON  
32 Powell St., San Francisco  
Cook's Traveler's Checks Payable  
Everywhere.

For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED  
Address

Fancher Creek Nurseries, Fresno, California.

# TREES

Place Your Order Now

LARGEST STOCK ON THE COAST

When buying ROEDING TRUE TREES you have the satisfaction of knowing you are receiving the best in the country. Our trees are backed by 25 years experience and are as perfect as the most skillful handling and propagating, assisted by ideal climatic conditions and the best soil, can make them. Our trees are properly packed for shipping and reach their destination in perfect condition.

The Best is Always the Cheapest.

## CITRUS and DECIDUOUS FRUIT TREES

NUTS & ORNAMENTAL TREES  
GRAPEVINES BERRY BUSHES  
PALMS, PLANTS & ROSES

IN ALL STANDARD VARIETIES

### Peach Specials.

Write to us for bedrock prices on Lovell and Muir peach trees, 2 to 3 ft. grade, in 500 to 5000 lots. You cannot afford to miss this opportunity.

OUR CATALOGUE FREE

Best book of its kind ever published on the Coast. Fully illustrated—148 pages—sent free on request.

BURBANK'S NEW CREATIONS

Send 10c. for our illustrated booklet, in colors, describing these valuable new tree products. We are sole propagators and disseminators.

PAID-UP CAPITAL \$ 200,000.00

## FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.



## AGRICULTURAL REVIEW.

### BUTTE.

An increased acreage of land in Butte county east of the Sacramento River is being planted to beets this season, many small holders devoting land to that end for the first time.

Experiments are now being conducted at the National Plant Introduction garden at Chico, in growing cork trees. Fifteen thousand cork oaks are being propagated from acorns received from Spain. This is the first attempt to introduce the cork oak into America for commercial purposes. The cork oak, from the bark of which corks are manufactured, is of Spanish origin and is the basis of an important industry in Spain. About 20 years is required for the tree to reach the commercially valuable stage, when the outer bark is removed. The trees continue to thrive, however, and yield an annual crop of bark.

Secretary O. H. Miller, of the Sacramento Valley Development Association, is at Chico to attending to the distribution of the 15,000 roots of matting grass that is to be distributed free to owners of overflow lands in the various counties of the Sacramento Valley for the purpose of experiment. The distribution will be made to 15 landowners. The roots will be planted in swamp land, in the sediment soil of the tule basins further up the river, and in some places will be put under irrigation. This will be the first practical experiment with the grass in this State. Similar experiments will be made with a part of the roots brought over from Japan by the Government last year, in Louisiana, Alabama and other places in the South where there is plenty of unused marsh land. If the grass can be grown successfully in the Sacramento Valley, it will mean the establishment of factories for weaving it in the vicinity of Sacramento. At present all the matting produced in the United States is manufactured in the East, and to the cost of the grass and its handling at the factory must be added the duty charged on its entrance to this county and the transportation charges from Japan.

### COLUSA.

The Southern Pacific Company is instituting a new system of getting rid of the grass which grows along the track. Heretofore this, which was one of the most tedious jobs on the road, was done by the section men with their short-handled shovels, but from now on will be done by the aid of chemicals. A small engine built on the principles of an automobile, with gasoline as its motive power, will be used to sprinkle the road with a grass-killing fluid. The sprinkler will reach four feet beyond each rail, so that if the experiment proves successful the roadbed will be entirely freed from grass. The road will be given three doses—one in a few days, another in about a month, and a third late in April.

### MENDOCINO.

State Forester Lull reports that the eucalyptus trees planted on the sand dunes last winter are thriving and some of them are now seven feet high. The trees were planted for the purpose of determining whether a line of trees on the sands would act as a wind-break and prevent the winds from shifting the sand onto valuable property. It is probable that several thousand more trees will be planted along the Mendocino coast and will be used for the purpose of reclaiming lands which have already been destroyed by the shifting sand.

### SAN JOAQUIN.

Stockton Independent: Produce dealers generally estimate that there are about 800,000 sacks of potatoes yet undug throughout the potato district adjacent to Stockton. Digging for this

year's crop will continue until as late as March 1 on many of the tracts. Growers are piling their spuds on the levees adjoining their tracts and covering them with tules and other material, and on nearly all of the island levees enclosing potato districts spuds can be seen from the river steamers piled several feet high.

Growers assert that even with all of the men they can use it will be well into March before the potato crop can be dug and sacked. Those who have been closely following the situation assert that there are as yet between \$800,000 and \$1,000,000 worth of potatoes in the ground, and it will take a lot of work to dig them out.

Bee: An East Lodi resident has a freak apple tree growing in his doorway which is full of second crop apples, about as large as crabapples. A peculiar incident accompanies this crop. In September last, Mr. Brack had his dooryard raked and the debris burned near the tree. The foliage of the tree was destroyed. However, a few weeks later the branches sent out new buds and now the tree is loaded with fruit.

### SANTA CLARA.

Fruit growers here will immediately provide funds to send a representative East to look after their interests in the fruit sulphuring question. Many of them consider the suggestion of the appointment of a commission of college presidents to investigate and report upon the use of sulphur in the curing of fruits as a mere subterfuge, and say it is so classed in a letter just received by a fruit man from A. R. Briggs, president of the State Board of Trade, now temporarily in the East.

### SHASTA.

George D. Barber, of the Alexander orchard in Happy valley, gathered an immense crop of olives from his trees last season. Over 50,000 gallons were pickled, valued at nearly \$15,000. Several thousand gallons were allowed to go to waste on account of lack of facilities for handling them. Such a crop as these trees bore last season was far beyond the owner's greatest anticipation, and he was unable to prepare himself in time to handle the yield. There are several small areas of this fruit grown in the valley, and the yield from the trees was most satisfactory.

### SISKIYOU.

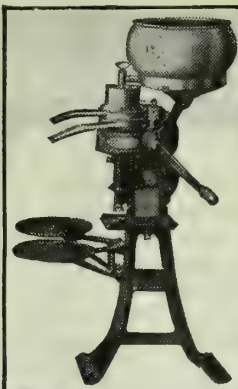
Stockmen are rejoicing over the mild winter which has been experienced in this section of the county. There has been quite a fall of rain lately, which has melted the snow in the mountains and will warrant a good supply of water until late in spring. The lack of snow and freezing weather in the valleys has made it a very easy winter on the stock which have been pastured all winter. This was a fortunate condition in the light of the amount of hay which was spoiled by the unusual rains during the haying season of last summer.

### TULARE.

W. K. Shaw of the Pacific Sugar company states that contracts have been signed for a total of 8840 acres to be planted to sugar beets. Of this, 8800 acres have been plowed and 3600 seeded to date and on 1500 acres the shoots are already up and ready to be thinned. Of the total acreage to be planted, 5000 is located between Laton and Angiola, but principally about Corcoran, where the new \$1,000,000 factory is in process of construction and in which the product of between 5000 and 6000 acres will be utilized, that of the other 3000 acres being used to supply the factory near this city.

### YOLO.

Among the exhibits in a Winters show window is a branch of a lime tree growing near Winters. The branch is full of limes in all stages of growth, from blossoms to mature fruit, it being the habit of the lime to bear continuously throughout the year. During the year just past the tree is estimated to have yielded 1000 pounds of limes. The fruit attracted much attention because of its rarity in that part of the State.



## IMPROVED IN EVERY FEATURE

Have you seen and examined the New and Improved 1908 DE LAVAL Cream Separators? If not, and you own one or more cows don't further hinder your best interests by delaying longer but let us give you a free demonstration in your own home at once. You will marvel at the mechanical perfection, the wonderful simplicity and convenience of these new machines. These new machines show improvements in every feature, from the supply can to the base of the machine, and mark the greatest move forward in separator construction since the invention of the first practical separator by Dr. De Laval in 1878. If you have milk cows you cannot afford to be without one. The new De Laval skims closer, has greater capacity, operates easier and is more ideal in every way than De Laval machines have been even in the past. The improved De Laval is actually ten years in advance of any other separator made to-day. There are ten new styles, ten new capacities and ten new prices. There is a machine for every dairy, from the smallest to the largest and at a price that will fit every pocket. Don't regret later that you didn't see the De Laval before you bought a machine but write us to-day for our handsome new catalogue describing the machines in detail and a free demonstration in your own home. You will be surprised. Don't delay.

### DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1016 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## C. C. MORSE & CO.

### Plants SEEDS Trees

41 Jackson St.  
San Francisco

This picture represents the cover of our handsome new catalogue done in colors, showing the flowers and fields true to life.



Send us your name and address and we will mail this new 1908 Catalogue free.

Send us \$1.00 and we will send one each of these three fine roses (strong 2 year old roots): Frau Karl Druschki, Mildred Grant, Madam Caroline Testout. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea—Florence Morse Spencer.

## TAKE ADVANTAGE of the opportunity

THE ALL-AROUND TILTON APRICOT  
Is offered at special rates by the introducer.

### HANFORD NURSERY

Hanford, Kings County, California.

### YUBA.

W. F. Coffin of Wheatland went to Reno, Nevada, recently for the purpose of consulting with the Washoe Indians with a view of employing them in the hop fields during the coming summer. The Washoes make good hop pickers, and for many years in the past they have been brought here to work in the hop fields.

### OREGON.

Sacramento Bee: The shipping season for Klamath county cattle is about

over and totals show that over half a million dollars worth were driven out during the past season. Since August 4 the number of cattle driven to Montague and Gazelle for shipment to Oakland, Sacramento, and San Francisco is 16,686, and there yet remain in the valley, mostly on the alfalfa feeding grounds between this city and Merrill, about 3,000 head that will be driven out later. This total does not include the cattle driven out of the Fort Klamath country for shipment from Ashland and other northern points.

### WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25 cents.



## Feed Rather Than Breed

There is more in the proper management of a hen than in the hen herself—feed and care count for more than "blood." Some breeds lay better than others, but a man who don't "know how" will spoil the best hen; while a man of experience will get eggs from the hen who hasn't a disposition to lay. The secret lies in giving the hen perfect digestion, because if she does not extract from her food the elements of the egg, she is sure to be non-productive.

## DR. HESS Poultry PAN-A-CE-A

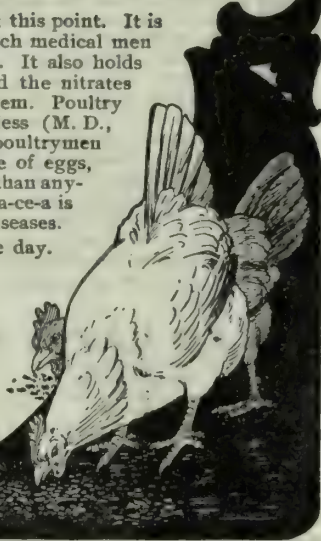
fully meets the needs of the poultryman at this point. It is a tonic containing the bitter principles which medical men tell us will assist and strengthen digestion. It also holds salts of iron, which makes good blood and the nitrates which expel poisonous matter from the system. Poultry Pan-a-ce-a is the prescription of Dr. Hess (M. D., D. V. S.) and is endorsed by leading poultrymen everywhere. It makes hens lay abundance of eggs, forces chicks to early maturity and is better than anything else to help fatten market birds. Pan-a-ce-a is also a germicide and wards off poultry diseases.

Costs but a penny to feed 30 fowls one day.  
**Sold on a written guarantee.**

1 1/2 lbs. 35c; 5 lbs. 85c;  
12 lbs. \$1.75; 25 lb. pail \$3.50

Send two cents for Dr. Hess' 48-page Poultry Book, free.

**DR. HESS & CLARK,**  
Ashland, Ohio, U. S. A.  
Instant Louse Killer Kills Lice.  
THE PETALUMA INCUBATOR CO., PETALUMA, CAL.  
PACIFIC COAST DISTRIBUTORS.



## Trees that Grow and Bear Fruit

**SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.**

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

**Orange County Nursery & Land Company**  
FULLERTON, CAL.



124 Page  
Free Book.

Send today.

## "Old Trusty" Incubators

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

**E. E. McCLANAHAN**

711 So. Main Street Los Angeles.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

**WRIGHT BROTHERS,**  
Riverside, Cal.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## Forestry.

### Sequoias and Redwoods.

President Roosevelt recently wrote an outing article for a popular magazine in which he used the words "redwoods of the Sierra," and he has been held to account for inaccuracy therein. Dr. W. L. Jepson of the botanical department of the University has written a note to the Call upon the two trees which are involved as follows:

Since its definite discovery in 1852 the Sequoia gigantea or big tree of the Sierra has been called by several names in common parlance, such as big tree, mammoth tree, and giant redwood. The term redwood has always been more or less used in reference to this species in the scientific literature and in the common speech of the people and has given rise to some Sierran place names such as Redwood meadows on the Middle fork of the Kaweah and Redwood creeks on the North fork of the Kaweah, from the big tree groves on those streams.

This occasional folk usage of the term redwood for the Sierra tree merely states a botanical fact. There are two species of Sequoia gigantea, limited to the Sierra Nevada, and the Sequoia sempervirens, limited to the Coast Range. One is as much a sequoia as the other, and, in a botanical sense, one is as much a redwood as the other.

They are far more alike than they are different. They are alike in all general particulars, differing only in detail of structure. Both in their adult forms are trees of colossal size with similar trunks and methods of branching, with their thick and reddish brown bark, with white sap wood and red heart wood and with like structural features in the cones. The two trees differ, for instance, in wood quality and there are many structural differences in detail throughout. The two trees differ most pronouncedly in foliage, that of the Sierran tree being cypress like, that of the coast tree having the leaves spreading in flat sprays. Reproductive structures, however, give more certain proof of ancestry and relationship than vegetable characters, and the proof of their generic relationship is evidenced by the flowers and cones, but it is interesting in this connection that the foliage in the coast species is often cypress-like in the neighborhood of the cones, especially on branches in the top of the tree. My special insistence then is that the two trees are far more alike than they are different. The attempt to make separate genus—wellingtonia—for the big tree will never succeed on botanical grounds. That is to say, our species are both sequoias and both in a botanical sense are redwoods. Moreover, the only common term equivalent for sequoia by usage is redwood.

The coast species (Sequoia sempervirens) has universally been known as redwood in the common speech of American residents as well as English explorers, although often spoken of for accuracy as coast redwood in contradistinction to the Sierran tree. Long before the gringo came the Spanish-Californians called the tree Palo Colorado, of which, of course, the English term redwood is a very close equivalent. The term big tree has sometimes been applied to the coast species, as in the case of the Felton big trees near Santa Cruz, which has led many people into the error of supposing that the Sequoia gigantea occurred in the Coast Range.

So much for the historical aspect of the case. Today the best usage, both by leading Californian botanists and the general public, restricts the name redwood to the coast tree and the name big tree to the Sierran tree. This usage has been given further binding force through its adoption by the United States Bureau of Forestry. Best usage then decrees that redwood shall designate the coast species and big tree the Sierran species.

THE REDWOOD AND BIG TREE PRODUCT.—Mr. Warren Olney of Oakland

## DEMING

Hand, Knapsack, Barrel and Power Sprayers

for the poultry man, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every style built as strong and serviceable as it is possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

**THE DEMING COMPANY**

595 Depot St., Salem, Ohio  
Heulen & Hubbell, Agents, Chicago, Ill.

contributes the following in the same connection: The millmen of the Sierras and the people living in the neighborhood of the sequoia forests there always speak of the trees as "redwoods." The forestry department, of which Mr. Gifford Pinchot is at the head, uses the term "redwood" as applied to both species. The last circular from the forest service, issued December 11, 1907, and treating of "The Lumber Cut of the United States, 1906," on page 20, has the following:

Redwood is an exclusively California product, and that State furnished 659,678,000 ft., valued at \$10,978,759, or \$16.64 per M. Even in California only small portions of the State contribute to the redwood production, which is of two kinds—the coast redwood, which is restricted to a narrow belt near the coast (principally north of San Francisco), and the big tree, which occurs in scattering groves along the western slopes of the Sierras.

Cut of redwood in California in 1906, 659,678,000 ft.; total value, \$10,978,759; value per M feet, \$16.64.

The cut of big tree timber was less than 8,500,000 ft., and was reported from Calaveras, Fresno, and Tulare counties. The coast redwood was cut principally in Humboldt and Mendocino counties—51.5% in the former and 28.6% in the latter. The total redwood production in 1906 was over 80% more than that of 1899, and the total value in 1906 was three times as great as that seven years before.

INTERESTING HISTORICAL NOTES.—Mr. E. C. Williams of Oakland contributes the following historical references to "redwoods":

An investigation undertaken by the writer for business reasons a few years since developed the fact that about 1840 or perhaps a little earlier three small sawmills were built in the territory now embraced in Santa Cruz county, which derived their motive power from the streams in that section, and cut during the rainy season 8000 or 10,000 ft. of lumber daily, and the lumber they called "Madera Colorado" to distinguish it from the "Madera Blanco," which came from the Maine forests and was brought to this coast in small quantities by the ships that came from Boston to collect the hides and tallow annually accumulated at the various rancherias.

The term "Madera Colorado" was a general one, applied to the color of the lumber to distinguish it from imported lumber.

All red woods do not possess the same quality in a like degree. In the marts of commerce there is today "Mendocino" redwood, "Humboldt" redwood, "Santa Cruz" redwood; and millions of feet of "Sierra" redwood from the Kings river mills have been sold in southern California, and in the form of shingles shipped to Texas and other eastern points without any prefix showing the locality in which they originated.

In the days before California became a part of the Union, when highways were few and trails many, "palos altos" and "palos solos" were frequent, having their significance in guiding the traveler toward his destination; but in all his early wanderings over the country (and they have been quite extended) the writer has never seen or heard of a "palo Madera Colorado" occupying such a position, from all of



which it seems fair to infer that the term "Madera Colorado" was originally applied to the lumber produced from the tree, and not to the tree itself. In view of the foregoing, it would appear impossible to deny that the product of the Sequoia gigantea of the Sierras, though softer and more brittle than that of the Sequoia sempervirens of the Coast Range, is equally with the latter a true "Madera Colorado," or "red wood."

### The Vineyard.

#### Hints to Vine Planters.

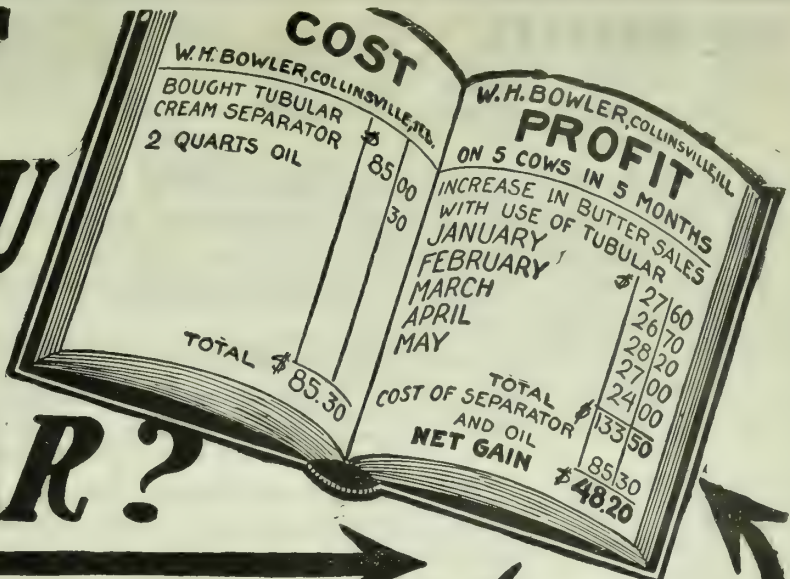
The following suggestions compiled by Mr. W. R. McIntosh for the Fresno Republican may be helpful to some of our newer readers who are preparing for such work this winter:

The time for planting out new vineyards is near at hand. It should all be over in the San Joaquin Valley before March 15 of each year. Put your ground in as fine a condition of pulverization as possible, and establish your base lines with a transit. Have care to get them exactly at right angles, or else your rows will not be straight and an unsightly vineyard will be the result. Add to this the difficulty of plowing, cultivating, and the advantages of straight rows will be readily understood. For planting use a steel wire of about No. 12 gauge, divided up into links of two or four feet; or for that matter, they may be longer or shorter, depending on the distance the vines are to be set apart. The advantage of a planting chain, made in this manner, is that it will not stretch like a straight piece of wire; and, furthermore, it may be used to plant other orchards or vineyards where it may be necessary to make a change in the distance apart, the vines or trees are to be set. This change is easily made, it being only necessary to tie a piece of colored cloth in the ring to which the links are fastened. The length of this wire varies according to the idea of the planter, but 250 feet is about the limit which can be handled to advantage. It is best to have the wire the width of the check, the last link coming flush with the stake indicating the roadway. These roads should be at intervals of 24 rows for a wine and table vineyard, and 30 rows for a raisin vineyard. Start at one corner of the field with the chain which should have 3-inch rings at each end, for inserting the iron stakes, which should be made of 1/2 x 2 inch iron, 2 1/2 feet long and drawn down to a point at one end. The stakes which are to be used as markers may be split out of redwood or any other material for that matter; and at least 12 inches, of one end, dipped into a bucket of white-wash, so that the line at the base rows may be readily seen.

Having set the stakes along the outside line, at the distance apart the vines are to be planted, start at the same end of the field again and set another line of stakes, parallel with the first line, and the length of the chain distant from the outside line. Proceed in this manner until the entire field is laid out in checks. With this preliminary work done and having exercised care in the measurements to have the base lines parallel, and the stakes in each block opposite each other, no difficulty will be experienced when planting commences, to have the vines line up.

**PREPARATION FOR PLANTING.**—First remove all the lateral roots with a sharp knife or shear, starting between the base of the cutting and the top of the vine, making a smooth cut close to the stock. Next shorten in all the roots radiating from the base of the cutting to three inches. Then prune the top of the vine leaving only one spur, with two or three buds. The vines should be pruned a day or so in advance of the planting and the work should be entrusted to careful men. As soon as pruned, the vines should be heeled-in, and the soil either wet or stamped down

# WILL IT PAY YOU TO BUY A TUBULAR?



THE best way to determine this question is to get out your pencil and do a little figuring.

You don't need to be an expert mathematician to figure this problem. In fact, to make it easier, we'll figure it for you and in such a way that you can easily see it in your own case.

If you are milking five average cows, not using a Tubular, you lose \$5 to \$6 a month—leaving butter fat in the milk, which a Tubular would get out. Then the better your cows the larger your loss—up to three or four times as much.

In a few months you would have made enough extra money out of this extra cream which you are now wasting—losing—to pay for a Tubular. Here's actual proof. Read what Mr. W. H. Bowler gained on his 5 cows by using a Tubular.

#### COLLINSVILLE, ILL.

"From five good Jersey cows while using the water separator we made from twenty-three to twenty-four pounds of butter a week; with one of your Separators from the same cows we made from forty-three to forty-seven pounds a week. I think it would take about \$1000 to buy my Tubular if I couldn't get another."

W. H. BOWLER.

#### MOUNT AIRY, Md.

I am milking five cows. The increase of revenue, over the water can I was using, will pay the cost of the Tubular inside of one year. I think the Sharples Tubular far superior to any other separator.

EMORY PURDUM.

It is not a question any longer, whether it will pay you to buy a Separator—the fact is, you can't afford to do without one. Now the all important question is, which separator to buy?

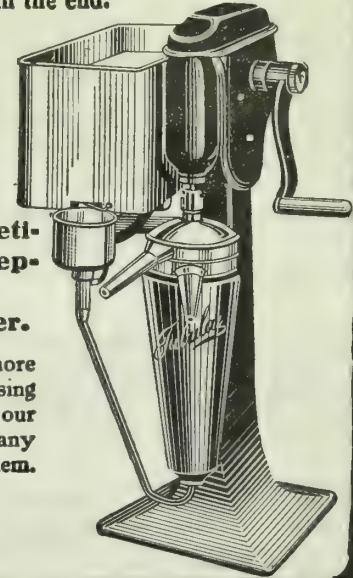
Too many people have made the mistake of buying a low-priced separator only to find that instead of saving money on their purchase—they have wasted it entirely. Don't do this. Get the best at first—a Tubular—it's cheapest in the end.

**Here are the reasons:**  
It skims closest. Has fewest parts. Easiest to clean. Low supply can save your back. Turns easiest—is frictionless ball bearings. Wins in every competitive test. Made in largest Cream Separator Factory in the world. More sold each year than any other.

Send for our new catalog No. 131 it's full of more good reasons and proofs from those who are using them. It's free—we'll also send a copy of our book "Business Dairying" which will help any one keeping cows to get more profit from them. It's worth a dollar of any farmer's money.

THE SHARPLES SEPARATOR CO.,

Chicago, Ill. West Chester, Pa. Toronto, Can.



to prevent the roots from drying out. The heeling-in-ground should be centrally located so that it will not be necessary to carry the vines too long a distance to the planters.

**HOW TO PLANT.**—Each man should be provided with a bucket, or five gallon coal oil can. A small quantity of water in the bottom will keep the roots moist. Each bucket should be filled with vines and replenished from time to time with vines as they are needed by the planters.

The planting wire should be stretched across the first check to two stakes which should be directly opposite to each other. Each planter should have charge of two marks on the wire. As an illustration: Figure on a basis of planting the vines eight feet apart, each way, and leaving out every thirty-first vine for an avenue. It would be necessary to have a chain 250 feet long, over all, including a one-foot link, at each end, for the ring, and to permit drawing the chain taut. To such a chain it would be necessary to have seventeen men, two to stretch the chain, across the

#### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

field between the two stakes set opposite each other in the check, and fifteen to do the planting. The marks, eight feet apart in the chain, indicate where the vines are to be set. In planting the vine should be set so that the collar will be level with the top of the ground when it is settled, except with grafted vines, which will be referred to in our next issue. The soil, in the bottom of the hole, should be loosened up, and that used to fill in should be top soil, the first few shovels of which should be well tramped in, the top being left loose. Having set this line of vines, the chain is carried to the next two stakes, and so on until the check is planted. Within

two weeks after planting, the earth should be settled around the vines either by hauling water to them or by irrigation, running water in furrows along each row. This is important, for even with a good field boss over a crew of men, some of them will be careless, fail to tramp the soil around the roots, and unless a timely and heavy rain should cause the soil to settle, the vines will dry out and die.

#### Ask for SNOW'S GRAFTING WAY

In use all over the State  
For sale by all the large grocers, or  
D. A. SNOW, Lincoln Avenue, San Jose, Cal.



## THE MARKETS.

San Francisco, Feb. 12, 1908.

## WHEAT.

Eastern speculative markets are lower than last week, and in San Francisco both future and cash wheat are very dull, inclining to weakness. The May option closed the week rather strong, but has gone back about to where it was before. There is hardly any inquiry for shipping grain at present, and this grade has been slowly declining. Quoted prices on other grades show no change, but are a little steadier. The movement is small, and holders of milling wheat are still asking more than most buyers are willing to pay.

California White Australian..	1.72½@1.77½
California Club.....	1.65 @1.67½
California Milling.....	1.67½@1.70
California lower grades.....	1.53 @1.60
Northern Club.....	1.62½@1.67½
Northern Bluestem.....	1.67½@1.72½
Northern Red.....	1.57½@1.60

## BARLEY.

There is practically no shipping demand for barley, as the prices asked and the tonnage rates are prohibitive. Speculative business is slow and the market is weak. Receipts are very light, but though most holders are firm in their views, little is moving even at lower figures. There is no demand for brewing, and some has been sold for feed. All feed grades are again lower, and only small lots of choice grain will bring over \$1.35.

Brewing .....	\$1.40 @1.45
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.33½@1.35
Common to Fair .....	1.30 @1.32½
Shipping.....	Nominal

## OATS.

The continued dullness of oats has brought about a general decline in quotations. Arrivals are small, and stocks as a rule light, with most holders showing little interest in the market at present quotations. There is no longer any notable movement in seed grades, and black are not quoted. Feed is also quiet, everything but gray being lower.

Choice Red, per ctl .....	\$1.60 @1.85
Gray .....	1.55 @1.60
White.....	1.45 @1.60
Choice Red, for seed.....	1.85 @1.90

## CORN.

The only changes in this grain are in Western white and mixed, which are lower. Arrivals have been light, and all varieties are described as dull, though there is more movement than a few months ago.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @
White .....	Nominal
Western State sacked Yellow, new.....	1.60 @1.65
White, in bulk.....	1.53 @
Mixed, in bulk.....	1.50 @
Brown Egyptian.....	1.37½@1.42½
White Egyptian .....	1.60 @1.70

## RYE.

Rye has settled down to the usual quiet condition, with a limited demand for the local interest. Prices show no further change, and California stock is all that is offered at present.

California .....	\$1.50 @1.52½
Utah .....	Nominal
Oregon .....	Nominal

## BEANS.

The bean market has shown a tendency to revive of late, but this week the inquiry for most lines has again fallen off, and there is little movement to report, either for the eastern interest or locally. There is some demand for large whites, however, which are firm at a slight advance, in sympathy with the Michigan market. Prices are steady for other varieties, with no change since last week. Stocks on hand in this State are lighter than usual at this time of year.

Bayos, per ctl.....	\$3.15 @3.25
Blackeyes .....	3.75 @
Butter .....	4.50 @5.00
Cranberry Beans .....	2.75 @3.25
Garvanzos.....	3.50 @3.75
Horse Beans .....	2.25 @2.75
Small White .....	3.40 @3.55
Large White .....	3.45 @

Limas.....	4.75 @4.85
Pea .....	3.50 @3.60
Pink .....	3.10 @3.25
Red.....	3.50 @4.00
Red Kidneys.....	3.25 @3.35

## SEEDS.

Seeds are unchanged in price, most lines being inclined to firmness. The market continues very active, the demand for alfalfa keeping fully up to what it has been. Utah alfalfa is particularly strong, owing to a short crop and a rush to get supplies.

Utah Alfalfa .....	18 @19 c
Turkestan alfalfa.....	18 @
Alfalfa .....	17½@18 c
Broomcorn Seed, per ton .....	\$22.00@25.00
Brown Mustard, per lb.....	3½@
Canary.....	3½@4 c
Flaxseed .....	Nominal.
Hemp.....	4½@4½ c
Millet .....	2½@3½ c
Timothy .....	Nominal
Yellow Mustard.....	5 @5½ c

## FLOUR.

The local market remains quiet, no change in prices being reported, and buying is only for immediate needs. Jobbing stocks are low, however, and some increase in demand is looked for. The interior market is said to be active, and some of the mills are running full time, but with no shipping business of any consequence, most of the millmen are limiting the output.

California Family Extra, per bbl. ....	\$5.40 @6.00
Bakers' extras .....	5.40 @5.65
Superfine .....	4.20 @4.50
Oregon and Washington, Family .....	4.75 @5.25

## HAY.

For the first time in several weeks the hay arrivals are showing an increase from day to day, the total arrivals for the last week being 2920 tons, as compared with 2130 tons for the week preceding. The increase effectively put a stop to the strengthening which had been in evidence for the last few days, and now the situation is about as it was a month ago. There is some talk that the grain crop this year will be increased at the expense of the hay crop and that present hay holdings may be worth considerably more next year than they are now. Very little of the choice grade of wheat hay is coming in, the bulk of the arrivals being closed out at about \$14. Prices, grade for grade, are pretty well maintained.

Choice Wheat, per ton .....	\$16.00@17.00
Other Grades Wheat .....	11.00@15.00
Wheat and Oat.....	11.00@15.50
Tame Oat.....	11.00@15.00
Wild Oat.....	9.00@12.00
Alfalfa .....	9.00@13.50
Stock .....	7.50@9.50
Straw, per bale.....	50@90 c

## MILLSTUFFS.

Spot stocks of bran, shorts, and middlings amount to almost nothing, but everything continues firm, though there has been no further advance in anything but bran, of which no first-class supplies can be had under \$30. Some low-grade bran, however, is said to be coming in, and is offered at lower figures. Rolled barley is well sustained. Coconut cake is slightly higher, but other feedstuffs are unchanged.

Alfalfa Meal (carload lots) per ton .....	\$22.00@
Jobbing .....	23.00@
Bran, ton .....	29.00@31.00
Broom Corn Feed, per ctl.....	90c@1.00
Coconut Cake or Meal at Mills (in 10-ton lots) .....	26.00@
Jobbing .....	27.00@
Corn Meal.....	37.00@
Cracked Corn.....	38.00@
Mealalfa.....	22.00@
Jobbing .....	23.00@
Middlings.....	32.00@35.00
Mixed Feeds.....	26.00@27.00
Oil Cake Meal, per ton.....	38.50@39.50
Rolled Barley.....	33.50@34.50
Shorts.....	30.00@31.50

## POULTRY.

Seven cars of Western stock arrived last week, and some were carried over, but receipts of native poultry have fallen off. While prices show very little improvement, the market seems to be in a better condition, as the buyers are taking hold more freely and the market cleans up more satisfactorily, with fewer holdovers from day to day. Squabs, fryers and broilers are fairly firm, but other lines are still weak. Leading dealers,

however, look for a slow but steady advance in the near future. Turkeys find a limited demand at former quotations.

Broilers .....	\$5.00 @5.50
Small Broilers.....	4.00 @4.50
Ducks.....	4.10 @7.00
Fryers.....	5.50 @6.00
Geese .....	2.00 @2.50
Hens, extra .....	6.50 @8.50
Hens, per doz.....	5.00 @6.00
Small Hens .....	4.00 @5.00
Old Roosters.....	4.00 @4.50
Young Roosters .....	6.00 @7.50
Pigeons.....	1.00 @
Squabs .....	3.00 @
Hen Turkeys, per lb .....	15 @17 c
Gobblers, live, per lb.....	14 @16 c
Turkeys, dressed.....	18 @20 c

## BUTTER.

Everything in butter is described as firm except low-grade fresh stock. Higher prices are asked for nearly everything on the list, extras and firsts having gained 5 cents. The expected shipments from the San Joaquin did not come in, as the production seems to have fallen off in all quarters. The retail trade is taking on good quantities, keeping the market closely bought up. The advance in fresh goods has also stimulated the demand for storage, which are slightly higher.

Cal. (extras) per lb.....	32½ c
Firsts.....	30 c
Seconds .....	23 c
Thirds .....	
Fresh Eastern, extras.....	
Fresh Ladies, extras.....	
Fresh Ladies, firsts.....	
Storage, Cal., extras.....	24½ c
Storage, Cal., firsts.....	23 c
Storage Eastern, extras.....	24½ c
Storage Ladies, extras.....	20 c

## EGGS.

All the grades of eggs are quite firm this week, and while most grades of fresh goods are a little lower, storage stock, which has been a drug on the market for several weeks, is bringing better prices. The market on fresh eggs has shown considerable fluctuation, owing to the varying quantity of goods received, extras commanding 27½ cents at the opening of the week. This price, however, caused the demand to fall off, and as supplies are gradually increasing, quotations are expected to have a downward course.

California (extra) per doz.....	24 c
Firsts.....	22½ c
Seconds.....	21 c
Thirds .....	20 c
Storage, Cal., extras .....	18 c
Storage, Eastern, extras .....	16 c

## CHEESE.

Everything under this head is very weak, with supplies still accumulating under liberal receipts, and buyers are taking little interest. All local stock is lower, with nothing from California points bringing over 13½ cents, except storage flats, which stand at 14 cents.

Fancy California Flats, per lb....	13½ c
Firsts.....	13 c
New Young Americas, Fancy....	13½ c
Storage, do.....	13½ c
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	14 c
Oregon, Fancy.....	14½ c

## POTATOES.

Salinas and Oregon Burbanks now bring about the same prices, as the Salinas stock is of poorer quality than usual. Both are weak and lower, with the market heavily supplied and business quiet. Lompoc goods are scarce, but this line also is slightly lower. Seed grades are steady, and recent arrivals of sweet potatoes sell readily at higher prices.

Oregon Burbanks.....	75 @1.00
Burbanks, Salinas, ctl.....	85 @1.00
Lompoc Burbanks.....	1.10 @1.25
Burbanks, River, bag .....	40 @90
Early Rose, ctl.....	1.00 @1.25
Garnet Chiles.....	90 @1.10
Sweet Potatoes, per ctl .....	2.50 @2.75

## VEGETABLES.

Considerable weakness has developed in the onion market. Arrivals from Oregon have been liberal, and several cars coming in from the East have oversupplied the market. Eastern stock has also weakened the Oregon market. It is not yet known whether these shipments will continue, but they have caused a decline on all grades, nothing now being quoted over \$2.85. While receipts of southern vegetables are increasing, a more active market keeps prices about steady. Some

## Send for this Catalogue

Of Northern Grown Seeds—Tried and proved Best for the West. Contains 112 pages and 16 colored photos of Farm, Field and Flower Seeds with full cultural directions. A request will bring it to your home free.

Chas. H. Lilly Co., Seattle, Wn.



local tomatoes are coming in, but are very poor. Asparagus is easier, though high prices are paid for choice lots.

Garlic, per lb.....	5 @8 c
Green Peas, per lb.....	7 @9 c
Chile Peppers, per lb.....	4 @6 c
Bell Peppers .....	10 @15 c
Cabbage, per ctl.....	50 @60 c
Onions—	
Oregon Yellow, per ctl.....	2.75 @2.85
Eastern Yellow.....	2.65 @
Eastern Red.....	2.50 @2.60
String beans, per lb.....	17½ @20 c
Tomatoes, crate.....	1.00 @2.50
Marrowfat Squash, per ton.....	10.00 @
Carrots, sack.....	75 @
Hubbard Squash, ton.....	10.00 @
Summer Squash, box.....	1.50 @2.00
Celery, crate, small.....	1.00 @1.25
Egg Plant, lb .....	8 @12½ c
Rhubarb, box.....	1.25 @2.25
Mushrooms, lb.....	10 @25 c
Asparagus, lb.....	20 @25 c

## FRESH FRUITS.

The deciduous fruit market shows little change, prices being well maintained on storage apples and pears, though there is little inquiry, and low-grade apples are neglected. Most arrivals of strawberries are unattractive and arouse little interest.

Apples, fancy .....	1.25 @2.00
Apples, common to choice....	60 @1.00
Pears—	
Winter Nelis.....	2.00 @2.25

## CITRUS FRUITS.

Shippers have again advanced their prices on oranges, and the market here, while no higher, shows a firmer tone. Arrivals are liberal, but are mostly sold before arrival, and old stock is well cleaned out. The local demand is picking up considerably, and business is now of fair proportions. Tangerines are very dull, but there is some inquiry for lemons and grape-fruit.

Choice Lemons.....	\$1.00 @1.25
Fancy Lemons.....	1.50 @2.25
Standard .....	75 @1.50
Limes.....	3.00 @4.00
Oranges—	
Fancy.....	1.75 @2.25
Standard.....	1.25 @1.75
Tangerines, large box.....	65 @1.15
Grape Fruit.....	2.25 @3.00

## DRIED FRUITS.

Prunes and raisins are said to be about the only articles of which any considerable stock remains on hand. Prunes are steadily held at former prices, though the Eastern market is weak, and there has been some selling of inferior stock at low prices. Most other fruits show the effect of the continued dullness by a decline, but a somewhat better inquiry is noted of late. Raisins are dull and easy in the East, and local packers give a lower range of quotations.

Evaporated Apples .....	7 @8½ c
Figs, black.....	3½ @
do white.....	4 @
Apricots, per lb.....	18 @20 c
Fancy Apricots.....	21 @22 c
Peaches .....	9 @10½ c
Prunes, 4-size basis, 1907 crop..	4 @4½ c
Pears.....	8½ @11 c

## RAISINS.

2 Crown .....	4½ @
3 Crown .....	4½ @



4 Crown .....	5 @
Seeded, per lb.....	6 1/2 @ 7 c
Seedless Sultanias .....	4 1/2 @ 8 c
London Layers, per box .....	\$1.25 @ 1.40
London Layers, cluster.....	1.30 @ 2.00

NUTS.

There has been little movement in nuts since the first of the year, and the market inclines to easiness, though there has been no change in prices for some time.

Almonds, Nonpareils .....	15 c
I X L .....	14 1/2 c
Ne Plus Ultra.....	14 c
Drakes .....	13 c
Languedoc .....	12 c
Hardshell .....	8 c
Walnuts, Softshell No. 1.....	14 1/2 c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @ 12 1/2 c

HONEY.

Prices are well sustained on all grades of honey, though there is no great amount of inquiry. Stocks are sufficient for all present demands, but are expected to be well cleaned up before the new crop comes in.

Water White, Comb .....	16 @ 17 c
White .....	15 @
Water White, extracted.....	8 @ 8 1/2 c
Light Amber.....	7 @ 7 1/2 c
Dark Amber.....	6 1/2 @ 6 3/4 c

WOOL.

Wool is very dull, with practically no shipments going forward, and little interest taken in California stock. There is some prospect, however, of a resumption of activity by the eastern mills in the near future.

Humboldt and Mendocino, year's staple.....	22 @ 23 c
Fall clip: Northern free, mountain .....	8 @ 11 c
do. defective .....	6 @ 8 c
San Joaquin and Southern.....	5 @ 8 c
Fall Lambs, Northern.....	9 @ 11 c
Fall Lambs, Southern.....	7 @ 9 1/2 c
Nevada.....	12 1/2 @ 16 c

HOPS.

The Growers' Union has fallen through in the north, and a large acreage is expected. The movement there is quiet, and this market also shows little activity. Some contracts for future crops have been reported at better figures, but there is no general movement in that direction.

1906 crop .....	2 @ 3 c
1907 crop.....	6 @ 9 c
1908 (contracts).....	10 @ 11 c

MEAT.

Beef remains as before, but live calves, sheep and lambs are somewhat higher, and there is a considerable decline in both live and dressed hogs, in sympathy with the Chicago market, where receipts continue heavy.

Beef: Steers, per lb.....	7 @ 8 c
Cows .....	6 1/2 @ 7 1/2 c
Heifers .....	6 1/2 @ 7 1/2 c
Veal: Large.....	8 @ 9 1/2 c
Small.....	9 1/2 @ 10 c
Mutton: Wethers .....	11 @ 12 c
Ewes .....	10 1/2 @ 11 c
Lamb .....	13 @ 14 c
Spring lamb.....	15 @ 16 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 1/2 @ 10 c

LIVESTOCK.

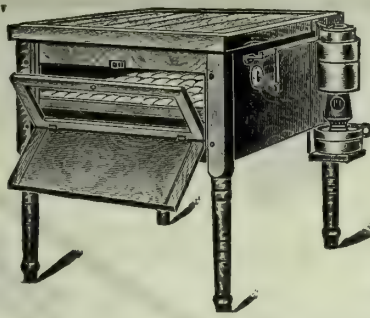
Steers, No. 1.....	8 1/2 @ 9 c
No. 2.....	7 1/2 @ 8 c
No. 3.....	6 1/2 @ 7 c
Cows and Heifers, No. 1.....	6 1/2 @ 7 c
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	3 1/2 @ 4 c
Calves, Light.....	5 @ 5 1/2 c
Medium .....	4 1/2 @ 5 c
Heavy .....	4 @ 4 1/2 c
Sheep, Wethers.....	5 1/2 @ 6 c
Ewes .....	5 @ 5 1/2 c
Lambs, yearlings.....	6 @ 7 c
Hogs, 100 to 200 lbs .....	5 1/2 @ 6 c
200 to 300 lbs.....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

LAST grape shipping season D. Sherwood of Elk Grove received \$15 for two crates of Tokay grapes.

Blue Front Stable, 306 N. Maine St., Santa Ana, December 30, 1907.

Dear Sirs:—I have used Tuttle's Elixir for some time and find it is the best liniment I have ever used. I have cured a bad case of bone spavin and ring bone, also a hard case of shoulder lameness and skin disease. It is worth \$5 a bottle for anyone who has horses. I would not take \$10 for one bottle if I could not get any more. Your condition powders are as good as your liniment. I am Yours respectfully, L. F. CLAPP, Prop.



# A New Deal ON Sure Hatch Incubators For Pacific Coast Trade Lower Prices!

## Every Incubator Buyer Should Investigate

We have discontinued our Los Angeles selling agency and are selling direct to the user from the factory. We have a few machines at Los Angeles and a fine stock at Salt Lake City.

Don't buy until you get our Free Catalog and New Prices. Quick action is absolutely necessary, as these machines at bargain prices will be snapped up in a hurry. Write immediately to

**Sure Hatch Incubator Company**  
Box 151, Fremont, Neb.

## Free Book and Bargain Price Certificate

SURE HATCH INCUBATOR CO.,  
Box 151, Fremont, Neb.  
Please send Free Book and Bargain Price Offer.

Name \_\_\_\_\_

Address \_\_\_\_\_

## BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the wellknown Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth.....\$2

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth.....\$1.50

**THE BOOK OF CORN.**—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages, 5 by 7 inches. Cloth.....\$1.50

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from wellknown grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 289 pages. 5 by 7 inches. Cloth.....\$1.50

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE.**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### POULTRY.

**FEATHERLY FARM BUFF, BLACK, WHITE, ORPINGTONS.** The greatest prize winning and heavy egg laying strain in the West. Free catalog of matings. Featherly Farm, Box R, Redlands, California.

**Bronze Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 51, 361 McAllister St., S. F.

### BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

### Registered Holstein Bulls

AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.

**PIERCE LAND & STOCK CO.,**

Riverside Ranch. Stockton, Cal.  
Phone Main 1597. Send for Catalogue.

**THE NEW ONION CULTURE.**—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and expert stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth.....\$0.50

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L .....	105
Beckman, Geo. V.....	111
Blake, Moffitt & Towne.....	105
Bosanko Medicine Co., Dr.....	105
Breeders' Directory.....	111
California Fruit Exchange.....	112
Coates Nursery Co., Leonard .....	105
Cook & Son, Thos.....	106
Croley, George H.....	111
De Laval Dairy Supply Co.....	107
Deming Co., The.....	108
Dewey, Strong & Co.....	111
Disbrow, F. H.....	105
Driver, E. S.....	111
El Dorado Oil Works .....	—
Fancher Creek Nurseries.....	105, 106
Featherly Farm.....	111
Ferry & Co., D. M.....	106
Fresno Agricultural Works.....	—
Fresno Nursery .....	112
German Kali Works.....	—
Golden Rule Nursery .....	105
Gurr, A. R.....	105
Hanford Nursery.....	107
Hart, Ed.....	111
Hecke, G. H.....	105
Hess & Clark, Dr.....	108
Holcombe & Co., R. A .....	102
Hopkins, G. H.....	105
Howard Cattle Co.....	111
Hoyt's Tree Support Co.....	—
International Harvester Co.....	106
Jackson & Co., T. W.....	103
Lawrence-Williams Co.....	106
Lilly Co., Chas. H .....	110
Lister, Henry B .....	105
Ludemann, F.....	105
Luther, A. W.....	105
Lynch, John.....	111
McClanahan, E. E.....	108
Meacham, Frank A.....	—
Miller, F. A.....	105
Mills, A. A.....	105
Morse & Co., C. C.....	107
Mountain Copper Co.....	103
Myers, Wm. S.....	—
National Wood Pipe Co.....	112
Oakland Poultry Yards.....	111
Orange County Nursery & Land Co.....	108
Oregon Nursery Co.....	106
Pacific Coast Business College.....	105
Pacific Guano & Fertilizer Co.....	10
Pear Blight Remedy Co.....	112
Pierce Land & Stock Co.....	111
Reeves & Co.....	—
Rhodes Mfg. Co.....	—
Roeding, Geo. C.....	111
Scheldecker, A. F.....	105
Seulberger, J.....	105
Shaw, Henry.....	105
Sharples Separator Co.....	109
Silva & Bergholdt Co.....	112
Simmons Hardware Co.....	—
Smith, Francis .....	—
Snow, D. A.....	109
Stewart, W. A.....	105
Stowe, C. A.....	111
Stratton, W. A. T.....	112
Sullivan, W.....	111
Sure Hatch Incubator Co.....	111
Teague, R. M.....	—
Temple Pump Co.....	—
The Cutter Laboratory .....	108
Tribble Bros.....	105
Trumbull Seed Co.....	109
Tuttle's Elixir Co.....	—
Van Der Nallen, A.....	105
Vermont Farm Machine Co.....	—
Wagner, J. B.....	105
Waite, Thos.....	111
Western Meat Co.....	103
Wright Brothers.....	108

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseed- ing it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50



YOU never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

# PLACER NURSERIES

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Pipe. Bored Wood Pipe.

**National Wood Pipe Company**

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

268 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.



## California Fruit Exchange

(INCORPORATED.)

Head Office:  
SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinion as to Patentability and Infringements  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco

## PEAR-BLIGHT We can CURE IT

Our Work has Extended Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR BLIGHT REMEDY COMPANY

## 1 1/2 Million Eucalyptus Trees (IN VARIETY)

Only an announcement that we intend to supply our patrons with Eucalyptus trees of our usual high standard; our present stock is nearly exhausted, and we will grow

### ONE MILLION

if necessary—transplanted in flats of 100 each. Correspondence invited. Our booklet on Eucalyptus will prove interesting to planters. No postals. Address

**W. A. T. STRATTON, Nurseryman**  
PETALUMA, CALIFORNIA.

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.**

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untried. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

### THE FRESNO NURSERY

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 8.

SAN FRANCISCO, SATURDAY, FEBRUARY 22, 1908.

Thirty-eighth Year.

## BRUSH AS FUEL.

Where fuel is high priced and labor low priced it is possible to keep the house warm and to operate considerable machinery by steam, by burning brush in fagots. Fuel costs plenty in California, but labor costs plenty also, so the fagot formula goes somewhat astray as an economic proposition, and yet it is interesting. The picture on this page shows how fagot-fuel is used in Lower California, and illustrates the delivery of a load of brush fagots or monojos, as the Mexicans call them. To a great extent these are substituted for first-class wood in firing boilers, and are used as fuel in roasting furnaces. In the region where the picture was taken first-class wood costs \$5.50 per cord delivered, and about 20 per cent is saved by using brush fagots.

The brush can be burnt very green and gives a long flame, and is not as likely to burn out the grate-bars as first-class wood, which makes very hot coals. The fagots are made as follows: Two pieces of fibre plant, or bale rope, are placed in

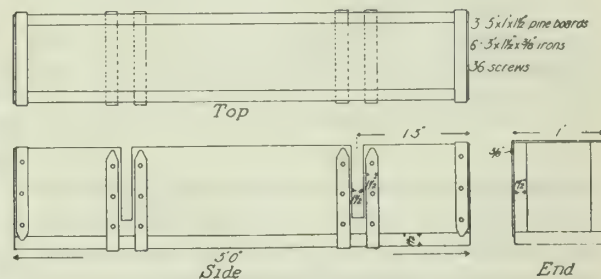
the slots in the box, which is shown in the drawing. Then two short rawhide ropes, with iron rings on the ends, are laid across the slots. The brush is then jammed into the box and cinched at both ends (with the rawhide ropes) into compact fagots, and tied firmly with the rope. It is pulled out of the box, the rawhide taken off, and is ready for use. These fagots are made by contract for one cent apiece. The box is made by using two-inch planks and re-enforced with 1x4 inch strips of wood or with iron straps. The size of the box inside is 9 inches wide by 12 high, and 5 feet long, and is intended for longer fagots than would be available for most purposes.

## SCENES IN PANAMA.

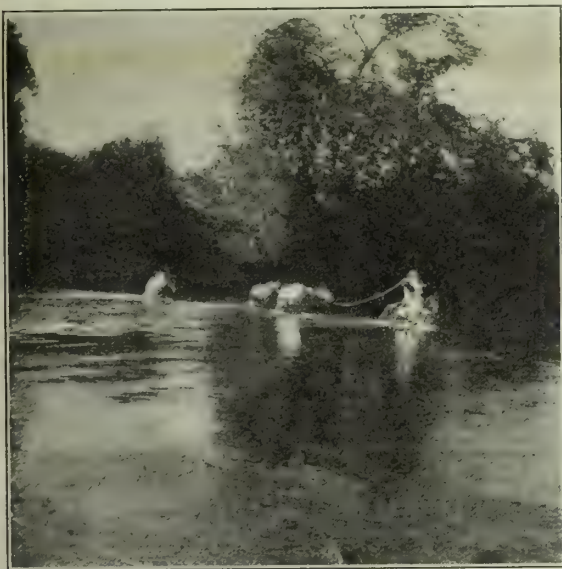
As there will be a rush of our readers to the East as soon as the new route via Panama is opened, a few advance glances at the country may be acceptable. Travel in Panama is difficult. Since the payment by the United States of \$10,000,000 for the Canal Zone strip, a good deal of



Unloading Brush Fagots for Firing a Steam Boiler.



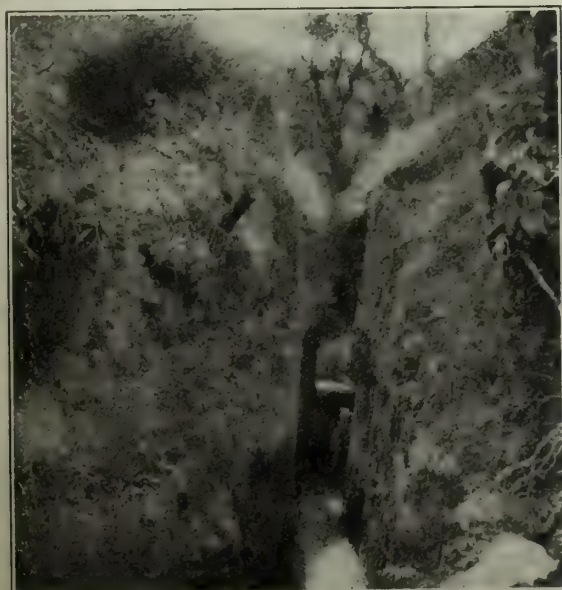
Box for Making Fagots.



A Ford on San Pablo River.



In the Rocky Bed of Corulu Creek.



An Open-Cut on Viriguas Peak in Pursuit of Metals.



A Temporary Residence on the Uplands.

GLANCES AT SCENES IN PANAMA.

money has been spent—much of it foolishly—in the improvement of highways into the interior. Numerous streams have to be crossed by ford or ferry, or by swing-bridge, which causes a little flurry among the sluggish pack-horses. Travel is easy enough from December to May, but during the rainy season the trip is hazardous. The streams all have their sources in the main Cordilleran range, whose peaks are forever enshrouded in clouds. A heavy rainstorm in the mountains, of which the traveler may know nothing, in a few hours will cause a quiet peaceful stream to become a roaring raging torrent. If the traveler is caught between two streams, he must sit down and smoke, curbing his impatience for perhaps a few hours, perhaps several days, until the water subsides. The country is steeply rolling, cut with heavily timbered, steep-sided ravines, the ridges being barren of tree or shrub, but covered with long grass that affords excellent grazing for the long-horned sleek cattle that roam at will over the ranges.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

The citrus fair at Cloverdale gives this mid-February week its California savor and assures us that our winter is a light affliction, though the heavy rains may spoil some winter-maturing vegetables and the temperatures strike the human susceptibility as too low for comfort. If we had not the flowers and the winter-ripening fruits we might forget how warm it really is as marked by the thermometer and by plant-growth. We might altogether forget that we call it cold when it is actually more degrees above zero than the north-west blizzard goes below zero in the coldest districts of the country: that we are apt to shiver when the mercury is 28° above zero for a few minutes before sunrise, and complain just as loudly as we used when our nose-tips turned white in the old eastern winter. In addition, however, to the pleasure of having something to find fault with, there is the other satisfaction, and that is that, barring some loss to vegetables by heavy rains just at shipping time, things are going very well in our farming districts: moisture is ample everywhere in the State for present purposes and the outlook is as promising it it could be for good crops of all kinds. While this is so, one can be chilly even while picking ripe oranges and look forward to a speedy return of high temperatures for the deciduous fruit trees are already blooming, asparagus is shooting freely and everything else is getting into shape for action in a land where summer throws herself into the lap of winter and springtime wanders throughout the year.

Returning to oranges, as suggested by the Cloverdale citrus fair this week, it is gratifying to learn that the growers' marketing enterprise is rising with the emergency of disposing of a constantly increasing product. This year's crop is estimated at about 30,000 carloads, and the California Fruit Growers' Exchange is planning to have more thorough distribution of oranges, especially in small towns, than ever before. An extensive campaign will be carried on in the Mississippi valley to promote the consumption of the fruit. Many new packing devices are being used. One of the largest concerns, which employs many attractive young ladies, is using a wrapper carrying a picture of the packer. This is a short-sighted policy, because the packers are generally pretty girls and eastern offers of marriage will rob us of them—or, it may bring more young men to California. It might be tried a while to see which way it works.

Again, the mention of oranges reminds us that the next Fruit Growers' Convention is to be largely a citrus affair, and is to be held in Riverside in April. This is proper; southern California has not enjoyed the application of the whole-state convention treatment recently, and it is time that

the old practice of a fall convention in the north and a spring convention at the south were resumed. It is true that some occasions called for the south did not awaken much local interest, and those from the central part of the State were so much in the majority that they could see no reason for going south, but such a condition is not likely to recur. Commissioner Jeffreys attended a preliminary meeting in Riverside recently and received very cordial response to his propositions. He promised that the programme would be a live one of live issues. No one must be put on the programme from courtesy. He wants experts, specialists, to present quite a number of subjects pertaining to citrus fruit production that have never been worked out to conclusions. This entails special difficulties, as it is difficult to get the right men to present these subjects, and he asked that an advisory committee be appointed to assist in preparing the programme. Such a committee, consisting of James Mills, J. H. Reed, C. E. Rumsey, and H. B. Chase, was named to at once assume charge of the matter. The whole matter has a promising look. Get ready to go south in April!

It is interesting to note that the hop growers of the Pacific States are making headway with their preliminary movements toward effective organization to control of the hop industry of the Coast. At a recent meeting in Oregon, the growers concurring, the directors voted to levy an assessment of 25 cents per acre on acreage signed up, to secure funds to put organizers in the field. There were over 100 growers present at the meeting, and a reporter says the outlook is brighter for successful organization than for several weeks past. This is from the directors of the Oregon branch and is their end of the general organization which was started in California some weeks ago, as was noted in our columns at the time. It seems as though the hop growers ought to succeed in their effort. From the point of view of their industry they must succeed. As growers of a product of limited area and of a special character they have conditions which favor their success. Of course it all depends upon themselves. No one will do it for them, and proceeding individually as they have in the past, the old experience will be repeated as long as they proceed at all. Some figures from Oregon are interesting: As usual, the crop was underestimated early in the season, most of the dealers' guesses ranging from 130,000 bales down to 100,000 bales, and some less. The statistics show that there were 38,348 bales left in the growers' hands. In addition to these, there are about 10,000 bales in the hands of dealers, while shipments since September 1 last have reached 101,267 bales. Of course something must be done.

Speaking about organizations, California has had experience enough with them to fill a book—in fact, a series of books, which bids fair to expand into a library, for experience is still multiplying. Fortunately, notable successes are being attained, in spite of some colossal failures, so that the subject continues to be interesting, and the question as to how the Sonoma county egg producers will come out is now up. At a meeting in Santa Rosa last week, under the style of the Sonoma County Co-operative Poultry Association, arrangements were completed for opening a depot in Santa Rosa to handle the entire output of the association. The plan is to have the eggs candled, sorted, and cased under the direction of the officers of the association, after which they will be shipped to consumers in case lots direct. Contracts will be sent to the 300 members and all

other producers in the Santa Rosa region of the county, asking them to deliver their entire product, so that complete control may be exercised over the 1,000,000 dozen eggs shipped annually. The expectation is that eggs will be sold at top quotations or higher, and the proceeds returned to the producer less 1 cent per dozen for handling. It is believed that in this way a better price will be realized than at present, and there will be no further trouble with dealers as to the grading of the eggs. Certainly interesting results will come from the effort, at least.

There is an amusing item about California eggs in the Boston Cultivator of February 8, as follows:

"The behavior of the egg markets on the Pacific Coast looks as if poultrymen in that section had at last come to realize the advantage they have in that mild climate. Eggs have been selling at 15 cents per dozen in California cities this month. In a country where the flocks of the farms can obtain wild food the year round the cost of egg production should be at lowest level. Until lately the Pacific Coast markets have been importing vast numbers of eggs from the Central West. Indications are that in course of time shipments will go in the opposite direction, especially during the winter months."

The amusing part of the item is the price at which eggs were said to be selling in California cities. The prices in San Francisco during January and the first week in February ranged from 23 to 40 cents per dozen for first grade, and even third grade eggs did not fall below 20 cents, and went as high as 30 cents. Roughly, then, the price quoted in Boston is only about one-half of the average of all kinds of fresh eggs during the period in question. The philosophy of the paragraph and the compliments to the climate are all right, and the conclusions that eggs ought to go east because we have fresh grass in winter are correct. But as long as eggs are worth as much here as they usually are in January, it is not to be expected that many will roll to the East. And yet we ought to sell winter eggs in the East, just as we sell winter fruits and vegetables.

Continuing along the line of co-operative selling which the Sonoma county egg people are striking into, there is of course encouragement in the dairy line, although California has advanced along the proprietary line rather than the co-operative perhaps. But take an example from the other end of the continent. We read in the New York Tribune that Maine has a co-operative establishment which stands as a marked example of what may be accomplished. The Turner Center Creamery Association was organized in 1883, in the town of Turner, Me. For twenty-four years this corporation has steadily grown in volume of output, has extended its outreach for milk and cream over the western half of Maine, has established thirty-five cream gathering stations, has met its obligations promptly, and today owns and occupies a large four-story building alongside the Maine Central Railroad in Auburn, Me. Now come the figures which tell their own story: Paid patrons for cream in 1906, \$832,913.99; in 1907, \$954,259.05. For eggs in 1906, \$42,183.97, and in 1907, \$51,063.51. This is a total paid to patrons of over a million dollars in a year. The account closes with the remark that every indication points to a steady increase in patrons, thereby insuring a larger daily output, a lower range of expense in handling and a better price for the producer. There is something for the Sonoma association to measure by!



## Queries and Replies.

### Feeding the Soil.

To the Editor: I send you an eastern paper which says if you begin to use fertilizer you can not raise a crop unless you keep it up. Now what do you think of that? Do you think it would be better to sow clover every year to plow under and use what manure you can get and let the fertilizer alone? I would like to be enlightened on this, as I bought some fertilizer to try.—Reader, Sonoma county.

You have done the wisest thing possible in buying some fertilizer to try, and if you watch closely where you put it and what comes of it, you will be able to answer your own questions better than we can. If your soil needs more plant food, the plants which reach your fertilizer will show it in contrast with those which cannot reach it, and you can tell how much better they are by what the additional growth is worth. If this is more than your fertilizer costs, you are making money and had better keep at it. Again, if your soil is hungry (and the above experiment will tell you that), you will certainly have to keep feeding it if you wish to keep up the faster rate of money making. There is no essential difference between clover, plowed under, and stable manure, and what you call fertilizer. They are all fertilizers and all cost you something; which you shall buy depends upon circumstances. If you have enough stable manure, you need not buy other fertilizers. Possibly you may find it profitable to buy fertilizers to grow more clover to make more stable manure, etc., etc. If you do not have enough stable manure, do not try to "get along" with what you have, if your soils tell you through the plant that it needs more plant food. Be sure your tillage is good and moisture supply ample, and if so, go for fertilizers wisely and well.

### A Good Lupin.

To the Editor: I send specimens of a lupin which came up in our orchard, and wish to know what species it is, for it seems as though it would be better as a cover crop than peas or vetches. I was surprised at the amount of nodules on its roots, while legumes, of which I have been sowing inoculated seed, have no nodules at all. This lupin grows under the trees in half-shade, where foxtail and filaree do not grow. It seems to stand much drouth and grows well on heavy and on sandy land. It seems to me an ideal plant for green manuring. Has it ever been used for that purpose?—Reader, San Fernando.

Dr. H. M. Hall, economic botanist of the University experiment station, identifies the plant as *Lupinus micranthus*, a species very common in some parts of the State. Its growth in orchard as a green manure plant should certainly be encouraged. It has not been used extensively, probably because of the cost of seed and difficulty in getting a good stand in most places. It prefers a loose soil, especially where there is considerable decomposed granite, and this is exactly the sort of soil you have in your locality. If you could arrange to grow your own seed the plant would become available, otherwise it is rather difficult to get at, while peas and vetches are ready and cheap.

### Grafted or Graft Later.

To the Editor: I have a vineyard in Sonoma county and intend to plant walnuts along the fences, more as an ornament, but I also wish the nuts, and I want quick growers. What kind would you recommend? Would you plant grafted trees or just common ones, and graft them later, and when is the proper time to plant them?—Beginner, San Francisco.

You must decide for yourself between grafted

trees or trees to be grafted later. If you wish our opinion, it is this way: Plant yearling or two-year-old California black walnut seedlings, and graft after the trees attain a year or more of growth in place. When to graft you must also decide for yourself, for grafting in both small and large stocks will succeed in a good percentage if the work is well done. Plant your seedlings and study up grafting, and when you think you have the hang of it, go at it. By that time you also will be surer what variety you should graft in, if you keep reading and looking out. At present we should graft on the Franquette largely.

### Alfalfa on Shallow Soil.

To the Editor: Will you please tell me if alfalfa will grow on land where the ledge or hardpan is from a foot and a half to three feet from the surface? The land is a kind of adobe, with small pebbles in it. Some of the land is black and some light red, and cracks during dry weather. When dry it is crumbly. If it does grow, how often would it have to be watered and how many crops should it produce.—Farmer, Stanislaus county.

Growing alfalfa on such land as you describe, especially when underlaid by hardpan, is much more difficult than upon light, open, deep soil, which the plant prefers. Still, you can get a product which is worth while even on such soil, although the plant will probably not be as long lived. Its condition, also, will depend upon how successful you are in frequent irrigations with small quantities of water so that the water will not stand upon the surface after the sun heat comes on it, for this is destructive to alfalfa. The number of irrigations would depend upon circumstances and cannot be arbitrarily fixed. You will have to regulate the time of application and the amount of water so as to adequately supply the plant and yet not fill the soil too full of water, which is destructive to the roots; nor allow the sun to come upon the water on the surface, which is destructive to the foliage. If you have alkali in the soil your course will be still more difficult.

### Fruits on Deep Sand.

To the Editor: We are planning to plant trees and vines on some land a few miles west of Fowler, which has never been cultivated. The soil is a fine sand, the surface from eight to eighteen feet above the water table at the present time. The water table may rise a foot or two during the irrigating season. After  $4\frac{1}{2}$  inches rainfall the soil is dry at a depth of three to four feet. The land has been pastured the last two seasons. Will you kindly tell us whether there is any likelihood that the soil is deficient in nitrogen? We judge that it would be best to grow some crop which would add to the amount of humus in the soil and make the plant food more available. On the more level portions we intend to plant alfalfa, leaving it for two or three years for that purpose. But checking up some of the land for alfalfa would be a very expensive process. What other crops have been found useful for that purpose here? We do not wish to plant this spring, and if the ultimate gain would make it advisable, would postpone planting for another year or two.—Farmer, Fowler.

You would get good results with trees and vines on the land which you describe, providing you can regulate the moisture supply so as to have enough as needed. The distance to water is certainly ample, but owing to the character of the soil it will be necessary to have adequate irrigation water available at least until the trees are able to root deeply enough to reach the permanent supply. As the land has lain idle for some time, the probability is that it has strength enough to grow young trees and vines, although fertilizers are likely to be necessary when the bearing age is attained. The soil can certainly

be improved in every way by increasing the humus by the growth and plowing under of leguminous plants. You will have to determine by your own experiments which of that group of plants you can grow to the best advantage. A start of burr clover by irrigation in the fall, to be carried by the subsequent rainfall and plowed under in the spring, would seem to be a rational method, if you can accomplish it. If not, some deeper growing legume, like alfalfa or sweet clover, which does not bloom the first year and consequently is not likely to become a nuisance by distributing its seed, might be desirable.

### Catch Crops in the San Joaquin.

To the Editor: We have a tract of good soil planted to barley, and we are anxious to plant beans and potatoes as soon as we can get the barley off. Kindly let me know if we will be able to let it go to grain, or if it would be better to cut for hay, as we are anxious to get a good potato and bean crop. The land is under irrigation. Also inform us as to what variety of potato is best for a large acreage.—Farmer, Merced county.

It would be safer to clear off the barley for hay, in order to get the beans and potatoes started a little earlier. You might allow part of the ground to stand for grain, in order to have some experience upon which you can base another year's proceedings. Many of these questions have to be determined by local experience. The Burbank potato is probably on the whole the safest for a large planting of potatoes to come into maturity late. The pink bean also has the best reputation in the San Joaquin valley.

### Buckwheat.

To the Editor: I want to sow some buckwheat this year, provided you can tell me what time it should be put into the ground. They raise it in Sacramento county, but I don't know when they plant. In Illinois we sowed it the first of July. Should it be on wet land? We have a small tract that is too wet to plow until the middle of April. Would that do for buckwheat?—Farmer, Mendocino County.

You, of course, have to plant buckwheat after all danger of frost is over. The land which you speak of would seem to be well suited for the plant, and could be brought into cultivation at about the right time. As to your growing conditions, you will have to determine by experiment, and it would be wise to try a small area this year, because there is quite a question as to whether you will get a good crop; also whether you will find a satisfactory market, for the local consumption is exceedingly small.

### Speltz.

To the Editor: Please let me know if speltz has been grown to any extent in this State, and if so, with what success. Claims are made that it has been grown with great success in Colorado and has proved a valuable substitute for oats and barley, providing a more abundant yield and proving to be a better feed than either.—Reader, Alameda.

Speltz is a species of triticum—the same genus as wheat. It is harder than wheat and is therefore grown in the north of Europe—above the wheat belt, and presumably will also be preferred in the same regions of this continent. The reason that it is better than wheat for stock feeding is because it has adherent chaff, just as have barley and oats, and is not smooth like wheat. This renders it more digestible and better for feeding than wheat. How the yield will compare in any place depends upon conditions, and must be found out by trying it.



## The Botanist.

### NOMENCLATURE OF THE WILD SAGES.

Written for the PACIFIC RURAL PRESS by DR. H. M. HALL,  
Assistant Botanist of the University Experiment Station.

Among our most important native bee plants are the flowering shrubs commonly known as wild sage. Since there has been considerable inquiry from bee men regarding the botanical names of these plants, I have thought it well to make a brief explanation of the causes leading to the present confusion in their classification and a statement of the practice to be followed by the botanists of the State Experiment Station.

All of our shrubby sages are described in the older floras as species of *Audibertia*. Professor E. L. Greene, while pursuing botanical studies in California, came to the conclusion that, with two exceptions, they were not generically distinct from the true sages, or *Salvia*, a large genus made up mostly of Mexican and Old World perennials. He therefore transferred the various species to *Salvia*, but in so doing it was necessary to give most of them new specific names as well, since the ones they had borne under *Audibertia* were already in use under *Salvia* for other plants. An illustration may make the reason for this clear: Our black sage was originally called *Audibertia stachyoides*, but when in 1892 it was transferred to *Salvia* its name became *Salvia mellifera*, in order to avoid confusion with *Salvia stachyoides*, a Mexican species which has borne this name since 1817. The rule of priority in botanical nomenclature provides that a name once properly given to a species cannot be applied to a later species.

But the common species known as white sage, together with a less common one, was not placed in *Salvia* by Professor Greene. These were considered sufficiently distinct to be grouped by themselves, and the name *Ramona* was proposed for them. The old name of *Audibertia* was thus relegated to synonymy and there are good reasons for discontinuing its use. Delving back into the history of the name we find that it was first applied (1829) to a genus of mints by the noted English botanist, George Bentham, in honor of his friend Audibert. Two years later, Bentham came to the conclusion that his mints were not separable from the older genus *Mentha*, and fearing that Audibert's name would thus pass out of botanical literature he then applied it to what he considered to be a "good" genus, namely, the West American sages. But some botanists still hold that his first genus was really distinct from *Mentha*, and if they are correct then that genus will have prior right to the name *Audibertia*, so that it could not be used for our sages. At any rate, it would seem ill-advised to retain a name of so doubtful standing. Fortunately there are other than these purely technical reasons for making the change, as will be shown beyond.

The next authority, after Greene, to study these plants was Dr. Briquet, of Geneva, Switzerland. He likewise suppressed *Audibertia*, but did not consent to placing any of the species in *Salvia*. All of the California perennial sages were therefore placed in *Ramona*, where they retained the specific names they had originally borne under *Audibertia*.

Because of the economic importance of our sages, the botanists of the University of California undertook, several years ago, a study of these plants in order to at once settle upon their proper names and, what is of more importance, to determine their relationships, especially to the Mexican *Salvias*. The positive conclusion has been reached that all of them should be merged into *Salvia*. This disposition of them simplifies their classification and avoids the pitfalls of botanical nomenclature. And when one compares our California sages with the Mexican and Old World species of *Salvia*, it seems strange that they should ever have been placed in separate genera. In habit and in general appearance they are much alike. The character used to distinguish them has been the development of the connective between the anther-cells. But by selecting the proper species, it can be shown that this connective varies from a large spoon-shaped affair longer than the filament itself, through intermediate

sizes down to a mere peg, or it may even be quite obsolete. There being no other differences of botanical importance, it is evident that the California sages and the true *Salvias* have been derived from a common stock, and have not become sufficiently distinct to be considered as separate genera. They are also well connected geographically, both having been developed in what is known as the Mexican Region.

A further indication that the white and black sage may not belong to different genera, as proposed by Professor Greene, may be found in the occurrence of a natural hybrid between these species, for only nearly related forms are able to give hybrid offspring. This supposed hybrid is well known to bee men, but was first described by Dr. Davidson, of Los Angeles. It may be recognized by being intermediate between these two species, containing the characters of both. It usually has the rugose dark-colored leaves of the black sage, or these may be somewhat hoary beneath; the stems are gray or whitish, the flowers intermediate in size and shape, and sometimes grouped into "buttons," or whorls, like those of the black sage, or paniculately scattered, as in the white species. More commonly, however, some of the clusters are button-like, while others show a tendency to break up into short-branched panicles. Positive proof that this form is of hybrid origin has not yet been given, since it has not been produced by artificial crossing, under control, of its supposed parents.

Accepting, then, the name *Salvia* for our wild sages, we find the botanical names of the more important species to be as follows:

White sage: *Salvia apiana* (*Audibertia polystachya*).

Black sage: *Salvia mellifera* (*Audibertia stachyoides*).

Crimson sage: *Salvia spathacea* (*Audibertia grandiflora*).

White-leaved or Purple sage: *Salvia leucophylla* (*Audibertia nivea*).

All of these names under *Salvia* have been published in botanical journals. It is to be noted that the plants under consideration are all members of the Labiatae, or mint family, and are not to be confused with the sagebrush of the Great Basin and desert area, which is a member of the Compositae.

Two annual species of sage occur in California. These are the chia (*Salvia columbariae*) and the thistle-sage (*Salvia carduacea*). Strangely enough, these have always passed as true *Salvias*, although they appear less like the Mexican species than do our perennial sages, which have experienced such difficulty in getting properly settled.

The botanists of the State Experiment Station will be pleased to determine specimens of *Salvia* for anyone who may be in doubt as to the species found growing in his vicinity.

University of California, Berkeley.

## Horticulture.

### SHAPING YOUNG FRUIT TREES.

As many newcomers to the State are desirous of knowing how to handle the young fruit trees which they have recently planted or are planting this winter, we take from the suggestions of a Sonoma county grower, as published in the *Petaluma Poultry Journal*, some suggestions which fairly embody the California methods of shaping orchard trees.

**Pruning and Planting.**—At planting, all torn or lacerated roots should be removed so as to leave only clean-cut surfaces to come in contact with the soil. The trunks should then be cut back as low as sixteen or eighteen inches from the ground, all laterals being removed. This very low heading has been found by long experience in California to be advisable and is now the universal practice among the most successful growers. Of course it makes cultivation somewhat more difficult, but this disadvantage is much more than counterbalanced by the greater ease and cheapness of gathering the fruit, pruning and spraying, and by the protection thus afforded the trunks against sun scald. [It does not make cultivation difficult if the branches are kept in an upward, oblique direction by subsequent pruning.—Ed.]

**At the End of the First Summer's Growth.**—At the end of the first season, of all the branches which have started leave only three to five. Select those which are about equally distant about the trunk, so that as the tree grows the branches will completely occupy all the space and make a symmetrical top. The branches selected should also be disposed at some little distance apart along the trunk, so as to have a more perfect union between the branches and the body and thus lessening the danger of splitting off under the influence of a heavy load of fruit or a violent windstorm. Then framework branches should also be severely shortened in, as will be explained under the heading of each separate tree, and all their laterals removed.

A tree which has a more upright tendency of growth than is desired may be made more upright in form by leaving the terminal bud which is intended to form the leading branch on the outside rather than in the center of the tree. If, on the other hand, it is desired to make the tree grow more spreading, the bud to form the leaders should be left on the opposite or inner side of the branch.

In pruning the annual growth the cut should be made with a sharp knife immediately above a bud, otherwise an ugly, decaying stem will be left which will also provide a means of access for injurious pests.

Pinching or stopping is a method of summer pruning whereby robust shoots are checked at any desired height in their growth by removing their extreme points with a pinch between the finger and thumb, thus retarding for a time their further extension and encouraging the development of lateral shoots and other growth. Disbudding means the removal of superfluous buds, flowers, or shoots in order to divert their sap into others. Pinching and disbudding are the most rational modes of directing the growth of plants, and if rigidly practiced there would be little necessity for the removal of branches at any time, but they should only be practiced by skillful orchardists, as irreparable damage may easily be caused.

The best time for pruning trees is during the winter, while this is also the time when the rancher can do it most conveniently, owing to his being little pressed with other work. To the poultryman especially, the spring is the busy season, and he should attend to this matter before the hatching season arrives.

**After the Second Summer's Growth.**—The second winter the trees should be severely thinned out, in such a manner as to cause the framework branches to spread and form a vase or goblet shaped head, open in the center to the sun and air. After thinning, cut off half of the current season's growth and remove all laterals from the framework branches.

The third winter leave from two to three laterals, properly distributed, on each of the framework branches, but they in turn should be cut back at least one-half. The fourth year's pruning should not be so severe, but the fruit bearing branches should be carefully thinned out and shortened.

To the novice this severe pruning seems suicidal, while his impatience to get results tempts him to disregard it, but years of experience in California and elsewhere have demonstrated its wisdom. A heavy crop may be harvested earlier without it, but the long, spindling branches will bend down under their heavy load of inferior fruit, become sunburned, and even split off in some cases, and you will never be able to make of it a perfect tree. You will have sacrificed the permanent value of the tree to your greedy impatience for an early crop.

1. **Apples** should be headed from 14 to 16 inches from the ground after being set. They are subject to sun-scald and the attacks of the flat-headed borer. The stem should, therefore, be wrapped with paper or burlap until sufficiently protected by the foliage. Or they may be coated with a wash made as follows: Dissolve one-half gallon of soft soap in the same quantity of hot water, adding one-fourth pint of crude carbolic acid. After mixing, add five gallons hot water and enough lime to make the mixture as thick as paint. Leave only three or four branches the first winter to form the head. For the first three years thinning and systematic shortening in of



the main lateral branches should be practiced as explained above. The crab-apple should be treated the same.

2. **Pears** should be headed at 18 inches. Prune the same as the apple. No tree responds so readily to the process, yet how often do we see even a large orchard in which the trees, not having been properly pruned at the start, send up a lot of tall, gaunt, crowded shoots, looking like bean poles. If they ever do have a heavy crop, it will be of inferior fruit and will split off many of the branches unless they are carefully supported. Both the apple and pear produce their fruit upon spurs of the previous year's growth only, these spurs appearing on wood one year or more of age and themselves making only a short growth.

Pruning may be used to control pear blight in the following manner: It is the natural tendency of the pear and apple while young to form fruiting spurs upon the body and larger branches of the tree. These fruiting spurs produce blossoms from year to year, which are in turn as liable to be visited by bees or other insects carrying the destructive spores of the disease as are the blossoms at the ends of the branches. It is evident, therefore that a blossom situated upon the body or larger branches of a tree, becoming infected, would communicate the disease directly to the framework of the tree, with the result that it would be fatally injured; but if these fruiting spurs are all removed from the body and larger branches by pruning, the possibilities of infection in this way are overcome. The available means of gaining entrance to the tree by this parasite is confined to the smaller branches, which if affected can be cut away without severely injuring or disfiguring the tree. [All suckers at the base of the tree should be removed at the point where they emerge from the trunk or the roots.—Ed.]

3. **Cherries** should be headed at 16 inches. They are particularly liable to sunburn, the bark being sensitive. Leave from three to five branches to form the head and select those to remain which are so distributed as to avoid forks, as cherries are apt to split when they grow older. At the end of a year cut these branches back one-half and remove all laterals. At the end of another year leave only two branches to grow from each of these. At the end of another year new growth should be shortened in about one-third and some of the laterals appearing near the point of divergence from the main stems should not be cut off, but only shortened in, as the shade they will furnish is essential to the development of the young tree. In after years, pruning should be confined to the removal of the crowding and interfering branches.

4. **Plums and Prunes.**—The first four years follow the instructions for fruits in general. Thereafter, outside of thinning and cutting out cross limbs, little pruning will be needed. Experience has shown that if shortening-in is practiced from year to year, it will result in the growth of a great quantity of young wood which produces no fruit. The fruit-bearing branches assume a weeping tendency, produce a large number of fruit-bearing spurs, but little new wood. When the trees appear unhealthy and no longer bear good crops, they should be cut back severely, in order to rejuvenate them.

5. **Peaches and Nectarines** require the same general treatment as other fruits, but when topping the trees at 18 inches, instead of removing all the side branches, cut them back to about two inches long, so that in case the buds on the main body do not start in the spring, the small branches will. If the former do start in a satisfactory manner, the latter should be removed. This is an important point, in order to obviate the necessity of growing a new stem in case the buds happen to be blind and fail to start out at the proper height. From three to five branches should be left to form the head, and these should be cut back to 12 inches the following winter. The next year a severe cutting back should again be made, not leaving over two feet of the season's growth. Thin out the numerous small laterals, allowing only a few to remain, and remove any which are close to the point where the framework branches have been topped. If these laterals are all allowed to remain, the new growth in the spring will force its way through them, instead of forcing buds

out where they should be, making an ugly crook in the tree. The next year only two or three shoots should be allowed to start from the branches of the year before, and they in turn should have their growth shortened in one-half. The next year the head will be fully formed and a medium crop may be expected. After that do not neglect the pruning and thinning of a peach tree every year, no matter how old. Topping without thinning causes the development of a great amount of barren wood and has a tendency to smother the tree. To obtain large, firm fruit, it will also be necessary to thin out the fruit, where the trees are heavily laden. This should be done when they have set well and before the kernel has hardened.

6. **Almonds** bud and bloom very early, and are thus apt to be nipped by spring frosts. Even when the nuts have grown to be an inch or more in length, a sudden cold wave will sometimes cause an entire crop to drop. They should, therefore, be planted in the highest land you possess, in order the better to escape injury by frosts and in order also to give their roots the best drainage. Prune like the peach for the first three years. Afterward nothing is needed but to remove objectionable branches. The tendency of most varieties is to become too dense, and such trees should be thinned out in the winter.

7. **Walnuts** should be treated quite differently from deciduous trees in general. The stem should not be cut back at all when transplanting, nor should the laterals be removed, except those that start lower than four feet from the ground. The only pruning needed is to give a good shape to the tree, and this is accomplished by causing the branches to have an upward tendency, cutting off those which show an inclination to grow downward. In after years interfering branches should be removed, but the young growth should never be cut back as with the peach. The stem is apt to sunburn and should be protected as described for apples.

## Meteorological.

### PROTECTION OF FRUITS AND VEGETABLES IN CALIFORNIA FROM INJURY BY FROST.

By PROF. A. G. MCADIE, U. S. Weather Bureau, San Francisco, in a circular to call the attention of weather observers to phenomena worthy of study.

The problem of protection from frost may be considered under four sections, as follows:

1. The issuance of adequate frost warnings.
2. Discussion of the physical processes operative in the formation and dissipation of frost.
3. The construction of devices and apparatus based upon the principles enumerated in No. 2.
4. The intelligent use of these devices so that a maximum efficiency may be obtained at the critical hour.

In California frosts are found to occur when a period of strong north winds is followed by clear skies. Frost is essentially a problem of air drainage, and some knowledge of the movement of the air over the ground, or in other words, the local air circulation, is essential for successful frost forecasting. The chief cause of cooling is undoubtedly radiation, and this is controlled to a large extent by the relative purity and stillness of the air. When therefore the lower air strata are quiet and dust free, also vapor free, conditions are favorable for intense radiation; and consequently rapid cooling of both vegetable fibre and soil. All fruit growers should carefully study the weather conditions preceding frost in their localities. The district forecaster at San Francisco and observers at any Weather Bureau station will gladly receive suggestions in the matter of local air drainage and frost formation and will, so far as their time permits, investigate and report upon local features.

Under the second heading, discussion of the physical processes involved in frost formation, we would call attention to the following ways of preventing the fall in temperature:

1. Adding heat.
2. Adding water vapor.

3. Adding both heat and water vapor.
4. Ventilation, or mixing of the air.
5. Irrigation, or use of water.
6. Use of heated water.
7. Use of screens or covers, preventing loss of heat by radiation.
8. Spraying.

All of the above processes can be found explained in detail in publications of the Weather Bureau. The action of water in any of its forms; whether solid, as ice or frost; fluid, as water; or gaseous, as water vapor, is protective. Large amounts of heat are given off in the change from vapor to liquid and from liquid to solid. Theoretically it is possible by the application of sufficient water to prevent injury by frost. As the plant cools, owing to radiation, and an indraft of cold air, the vapor present condenses, giving free a large quantity of heat, something like 600 calories; and if the water turns to frost, more heat is set free, about 80 calories. If, for example, in an ordinary rain gage enough frost has formed to weigh, when melted, about an ounce, then the latent heat of condensation is approximately 908 times 680, or 617,440 calories, enough to raise the temperature at freezing 4° over a space of 10 square feet and to a considerable height.

Note also that the water plays an important part when the sun rises and the warming of the vegetable fibre begins. Here the water retards the heating, and is thus very beneficial. Chilled plants sprayed with cold water about sunrise are less liable to injury. The latent heat of evaporation and fusion now comes into action in an opposite direction, the heat being utilized in changing the frost into water or the water into vapor. This, in the writer's opinion, is the critical period, and he believes that more injury results from the too rapid warming of plant fibre after it has been chilled than from the chilling itself. He has known of cases where delicate flowers have been incased in ice and yet no injury resulted, largely because the thawing out was gradual. In examining many orchards it has been ascertained that the portion exposed to the sun's heat in the morning is, other things being equal, the portion of greatest injury. Up to the present time the chief effort in frost protection has been to prevent loss of heat by radiation from the ground; and protective methods have been rightly based upon the possible saving and storage of heat. But it may be none the less profitable to study the problem from a later stage, namely, the period of the chilled fibre. While it is not definitely known what action during frost causes the death of the cell tissues, whether it be a rupture of cell walls or a separation and withdrawal of water content, it would seem that we could not err in guarding the plant fibre from any strain due to rapid and unequal heating when in a chilled condition. Beginning before sunrise, some screen or covering should be interposed between the fruit and the sun's rays. For the reasons given above it is also advisable to apply water. It may interest fruit growers to point out to them that the actual temperature of the air is probably of less importance in frost formation than the cooling of the plant surface due to radiation. Nearly all fruit growers now understand that after sunset, if there be no clouds present and but little motion of the air (though it is well to test this by watching the flow of smoke near the ground) the plant surface emits heat rapidly into space. The under surface of the foliage of course intercepts heat from the ground, and so we seldom find frost forming under a tree. The convective currents of the air are generally sluggish and there is as a rule little mixing of the air strata, or no thorough circulation at such times. Helmholtz has shown that layers of air of different temperatures may lie close to one another without mixing, and indeed this is known to be the case not only near the ground but even in free air. Doubtless herein lies the explanation of the streakiness of frost. We have examined orchards which were apparently level; and let upon close inspection it was found that although there was no noticeable slope of the ground, there were certain channels of air motion and certain stagnant zones. The frost streaks were found to coincide with the stagnant areas. Much, however, depends upon the nature of the radiating surface.

The farming or the chilling of the ground has not much effect upon the air at a distance of 10



**DANGEROUS**  
as well as painful

Backache    Neuralgia  
Lumbago    Rheumatism  
Stiff Joints    Sprains

**Gombault's Caustic Balsam**  
WILL RELIEVE YOU.

It is penetrating, soothing and healing and for all Sores or Wounds, Felons, Exterior Cancers, Burns, Boils, Carbuncles and all Swellings where an outward application is required CAUSTIC BALSAM HAS NO EQUAL. Removes the soreness—strengthens the muscles. Price \$1.50 per bottle. Sold by druggists or sent by us express prepaid. Write for Booklet L.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

## The Poultry Yard.

### Hints for Beginners.

Mrs. Ella L. Layson has a talk with beginners in the Petaluma Poultry Journal which is suggestive.

Anyone without previous experience intending to go into the poultry business should begin as he would with any other business, by preparing himself for it. We are told that enthusiasm tends largely to success, and in order to be enthusiastic one must have faith in the work he is engaged in, but how can one have faith in anything he knows nothing about? Faith not based on facts may prove a delusion; therefore the importance of beginning in a small way in order to learn the details of the work and gain confidence to proceed upon a larger scale. Permanent success is a matter of development and is not attained in a day, and when one learns of the great things being done by some poultrymen the fact should never be lost sight of that such success does not come easily or quickly.

The story of all successful poultry raisers is one of patient effort, hard work and many losses, but they have been learning right along, and this knowledge gained from experience has been the means of their success. One instance is related by a reliable writer, giving the name and place, of a man who started with less than a dozen hens and built up a business that nets him an average income of \$132 a month, and during these seven years he has bought more land and built a number of up-to-date buildings, one of them costing \$1000, and all paid for by the hens. This year he hatched 2000 chickens with incubators, using both indoor and outdoor brooders. He feeds the chicks mixed grain chickfood and then the mixture known as "growing food." The layers are fed mixed grain from hoppers and have free access to beef scraps. Toward night they are fed a mixture of steamed cut alfalfa, middlings, cornmeal, wheat bran, linseed meal, and gluten meal.

There is nothing unusual about his method, but everything has been built up from ideas gained from actual experience. He thus learned the breeds best adapted to his purpose, the best way of building his laying and brooder houses, and how to feed for given results. It is all a matter of intelligent, systematic effort.

The practical difference between the various breeds lies in their hardiness, tendency to convert food into eggs or flesh, the time required to reach maturity, suitability of the chicks for broilers, eating quality of adult fowls, color of eggs and inclination to broodiness. Also the habits of the fowls should be considered, some being adapted to close

quarters, while the nervous, active breeds will not thrive if kept too closely confined. Therefore it is a mistake to class all chickens together and start with a breed that one has happened to take a fancy to that may not be at all adapted to the purpose of the owner.

With a large flock it is better to specialize—to give one's attention to market eggs alone or broiler raising. But with a limited number it is more profitable to have as many sources of income as possible, as there would not be enough of any one thing to make the business pay. So one should try to have market eggs, fancy table eggs, a few early broilers and well-conditioned cockerels to sell; also fat hens.

There are a large number of valuable breeds, all of them more or less profitable to the fancier and small poultry raiser, but the best for the strictly utility purposes may be found among the Plymouth Rocks, Wyandottes, Rhode Island Reds, Leghorns, Minorcas, and Houdans. These breeds include many varieties representing all colors and markings, so that while looking for a practical fowl they may also choose one to please the eye. Now for the egg business one should select a breed whose sole purpose in life is to lay eggs. Herein lies the great value of the Leghorns, Minorcas and Houdans. But little time will be lost by the hens becoming broody, and the pullets, especially the Leghorns, start laying very early. The Minorcas being heavier, are worth more than the Leghorns in the market; a good-sized two-year-old hen sells for almost as much as a Plymouth Rock. The chicks are harder to raise at first, but as they become older they are very hardy. Houdans will fill every requirement as layers and are also most excellent table fowls.

Where a general purpose fowl is wanted—one that is a good layer, a good mother, hardy and desirable for market poultry at all stages of growth—there are none better than the Plymouth Rocks, Wyandottes, or Rhode Island Reds. With either of the three breeds one can engage in all the branches of the business. That is why they are termed the general purpose fowl. The pullets are fine layers and the output of eggs may be regulated by the time of hatching. The hens are also fine winter layers. The cockerels make plump broilers at a very early age. When older they make fine roasters, while the flesh of the hens is fine grained and of good flavor. Also for breeding purposes they are in great demand. All of the above breeds are well adapted to the climate of California.

But, whatever the kind of fowl chosen, let them be pure bred, for they are the best, even for the most practical work. Now a statement made without some knowledge of the facts is worthless. Therefore will say that we have raised several varieties of pure bred fowls, namely, White and Silver Laced Wyandottes; Barred, White, and Buff Plymouth Rocks; White, Brown, and Buff Leghorns, and Black Minorcas. Also have had some experience with Houdans and Light Brahmas. We have also raised mongrels, the origin of which would have puzzled an expert, and in comparing results obtained found that the pure bred fowl was decided the most satisfactory and profitable.

# BEEF SCRAPS

Guaranteed 65 per cent Protein

# RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

## West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide, and Disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool, but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25% Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils which run about one-half the strength of imported oil. Permission was given by the U. S. Department of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For Sale by many Dealers. If yours does not keep it, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

### More About Burnet or Potentilla.

To the Editor: I enclose a letter from Mr. John McNeely on burnet, from which you may get some extracts. Mr. McNeely has had hard luck with his plants, as his chickens scratched them all up once. His idea that it spreads from the roots is incorrect, though it stools out so a person is liable to get that impression.

H. OVERACKER, Jr.

St. Helena.

### MR. M'NEELY'S EXPERIENCE.

I planted burnet seed out in the woods in different places, so as to give it room to spread and seed my pasture; but something must have liked it, for when I went to look for it a month after, it was pulled out by the roots, and that effort was a failure.

I got some more last winter from the State University, and got another start. It will grow better than alfalfa in cold weather. I planted it in a line, but the line is now six inches wide. I conclude from that it spreads out from the roots, and

would cover the ground from the roots without seeding, after it got a start. I am going to take care of it and watch it further. I think that it would make a good winter pasture if the stock are kept off when the ground is too wet, so as not to tramp it down. This is all I can say about it now, but will watch it, for I am always on the lookout for a grass that will do better than our native grasses.

JOHN MCNEELY.

Redding.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges

Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00


WRIGHT BROTHERS,  
Riverside, Cal.

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 60 pages 5 by 7 inches. Cloth.....\$0.50



### Free Veterinary Book

Be your own horse doctor. Book enables you to cure all the common ailments, curb, splint, spavin, lameness, etc. Prepared by the makers of



## Tuttle's Elixir

The world's greatest horse remedy. \$100 reward for failure to cure above diseases where cure is possible. Write for the book. Postage 2c.

**TUTTLE'S ELIXIR CO.,** 33 Beverly St., Boston, Mass.  
Los Angeles, W. A. Shaw, Mgr., 1921 New England Ave.  
*Beware of all blisters; only temporary relief, if any.*

**Colfin Redington Co.,** 625 Third St., San Francisco, Cal.

## Textile Plants.

### Esparto Grass Growing.

We have previously noted the fact that this plant had been successfully grown at the University of California for more than twenty years. Mr. Courtenay De Kalb, of 121 East avenue, 49, Los Angeles, Cal., sends us a letter which he has just received from the Department of Agriculture at Washington, as follows:

Esparto grass (*Stipa tenacissima*) is native in the Mediterranean region of northern Africa, and also in southern Spain and Portugal. Most of the esparto of commerce is produced in Algeria, Tunis, Tripoli, and Spain. It is not imported into this country in sufficient quantities to be listed separately in the statistics of imports. Most of the esparto, or halfa, as it is also known, is used in Great Britain and in France. The imports into the United Kingdom for the past three years are as follows:

	Tons.
1905.....	191,114
1906.....	118,192
1907.....	202,523

I do not have the statistics of the importations into France or other countries. The prices in December, 1907, were about 7s. to 10s. per ton higher than during the previous January. The quotations as given by Ide and Christie, the principal dealers in London, for January 15, 1908, are as follows:

Spanish.....	£4 7s. 6d. to £5 2s. 6d.
Oran (Algeria).....	£3 5s. 0d. to £3 15s. 0d.
Bona & Philippville (Algeria).....	£3 5s. 0d. to £3 15s. 0d.
Sfax & Gabes (Tunis).....	£3 12s. 6d. to £3 15s. 0d.
Tripoli.....	£3 5s. 0d. to £3 15s. 0d.

In 1868 an effort was made to introduce the cultivation of esparto into this country. Seed was distributed in the Southern States, but nothing practical was accomplished. It was stated that the results of those experiments indicated that the plant could probably be grown in many localities in the United States, but it was very doubtful whether the industry could be carried on with profit.

The plant grows best on limestone soils, or on soils composed of shale. It does not thrive in clay, marsh lands, or in coarse gravelly soils. It requires a decidedly hot and rather dry climate. The best esparto is produced near the seacoast or within the influence of the salt sea winds. The plant also requires for its best development the bright sunlight. It does not thrive well under the fogs of the San Francisco region.

The plant is propagated by seeds and by transplanting old plants. The development of new growths is also encouraged by burning over old tracts. The roots which are transplanted in autumn are divided into small pieces and set out in rows about two feet apart and about eight inches apart in the row. Plants growing from roots are productive in from six to eight years, while from the seeds they do not produce a crop until ten or twelve years after sowing.

The leaves are harvested by hand. The blade at maturity separates readily from the sheath. The highest grades of esparto are obtained by picking the leaves separately by hand and sorting them as they are picked. The more

common method, however, is to use a stick about 15 inches long, around which a handful of the leaves are twisted, and these are all drawn off together, using both hands to pull them. A native will gather from 150 to 200 kg. of leaves per day. These are sorted and baled by means of large hand presses or, in some instances, steam presses, in preparing them for shipment.

I have no definite information regarding the yield per acre. The material seems to be collected largely from wild plants that are not regularly cultivated.

Esparto has been cultivated in the Botanical Garden at the University of California, Berkeley, for several years, and it is possible that some experiments in the production of the leaves have been made by the Experiment Station there.

LYSTER H. DEWEY.  
Botanist in Charge of Fiber Plants.

[Nothing has been done with the leaves at Berkeley. The seeds and plants have been distributed to some extent. Mr. De Kalb writes that seed is now being planted in the Imperial and Coachella Valleys in southern California for experimental purposes.—Ed.]

## Fertilizers and Fertilization

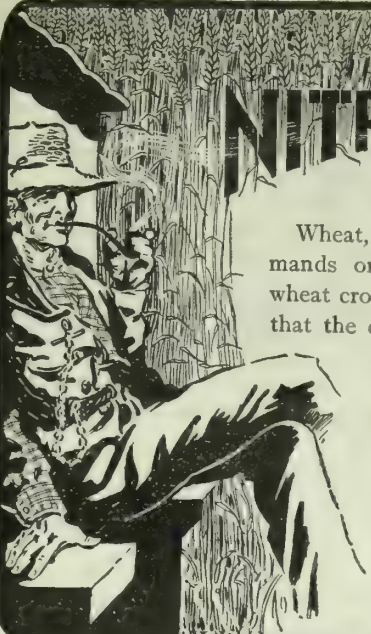
### Nitrate Supplies Assured.

One of the greatest problems which has in late years occupied the attention of scientists has been solved by the discovery of new deposits of nitrate of soda. "How can the exhausted fields and farms of the world be replenished with the nitrogen which alone can produce food for the race?" was the question. The finding of the new deposits in Chile, covering a vast area, is the answer.

Nitrate of soda is not as visibly connected with the welfare of the race as sunshine, but it is almost as important an element in the development of the individual and the perpetuation of the race. Some scientists have gone so far as to compare the effects of the exhaustion of the nitrate beds with those which would follow upon the withdrawal of the sun from the earth. "No sunshine, no growth," says science. "Without nitrate of soda to fertilize the world's exhausted fields and farms, there will be a long series of constantly diminishing crops and a consequently dwindling, degenerating, starving, and dying-out population," says agricultural chemistry.

Some specialists have said that the Chilean beds, as heretofore known, would be exhausted in 50 years, and that the era of decreasing crops would then begin, with terrible consequences to the race. As a matter of fact, new nitrate of soda deposits have been discovered continuously for many years, so that there has actually never been a time when the American farmer's supply of nitrate was in danger of failing. The new discoveries, however, place the certainty and immensity of his supply beyond all question. He can now secure unlimited quantities of this most effective and most easily applied of all fertilizers at a more advantageous price than ever before. In fact, overproduction is in sight unless new uses are found for nitrate.

The Chilean Government, for purposes of revenue, took charge of the vast nitrate deposits soon after their discovery. It has ever since not only controlled the known nitrate beds, but has systematically searched for others. Deposits of nitrate, of varying size, were constantly being discovered, and now comes the discoveries of nitrate of soda beds which will last not only hundreds of years, but longer. Two immense areas have only recently been



## NITRATE OF SODA

Relieves You of Worry  
It Makes Big Crops Certain

Wheat, Rye or Barley make large demands on the Nitrogen in the soil. A wheat crop is often so starved for nitrogen that the effect of the application of a little Nitrate of Soda may be seen in the color of the crop in twenty-four hours.

**WE SEND FREE**

A few copies of "Food for Plants," a 240-page book, are left for distribution. "Grass Growing for Profit," another valuable book, also sent you. Send name and complete address on post card.

**WILLIAM S. MYERS, Director**  
John Street and 71 Nassau, New York

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street  
San Francisco

## FERTILIZE WITH Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**  
50 Clay Street, San Francisco, Cal.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

### FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum.

discovered. Together they contain more than one billion tons of nitrate of soda. It would seem that Nature had placed the deposits in Chile for the use of farmers all over the world at just the time the needs of a growing world-population would require it to renew their acreage and grow larger and better crops. From the best information obtainable the nitrate mines are good for 200 or 300 years, even at double the present rate of production, which is about 2,000,000 tons per year.

THE poultry and egg crop of this State for the year 1907 approximates \$12,430,000. The poultry and egg industry of Sonoma county alone — Petaluma being the shipping center — for 1906 shows an output of 4,334,321 dozen eggs and sale of 39,938 fowls and chickens. This means a value of nearly \$1,225,000 for this crop.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**  
Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED  
Address  
Fancher Creek Nurseries, Fresno, California.

## Blake, Moffitt & Towne

Dealers in PAPER  
1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

**Only One "BROMO QUININE"**  
That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c



## The Home Circle.

### Reading the Paper.

Ma reads the "Woman's Column" an' about the "Women's Clubs," An' sister reads the "Beauty Hints" an' of the social dubs. I read the "funny paper" an' the latest in baseball, An' brother reads the sportin' page—the races, fights an' all. But pa skips all o' that, you bet, an' puts in his best licks A-readin' what the paper has to say on politics!

Ma reads the advertisements, an' she goes out "bargain days," An' comes home tired out, but, jest the same, she sez it pays; An' sis looks in the paper fer the headin' "Theatres"—

They's other things she reads, but that's a favorite o' hers.

Sometimes I read the "fight by rounds" when there has been a mix, But pa don't read a blessed thing at all but politics!

An' uncle reads about the crops an' what the prospect is

Fer gittin' bumper harvests, fer he's in the farmin' biz.

An' auntie sez the "Home and Health" department takes her eye,

'Cuz there she gits the new receipts for makin' cakes an' pie.

An' Cousin Henry reads the "Poultry News"—he's raisin' chicks—

But pa don't care a durn for anything but politics!

An' gran'pa reads the story that's "continued in our next,"

An' gran'ma reads the sermons, an' remembers ev'ry text.

She hunts the "daily puzzle" up, an' sits there half the night

A-figurin' the answer, an' she allus gits it right.

We have to give the papers up to pa from five to six

'Cuz he comes home to supper then an' jest reads politics!

The column called "House Beautiful" ma sez she most enjoys;

The "Juvenile Department" is the bully thing fer boys,

An' then there's the "Art News"—sister's interested there,

But fer the "Fashion Notes" they print ma doesn't seem to care.

An' as fer pa, he wishes that the editors would fix

Things in the paper so they'd print a lot more politics!

—E. A. Brininstool.

### The Mortgaged Heart.

The Bachelor nodded over his pipe. He had his feet on the table and he threw his matches on the floor. His coat was slung over the back of a chair, and there was some tobacco spilled over the mantel.

It was about the end of the year, and thoughts of the new one unconsciously crept into the Bachelor's mind as he dozed. At last his pipe flopped out of his mouth to the floor—where, by the way, it burned a hole in the carpet—and the Bachelor was asleep.

There was a knock at the door—a firm, determined knock. Before the Bachelor could reach it, the door was opened from the outside and in strode—a woman.

"I'm a very busy woman," said the visitor. "I'm on my way to address a meeting of the Woman's Suffrage and Presidential League, so don't delay me."

The Bachelor was too amazed to speak.

"Will you marry me?" asked the visitor.

The Bachelor turned pale.

"It's leap year, you know."

The Bachelor shivered.

"It would be an excellent arrangement. I need a home and you need someone to look after you."

The Bachelor trembled like a leaf.

"You see the mutual advantages. Now let me have your answer; I've just got five minutes."

"I don't—er—think I can," stammered the Bachelor.

"You don't think you can! How unbusinesslike. Is there anyone else?" asked the visitor.

"Er—er—no."

"Well, then, of course you can. That's settled now; isn't it?"

"Er—at—er—y—yes," fell from the Bachelor's lips.

"Good-by then—dear." And the door slammed after the visitor.

"Engaged!" wailed the Bachelor.

"And to someone who'll 'look after me.'"

"A special delivery letter."

The Bachelor opened it and glanced languidly at the page.

"Dear Jack," read the letter, "some of us girls have a Leap Year Club, and each of us has to marry someone we proposed to ourselves. I propose to you—however it's done—do I ask for your hand and heart, or how? Anyway, I have to get some man to say yes and you're the only one I know well enough to ask, so be a dear and say yes. Ethel."

"P. S.—I'll take no excuse. E."

The Bachelor groaned. Ethel was his cousin, and he never could refuse her anything. But he was engaged already.

No matter, he couldn't disappoint Ethel. So he wrote out a telegram: "Yes."

The Bachelor went out and sent his telegram. At the door of the office he met Mrs. Jubb. Mrs. Jubb was a widow. The Bachelor for some reason or other felt rather faint.

"Julius," said Mrs. Jubb, "was an angelic character. Never complained about anything. I shall always think of him. But at the same time I feel that I need someone around the house—will you marry me?"

The Bachelor felt fainter than ever.

"Er—er—er," he stammered.

"Oh, you've made me so happy," said Mrs. Jubb. "We'll be married on the anniversary of my marriage to dear Julius."

The Bachelor's knees knocked together as he walked homeward, so that he almost ran into Elsie Pett. Elsie was a—a peach. The Bachelor had a sort of sneaking admiration, almost affection, for Elsie, and his heart fell as she came up, blushing in a perfectly distracting way.

"Let us join hands and wander down life's pathway together," she began.

The Bachelor started. "Dippy," he thought to himself.

"Let us sail together over life's silver sea, heart singing to heart," continued Elsie.

The Bachelor said nothing, but stared.

"Will—will you?" demanded the girl.

"Bounding buffaloes!" exclaimed the Bachelor, "it's another proposal. Elsie," he said, "I can't, for a fact; I'm engaged to three or four already."

Elsie began to cry.

There's nothing to it after that begins.

"Yes, yes," hastily said the Bachelor. "Sure we'll sail over life's roaring billows hand in hand."

The Bachelor awoke with a shudder. "Thank heaven, only a dream," he said cheerfully to himself. He's

gone abroad now, exploring in Tibet, where his work will take about a year, he says. But, between ourselves, I think he writes to Elsie Pett.

### Animal Sagacity.

The nature students—everybody is a nature student nowadays—were trying to outdo one another.

"Eagles when the sun is overhot shade their young with outspread wings," said the first. "On August afternoons I have seen a mother eagle stand patiently two full hours, her left wing spread like an umbrella while in its cool shade her nestlings slept."

"Squirrels," said the second, "can tell whether a nut is good or bad without opening it. A chestnut, a walnut, a shellbark, they lift it in their little paws, hold it to their faces a moment, then if it is bad cast it aside. How do they tell? By the weight, by the sound? I incline to think they do it by the smell."

"Ostriches never set," said the third. "They lay their eggs on the pale Saharan sands, and the sun does the rest. But before the ostriches depart from their eggs they place on the top of each a pinch of sand, for they know that the germ will mount to the top and that the sun's heat would kill the germ were it not protected."

"A trained elephant," said the fourth student, "danced very badly at a matinee performance and was accordingly beaten cruelly by its master. That night, hearing a shuffling noise outside, the master crept forth, and there in the moonlight he found the elephant carefully practicing its dance steps."

### Laughs and Laughter.

Speaking of laughs, the most heart-rending laugh is the laugh of the summer girl that shook you, and is gadding around with some other fellow.

The most demoralizing laugh, to the married man, is the laugh of the family doctor when he comes up and slaps the married man on the back and shouts, "It's twins, old man!"

The most grotesque laugh is that of the fat woman, at a picnic, when she's got a pickle in her mouth.

The hollowest laugh is the laugh a man laughs when he sees the necktie his wife has bought him.

The cutest, sweetest little laugh is the laugh of your best girl. It generally costs a couple of theater tickets and a dollar or two hack hire, though.

The most dangerous laugh is the laugh of a man when he's getting shaved at the barber shop.

The most untimely laugh is that of the boy who is making off in the darkness with the doped watermelon.

The most hilarious laugh is the laugh of the fellow who scoops in the stakes on a jack-high bluff.

One of the most comical laughs is that of a person who's got the hives, where the mouth sticks way out to one side and the nose acts as though it was mad about it.

The most enjoyable laugh is the laugh that's on someone else.—Dietetic and Hyg. Gazette.

About the most miserable being in the world is the man who is afraid his fellows will learn that he cannot be trusted.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, and accredited by the University of California, Leland Stanford, Junior, University, and by Eastern colleges.

Special attention is given to lessons in singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

### Gleanings.

Eighty miles an hour is the speed of a hurricane's movement.

A rat recently caught at Gates-head-on-Tyne measured 18½ inches.

It is computed that the English language is spoken by 650,000,000.

Only three per cent of the world's population gains its living directly from the sea.

Some of the larger boats of the Atlantic service carry as many as 150 firemen.

The poor children of Exeter, England, are provided with breakfast at school, at a cost of a farthing.

A \$5,000,000 fence was recently erected in Australia to keep the rabbits out of the agricultural district.

Taking into consideration the proportionate weight, the wing of a bird is twenty times stronger than the arm of a man.

Not only are the residents of Klugenberk, Germany, untaxed, but they receive a yearly dividend from the municipal works.

The English potato crop of 1907 is estimated at 2,977,910 tons, which is a serious decline as compared with the previous year.

On the eastern coast of Africa there is a body of cavalry mounted on oxen. The beasts are lean creatures and move with surprising agility.

Despite the closest scrutiny of their movements, the Kaffirs of the Kimberly diamond fields steal nearly a million dollars' worth of stones in the course of a year.

A restoration of the skull of a great horned dinosaur has just been installed for exhibition in Peabody Museum, Yale University. It is nearly nine feet long and about six feet broad, and is said to be the largest skull of any prehistoric land animal.

### Pencils Still Plentiful.

Where do all the lead pencils come from—320,000,000 of them a year? Mostly from red cedar, which is almost indispensable for the purpose, since no substitute for it has yet been found possessing the necessary qualities. Pencil cedar is the only wood which is sold by the pound, and it is getting scarcer, while the demand for pencils increases rapidly. A fortune awaits the man who shall hit upon a satisfactory substitute.



## Course in Telegraphy

### Good Positions

Tuition back after one year's service. Main S. P. wire in schoolroom. Write for particulars.

### PACIFIC COAST BUSINESS COLLEGE

San Jose, Cal.

### What She Brought Back.

"Oh, yes, I got consid'able out o' my trip," said Miss Pettingill, with tempered enthusiasm. The Pettingill farm is delightful in summer. Miss Hannah had finally accepted one of those urgent invitations—usually arriving as spring appeared—to spend a few days in town with some of those cousins—of greater or less "distance"—who frequently dropped in and spent a few weeks with her in summer time.

"Certainly the stores are big, but I can do pretty well in the village, and I never did fancy trapesing round in trolley cars. There's the sights, to be sure, but I was never much of a hand to go sightseeing. But I guess I got plenty while I was up to New York to keep me moralizing the rest of my days!"

"F'r instance, there's the differ'nce between city folks 'n' country folks—or, say, the differ'nce between city folks, in the city an' city folks when they're in the country.

"Now in the country they don't appear to be shy at ham 'n' eggs for breakfast, preceded by a smart help o' hominy or oatmeal with plenty o' cream; an' most of 'em can piece in a few pancakes 'n' empty the maple surrup onto 'em with the best of us. Of course two or three cups o' coffee go with the rest, an' some slices o' home made bread; an' I've seen them that could do off with doughnuts or a piece of apple pie.

"Aut when city folks are under their own vine 'n' fig tree—to speak figgeratively—they put on a nice, generous-looking tablecloth, with a fine showing of silver. Then they plant a coffee pot on the table an' set on a plate o' half grown bakery rolls. Fin'ly they fetch in a dish of breakfast food; an' then somebody says—quite like she thought she was saying somethin' interesting—'Breakfast is ready!'" — Youth's Companion.

### Mere Caution.

A dentist in Rochester was visited by a native of Dutchess county to be treated for an ulcerated tooth, says the Philadelphia Record.

"That's a bad tooth," said the man of the forceps, "and I should advise you to spare yourself pain by taking gas. It will be only 50c. more." And the dentist showed his machine to the doubtful person from Dutchess county, explaining its workings—how he would fall asleep for a minute or two and then awake with the tooth and the pain gone. At last the patient consented and took out his wallet.

"Never mind paying now," said the dentist, patronizingly.

"I wasn't thinking of paying," responded the Dutchess county person. "But I thought that if I was going to sleep I'd like to count my money first."

### Changes of the Weather.

The sun is the prime cause of every change of weather. The sun determines whether the earth shall be hot or cold, just as our hands turn on or off the register. Absence of sun's rays makes the North Pole a continent of ice; plenty of sun's rays make the Equator a furnace. The sun's rays, by heating one land more than another, cause winds, hurri-

canes and cyclones. The heat in the sun is so terrible that our iron ores, also gold, silver, copper and diamonds exist as gases there. The rays of this heat travel at the rate of 11,000,000 miles a minute, and reach us in eight minutes. Such speed is inconceivable. The swift-est cannon ball is motionless compared with such rapidity of motion. There are storms on the sun compared with which our Galveston hurricanes and Mont Pelee eruptions are like the breathing of an infant.

### Soups.

**MOCK BISQUE.**—Scald one quart of milk containing a slice of onion, remove the onion, and thicken with four tablespoons of flour, stirring carefully at first to prevent it from getting lumpy. Stew half a can of tomatoes with two teaspoons of sugar for 15 minutes, then add one-fourth teaspoon soda and rub through a sieve. Combine the two mixtures and strain into a tureen over salt, pepper and a small piece of butter. Serve with crackers.

**BEAN SOUP.**—Parboil one pint of white beans with a pinch of soda, drain off the water, add fresh and boil until done. Watch them carefully or they will stick onto the kettle and scorch. Rub them through a puree strainer or colander, to remove the hulls, season with salt, pepper, and butter, and thin to the proper consistency with milk. Let boil up and serve.

**BAKED BEAN SOUP.**—This is an excellent way to use up cold baked beans after the family have tired of them in the ordinary way. Add twice the quantity of cold water to the beans and let them boil gently until soft. When they are nearly done, add half as much canned tomatoes as beans. Rub them through a strainer, season with salt, pepper and a little dry mustard stirred into the salt.

**CHICKEN SOUP.**—Always save the bones, shreds of meat and the gravy from stewed chicken for the soup kettle. If the fowl is baked, add the bits of dressing for seasoning. Crack the large bones, pour over a sufficient quantity of cold water and place it on the back of the range where it can simmer gently for three or four hours. Season with salt, pepper, sage, and butter. Just before serving, remove the bones, strain, add a pint of rich milk and a very little thickening. Turkey soup made in this manner is delicious.

**MEATLESS VEGETABLE SOUP.**—Chop three carrots, three turnips, and three onions fine and simmer 30 minutes in three quarts of boiling water. Then add a pint of stewed tomatoes, a small cabbage chopped fine and a bunch of herbs. Boil the soup 20 minutes, strain and add pepper and salt to taste, one teaspoon of sugar, one half cup of sweet cream and one tablespoon of flour stirred into two tablespoons of water. Allow it to boil up and serve. A dash of cayenne pepper improves the flavor.

**SALMON SOUP.**—Heat one quart of milk in a double boiler with a slice of onion and thicken with a tablespoon of flour creamed into one of butter. Add a teaspoon of salt, a speck of cayenne and half a can of salmon which has been chopped very fine. Serve when thoroughly hot.

**POTATO SOUP.**—Pare four good sized potatoes and boil with a minced onion. When the vegetables are all cooked to pieces, strain them, season with salt and pepper and thin with milk. Add a lump of butter, boil and serve.

**CREAM OF CELERY SOUP.**—Boil a large head of celery in a pint of water 35 minutes. Scald a pint of milk with a slice of onion, thicken with a tablespoon of flour and cook 10 minutes. Mash the celery in the water in which it was boiled, stir in the boiling milk and season with salt, pepper, and butter. The flavor is greatly improved by adding a cupful of whipped cream just before serving. A pint of oysters is also a great addition.

### RESISTANT CUTTINGS.

About 8000 well rooted Rupestris St. George cuttings. For price apply to P. O. Box 58, Auburn, Cal.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address **W. A. Stewart,** Rio Vista, Cal.

## WALNUT TREES

Grown from carefully selected seed  
Postal for prices.

**A. A. MILLS,** Anaheim, Cal.

## \$5 A THOUSAND

### RESISTANT GRAPE CUTTINGS FROM IMPORTED STOCK.

VARIETIES—3306, 3309, 1202

**A. W. LUTHER** Healdsburg, Cal.

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

**A. F. SCHEIDECKER,** Sebastopol, Cal.  
Proprietor Pleasant View Nursery.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery  
Spring of 1908.

**SOUTHLAND NURSERIES.**  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.

## The Crocker Bartlett Pear

DOES NOT BLIGHT

If proven different, purchase price of trees bought from us in 1907 will be refunded. Fruit highly recommended by Luther Burbank. Sample of pears sent on receipt of 25 cents. See U. S. Year Book of 1905.

**Peach Trees, 15c**—all leading varieties.

**Cherry Trees, 20c**—all leading varieties.

### GOLDEN RULE NURSERY

Loomis, Placer County, Cal.

## Pacific Nurseries

San Francisco and Millbrae, San Mateo Co.

Offers for this Season's Planting  
a full line of

**Ornamental Trees and Shrubs, Evergreen and Deciduous, Conifers, Palms, Rhododendrons, Camellias, Ericas, Azaleas, Roses, Eucalyptus, Cypress, Pine, Monterey and Maritima Pittosporum transplanted into plats.**

Send for Catalogue

**F. LUDEMANN,** 3041 Baker Street  
SAN FRANCISCO

### Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, A1, Lady Thompson and Midnight, Pedigree Plants.

### Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

### Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

**Dewberry, Loganberry, Phenomenal Berry Plants.**

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS,** Burbank, Cal.

## 60—TOURS—60

TO

## EUROPE

SEASON 1908

\$150 to \$1165

Other tours to Japan, China, and Siberia. Programmes giving full story for the asking.

**THOS. COOK & SON**

32 Powell St., San Francisco

Cook's Traveler's Checks Payable Everywhere.

## FOR SALE.

Jordan and Drake Seedlings. Nine hundred of each of the above varieties, one year old. About two-thirds from 4 to 6 ft., balance 3 to 4 ft.; exceptionally fine rooted trees. Apply

**A. R. GURR,**

R. F. D., Merced.

### Eucalyptus

### Red Gum Sugar Gum

6 to 8 inches high; packed and delivered you by express or mail. Prepaid \$2.50 per 100. Safe delivery guaranteed.

**HENRY SHAW,**

320 River St. Santa Cruz, Cal.

## GRAFTED VINES

FIELD GRAFTING

BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

**JOHN L. AMES,**

Elk Grove, Cal.

**Red Gum } for  
Sugar Gum } timber,  
Gray Gum } posts, piles,  
Desert Gum } poles, etc.**

**Best Four. Get Our Prices.**

Cling and Free Peaches, Apricots, Almonds, Cherries, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

**Leonard Coates Nursery Co., Inc.**

Morganhill, Santa Clara Co., Cal.

**High In Quality Low in Price**

## OUR SEEDS GROW

### Vegetable, Flower and Farm Seed

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## BARGAIN BERRIES

Twenty-five Lucretia dewberry, 25 Cuthbert raspberry, 25 Mammoth, 25 Loganberry, 250 strawberry and several other kinds of berry plants, also 1 acacia prepaid for \$2.50. Strawberry plants \$3.00 per 1000 prepaid. Larger lots \$2.50.

**TRIBBLE BROS.** Elk Grove, Cal.

### WANTED

Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

**FANCHER CREEK NURSERIES**

Fresno, California.

## EUROPEAN LINDEN SEED

Grown in Sacramento; 30 cents per ounce.

**F. A. MILLER,** P. O. Box 377, Sacramento.

## Ask for SNOW'S GRAFTING WAX

In use all over the State

For sale by all the large grocers, or

**D. A. SNOW,** Lincoln Avenue, San Jose, Cal.



True  
to  
Name

# TREES

Buy  
the  
Best

## Largest Stock on the Coast

When you buy trees you surely want trees of known value—strong and thrifty with well developed roots and every one true to name. Our 25 years experience and our perfect methods of growing and handling enable us to guarantee our trees.

## Plant Trees for Profit

A good orchard is an excellent investment and, if well cared for, will earn immense profits. We can give you valuable suggestions regarding the most advisable trees to plant, and can furnish you with the finest nursery stock obtainable. Place your orders at once and get your trees in the ground as early as possible.

## Burbank's New Creations

Luther Burbank has done more than any other man in this country for the betterment and propagation of superior fruit products. We are sole propagators and distributors for all of Burbank's new creations and now have seven of his valuable new tree products ready for market in limited quantities. Send 10c. for our beautiful Burbank booklet, illustrated in natural colors, telling all about them.

Oranges  
Lemons  
Limes  
Pomelos  
Apples  
Apricots  
Almonds  
Peaches  
Plums  
Prunes  
Pears  
Cherries  
Olives

### Must be Sold

Prices lower than ever before. Our immense stock of Muscat and Wine GRAPE VINES. If your requirements are small or large it will pay you to obtain our quotations.

### Special Prices

On our heavy stock of Sugar and Tragedy prunes; Wickson plums; Bing, Black Tartarian, and Royal Ann cherries; Nonpareil, I. X. L., and Ne Plus Ultra almonds. Write for our figures immediately.

### Roses

No better stock in the State than our field-grown roses; 50 plants, our selection, in 25 sorts for \$4.00. Order now and secure the pick of our stock.

Figs  
Grape Vines  
Berry Bushes  
Guavas  
Loquats  
Quince  
Chestnuts  
Pecans  
Walnuts  
Rhubarb  
Roses  
Palms

Our nurseries comprise over 1500 acres in the most fertile sections of California and our trees are grown in these different locations where the soil is best suited to their perfect development.

**You Should Have Our Catalogue**  
**WRITE TODAY FREE ON REQUEST**

Our catalogue is the best book of its kind ever published on the coast. Contains 148 pages of illustrations and valuable information about nursery stock and trees of all kinds. If you are interested in trees you should send for it at once. We mail it free to any address.

## FANCHER CREEK NURSERIES (Inc.)

GEO. C. ROEDING, Pres. and Mgr.

P. O. Box 18

FRESNO, CALIFORNIA.

## AGRICULTURAL REVIEW.

### BUTTE.

P. J. Prein, beet expert for the Alta California Beet Sugar Company, operating the huge factory at Hamilton City, estimates that the acreage of beets planted by the company and those contracted by the farmers will total 7000 acres for the coming season. Three hundred acres will be grown for the company at Woodland and 1500 acres will be contracted for on the east side of the Sacramento river.

Gridley Herald: Gridley is getting to be a center for the growing of the onion. During the past few weeks a local dealer has sold for planting over 5000 pounds of onion sets, besides many pounds of seeds. This is, according to the Sacramento wholesalers' figures, more onion sets than have been sold to all the other towns of the Sacramento valley put together, this spring. This same firm has sold two earloads of Early Rose potatoes for planting this spring. The most of the vegetable planting is being done by the residents of the Gridley colonies.

### COLUSA.

Added to the hundreds of acres to be planted to grapes this season in the Arbuckle locality will be 160 acres of the Hyman tract. The vineyard is to be planted on a quarter section three miles south of Arbuckle. The soil is sandy loam, and is most excellent vineyard and orchard land. It is the purpose of those in charge of the Hyman estate to subdivide the great holding of about 6000 acres into small tracts and put them on the market.

### EL DORADO.

Bee: Some time ago there was published a news item to the effect that grain planted on a number of farms in this locality had failed to sprout, on account of the life of the grain being destroyed in the warehouses of the company from which it was purchased. The losses to local farmers for seed alone amounted to about \$5000, and hay will be scarce and high in price this season. The Pioneer Mills Company, from whom the seed was purchased, is making good the losses by supplying flour, bran, barley, or any other stock it carries. As nearly as it can it is making good on the deal with the farmers. The cause of the seed being dead is a mystery, no one having yet been able to explain it satisfactorily. Some of the farmers are planting barley to supply a crop this year.

### KERN.

Echo: Thousand of acres are being sown to wheat in the Buena Vista, Delano, and Tehachapi regions. It is estimated the acreage is considerably larger than last year's. At Delano the seeding is well under way and will be ended this month. At Buena Vista Miller & Lux will finish seeding 25,000 acres about February 20. The work is being done day and night. Two big steam plows are utilized. Miller & Lux have been able to make use of a large part of their land which was overflowed last July when Buena Vista lake reservoir burst. The Kern County Land

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.



### Gives Surprising Results

No pest is quite as discomforting to an animal as the common sheep tick—they actually suck the very life blood of the sheep. All sheep have ticks. Why let the tick eat up your profit? Kill him on the spot.

## Instant Louse Killer

is guaranteed—your money back if it does not do as we claim.

It is a powder which may be used in zero weather, and in less time than it takes to prepare a dip. No slop, no muss, no danger. It is the formula of Dr. Hess (M.D., D.V.S.) and destroys lice on horses and cattle, bugs on cucumbers, squash and melon vines, cabbage worms, rose slugs, etc. It is also a disinfectant and deodorizer. In cans with perforated top. Look for the word "Instant" on the can.

Sold on a written guarantee.

1 lb. 35c. 3 lbs. 85c.

If your dealer cannot supply you send your order to us.

MANUFACTURED BY  
**DR. HESS & CLARK,**  
Ashland, Ohio.  
**THE PETALUMA INCUBATOR CO.,**  
Petaluma, Cal.  
Pacific Coast Distributors.

Co. has practically finished seeding 4320 acres, is the statement of the superintendent. The land company is able to plant along the edges of the overflowed district, but many thousand acres cannot be seeded for several years. "There is a strip five miles long and three miles wide which we shall be unable to use for at least three years to come," says Mr. Munzer, speaking of the work of reclamation. At Tehachapi, Kerr & Jones are the leading seeders. About 5000 acres will be sown, and the work is being pushed rapidly.

### RIVERSIDE.

Riverside Press: A. L. Whitney claims the biggest rosebush in Riverside, if not in all southern California. The trunk is 29 inches in circumference a foot from the ground, and the bush covers the entire side of the house and porch, forming an arch over the entrance to the house. It is of La Marque variety and was planted 16 years ago as a slip. The rose is now in full bloom and attracts much attention.

### SAN BERNARDINO.

Coachella Valley Submarine: At F. N. Johnson's ranch can be seen vines of the Guardino variety of dewberries which yielded this past year at the rate of \$900 an acre. The berries sold last year for \$1.25 a 15-pound basket f.o.b. Indio. Commencing to bear about April 15, they last until the middle of July. The best method has been found to allow the vine to run along the ground, getting in this way the heat of the earth.

### SHASTA.

H. P. Stice of Red Bluff, manager of the Sanitary Fruit Company, says the company has in store here 750,000 pounds of prunes, left over from last year's crop. These are worth 5



cents a pound, or \$37,500. The hold-over prunes in the State amount to 20,000,000 pounds, Mr. Stice says, which is far below the average for this time of year. There is very little fruit in the hands of the Eastern jobbers, and there will consequently be little trouble in disposing of the hold-overs before a new crop comes in.

**Redding Searchlight:** Thomas Anderson, manager of the Damon orchard, in the Anderson Valley fruit belt, has solved the problem of successful diversified farming. The Damon property consists of about 70 acres in bearing trees, thirty acres in alfalfa and forty acres in grain. In the early summer Mr. Anderson cuts and binds his grain, using a small binder to do the work, then hauls the sheaves to a storehouse, and after the other work which rapidly follows the cutting of the grain, late in the fall or early winter, he turns his attention to the stored grain sheaves, when no pressing work interferes. With a small-power gasoline engine and a miniature thresher, capable of threshing 10 sacks of grain a day, he threshes and sacks his crop of grain cut in the early summer. Anderson is now about through threshing and says this method he finds most satisfactory in handling his work, from a lucrative as well as an economical standpoint.

#### SOLANO.

The demand from Eastern buyers for the asparagus grown along the river in the vicinity of Collinsville and Antioch is so great that the Antioch Cannery will not run this year, but the farmers will sell their product direct to the buyers, who will ship the green goods east. Already nearly the entire output is contracted for. The cannery cannot afford to pay the prices which Eastern buyers are offering the growers.

#### SUTTER.

**Sacramento Bee:** The days of large wheat crops are over in the Live Oak district. The warehouses re-

ceive only one-third the wheat annually that was shipped from this point ten years ago. The attention of the ranchmen has been called to the fact that one acre of land in fruit or vines is more profitable than many in wheat. A. E. Davis has about finished marketing his olive crop. From one acre he gathered about 1000 gallons of prime olives. These were contracted to a Marysville firm at 55 cents per gallon, being nearly \$600 per acre.

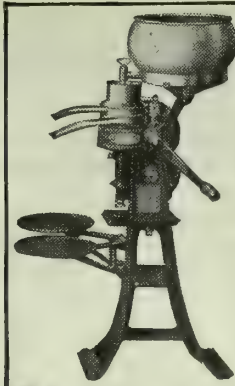
#### TULARE.

**Sentinel:** J. C. Rice planted a eucalyptus tree in his yard near town in 1889, and measuring it Friday, found it to be 134 inches in circumference 6 inches above the ground, and 116 inches 5 feet above the ground. The height of the tree cannot be stated, as it has been topped during its growth. John Siegler, who resides six miles south of town, brought in the measurement of a red gum tree on his ranch, which he planted as a sprout in 1884, and this tree is 164 inches in diameter four feet above the ground.

Mr. A. Slotmaker, of the California Cannery Association, who is a practical grower of fruit, states that he tried a spray for the eradication of the apricot scale from prune and apricot trees, and had been very successful in cleaning all his trees of the pest. Some have used distillate, but he thinks his remedy, which is a solution of one pound of caustic soda in seven gallons of water, mixed and applied cold by the use of a common spray pump, does the work most effectively. It is easily prepared and applied. He calls the attention of the growers to this remedy. Now is the time to spray.

#### YUBA.

In the immediate vicinity of Yuba City there will be 200 acres of Adriatic figs planted this season. It is said the fig is the quickest and safest fruit to grow and market, and many orchardists intend to hereafter devote their entire acreage to fig cultivation.



## SWEEPING THE FIELD

What The New 1908  
De Laval Cream Separators  
Are Doing.

Reports are arriving in every mail from Maine to California and Canada to Florida, telling of how the New Improved De Laval Cream Separators are sweeping all would-be competition aside. Cow owners and separator users cannot say enough in praise of the new increased superiority and marveling at its many conveniences, perfect skimming qualities, ease of running, great simplicity, durability and beauty of design. The new De Laval is ten years in advance of any other separator made today. Nothing like it has ever been produced before and to have done so now is only possible after three years of constant experimenting by the world's best engineers and mechanical experts backed up by our thirty years of experience in the manufacture and sale of nearly a million separators. Improvements have been made in every feature and several brand new styles and capacities introduced. There is a machine for every size dairy from the smallest to the largest and at a price that will fit every pocket, while you may buy for cash or on terms so liberal that the machine will actually pay for itself.

If you own one or more cows you can make no more profitable investment than to purchase a De Laval machine at once. It will save its cost in less than a year and after a week's use you will prize it as the most valuable implement on your farm. Ask for a free demonstration at your own home and send for our handsome new catalogue illustrating and describing De Laval machines in detail. Your only regret will be that you didn't do so sooner. Write today.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

#### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1016 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## FERRY'S SEEDS



For freshness, purity and reliability, **Ferry's Seeds** are in a class by themselves. Farmers have confidence in them because they know they can be relied upon. Don't experiment with cheap seeds—your surety lies in buying seeds sent out by a conscientious and trustworthy house.

Ferry's Seed Annual for 1908 is FREE. Address D. M. FERRY & Co., DETROIT, MICH.

## ENGINAL NURSERIES.

**SPECIALTIES:**—Apricot on 'Cot and Genuine Franquette Walnut on black walnut root. Strong, thrifty trees grown on new soil, entirely without irrigation, and surrounded by all safeguards possible, from selection of seeds and buds to the digging of the tree, to have them healthy, free from disease and true to name.

F. C. WILLSON, proprietor.  
Sunnyvale, Santa Clara Co., Cal.

## Surplus Peach Trees

Runyon Orange Cling } \$15.00 per 100  
Seller's Golden Cling } \$135.00 per 1000  
Lovell Free

Almond on Almond } \$13.50 per 100  
\$100.00 per 1000

LEONARD COATES NURSERY CO.  
MORGANHILL, CAL.

## FOR SALE

A few Holt Grafters at the extremely low price of \$2.50 each. These grafters are new and price is one-half factory cost to close out stock. The best device for top-grafting trees or vines ever invented.

The Grafts all Live.

Order early as supply is limited. Address J. C. WILLSON, 1016-27th St., Sacramento.

## C. C. MORSE & CO.

Plants **SEEDS** Trees

41 Jackson St.  
San Francisco

This picture represents the cover of our handsome new catalogue done in colors, showing the flowers and fields true to life.



Send us your name and address and we will mail this new 1908 Catalogue free.

Send us \$1.00 and we will send one each of these three fine roses (strong 2 year old roots): Frau Karl Druschki, Mildred Grant, Madam Caroline Testout. Or send us 25c and we will send you a large packet of our beautiful new Sweet Pea—Florence Morse Spencer.

## TAKE ADVANTAGE of the opportunity

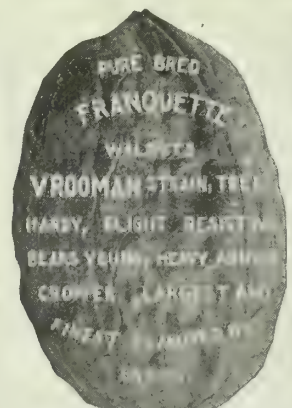
THE ALL-AROUND TILTON APRICOT  
Is offered at special rates by the introducer.

HANFORD NURSERY  
Hanford, Kings County, California.

Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific



Costs nothing to investigate.  
Ask for our Walnut Booklet.

OREGON NURSERY COMPANY  
SALEM, OREGON.

Salesmen Wanted.

\$30,000,000

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

San Dimas Citrus Nursery  
SAN DIMAS, CAL.  
R. M. TEAGUE,  
PROPRIETOR.



## The Whole Truth In A Nut Shell

Middle-  
burgh, N.Y.  
Sept. 4, 1907.  
I am using your  
U. S. Separator  
and am well  
pleased with  
it. My U.S.  
is not out

of order  
every week  
or two as my  
neighbors who  
are using other  
makes, ARE.  
DAVID L.  
VAN  
WORM.

### It's "Reliable"

And RELIABILITY is "THE quality of qualities." A reputation for RELIABILITY is not won in a day, a month or a year. Consistent performance during the slow testing of time, alone is sufficient to prove that most satisfactory of qualities—RELIABILITY. Each year for past sixteen years, the

## U.S. CREAM SEPARATOR

has been adding to its reputation for RELIABILITY which is UNEQUALLED today. Dairymen today choose the U. S. because they KNOW it can be depended upon to do the Best work ALL the time and the Longest time, too. Time has PROVED it.

Mr. Van Worm's few words sum up completely the many reasons why dairymen everywhere are fast exchanging their old style, unsatisfactory or "cheap" separators for the RELIABLE, clean skimming, up-to-date U. S. If you have one of "the other kind," WE'VE a proposition to make you. Just ask us about it, please.



The thirty illustrations in our new catalog enable you to easily SEE why the construction of the U. S. makes it the most RELIABLE and profitable. Won't you send today for free copy? Just ask for "No. 1 A."

VERMONT FARM MACHINE CO.

BELLOWS FALLS, VT. 482

Eighteen Distributing Warehouses

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

## The Dairy.

### California's Butter Yield.

To the Editor: The State Dairy Bureau of California has completed its compilation of the output of the dairy products in the State during the year ending September 30, 1907. As no official report is issued by the Bureau this year, this result of the Bureau's work in this line has been given to the public through the press. The work of compiling these statistics has occupied much of the attention of the Bureau during the past four months, owing to its determination to have them as accurate as possible. The figures given out are compiled almost exclusively from written reports received from the creameries and other producers. In order to show the condition of the industry throughout the State, its development and retrogression in the different counties from year to year, the production is determined by counties. Owing to the growing custom of shipping cream from one county into another to be churned, as a result of the centralized cream-

#### WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25 cents.

ery system, the work of keeping the fat produced by each county separate is becoming somewhat difficult, but the Bureau believes that with the assistance rendered by the creameries that receive cream this way the segregation presented is quite accurate.

The following table shows the production of butter by counties from September 30, 1906, to September 30, 1907:

County.	Pounds.
Alameda	728,767
Alpine	28,360
Amador	229,990
Butte	208,444
Calaveras	135,666
Colusa	296,662
Contra Costa	639,641
Del Norte	699,878
El Dorado	203,486
Fresno	2,786,817
Glenn	183,384
Humboldt	4,390,815
Inyo	110,566
Kern	372,569
Kings	1,960,364
Lake	87,938
Lassen	376,184
Los Angeles	953,624
Madera	112,011
Marin	3,846,758
Mariposa	19,281
Mendocino	534,359
Merced	2,469,726
Modoc	137,647
Mono	23,640
Monterey	531,801
Napa	613,109
Nevada	127,264
Orange	287,541
Placer	280,756
Plumas	356,548
Riverside	484,090
Sacramento	1,060,098
San Benito	135,730
San Bernardino	220,653
San Diego	1,241,817
San Francisco	
San Joaquin	1,625,538
San Mateo	260,447
San Luis Obispo	1,396,524
Santa Barbara	740,292
Santa Clara	307,509
Santa Cruz	340,800
Shasta	11,540
Sierra	223,824
Siskiyou	479,627
Solano	862,179
Sonoma	3,723,941
Stanislaus	3,615,469
Sutter	329,367
Tehama	158,281
Trinity	17,466
Tulare	2,522,707
Tuolumne	32,368
Ventura	162,124
Yolo	726,532
Yuba	176,592

Total ..... 44,599,211

Compared with previous years the past season shows up as follows:

Year.	Pounds.
1897	28,678,439
1898	23,691,028
1899	24,868,084
1900	28,783,859
1901	29,701,202
1902	31,528,762
1903	34,786,289
1904	35,636,969
1905	41,961,047
1906	44,044,578
1907	44,599,211

While the past season sets a new mark in the production of butter in California, the gain over the preceding year is very slight, amounting to approximately a half of 1 per cent. Comparing the separate counties with the preceding year, it is interesting to note the remarkable difference in comparisons in the showing among the different counties. Some counties in what may be called the new dairy districts gained as high as 30 per cent, which was offset by the loss in older counties. A remarkable instance of growth in butter production is given in the case of Stanislaus county, which increased from 2,759,582 in 1906 to 3,615,469 pounds for the past year. All of this butter is made in large

# CREAM PROFITS

If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.

## The Sharples

## Tubular Separator

gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

Union Mills, Ind.  
GENTLEMEN:—We have a Sharples Tubular. Before we bought it, we had been selling our milk to a creamery at Union Mills, getting not more than \$8.00 a month, but since we have the Tubular, we have been getting twice more, and are so satisfied with the Tubular.  
MRS. JOHN C. MILLER

Such proof as this ought to convince you that a "Tubular" will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and free copy of that valuable book, "Business Dairying." Ask for book No. 131.

THE SHARPLES SEPARATOR CO.,  
West Chester, Pa. Toronto, Can. Chicago, Ill.



## California Fruit Exchange

(INCORPORATED.)

Head Office:

SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## PEAR-BLIGHT

We can CURE IT

Our Work has Extended  
Over a Period of 3 Years

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR BLIGHT REMEDY COMPANY

## 1/2 Million Eucalyptus Trees (IN VARIETY)

Only an announcement that we intend to supply our patrons with Eucalyptus trees of our usual high standard; our present stock is nearly exhausted, and we will grow

### ONE MILLION

if necessary—transplanted in flats of 100 each. Correspondence invited. Our booklet on Eucalyptus will prove interesting to planters. No postals. Address

W. A. T. STRATTON, Nurseryman  
PETALUMA, CALIFORNIA.





### Dairyman's Profit

Give a cow good food and power to fully digest it and she in return will give you ample reward at the pail. Noted authorities tell us that something to correct digestive troubles becomes a necessity if the maximum flow of milk is to be maintained, because overfeeding, sooner or later, impairs the stomach and nerves, preventing necessary secretions of gastric juices.

## DR HESS STOCK FOOD

puts the cow in condition to pay. It is the prescription of Dr. Hess (M. D., V. S.) and besides tonic elements contains iron for the blood and nitrates to cleanse the system. It shortens the time required to fatten an animal, gives appetite for roughage, and shows its value by lessening the per cent. of nutriment lost in the droppings.

Sold everywhere on a written guarantee. Costs a penny a day for horse, cow or steer.  
100 lbs. \$7.00 25 lb. pail \$2.00

Smaller Quantities at a Slight Advance. Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound and this paper is back of the guarantee.

If your dealer cannot supply you, we will.  
DR. HESS & CLARK, Ashland, Ohio.  
Also manufacturers of Dr. Hess Poultry Pan-a-c-e-a and Instant Louie Killer.  
THE PETALUMA INCUBATOR CO.,  
Petaluma, Cal., Pacific Coast Distributors.

creameries, from which accurate reports have been received, and there is no doubt as to the showing being correct. Another interior county that shows a remarkable increase in production is Tulare county, in which the gain was 20 per cent. Among other interior counties that show progress in butter production are Kings and Fresno counties. In the southern part of the State San Diego is the only county that shows a gain, although this gain is confined more properly to Imperial county, which has been divided from the former during the year covered by the table presented.

Taking up the counties that have made no progress in production over the preceding year, or that have retrograded, we find conspicuously Sacramento and Yolo, two counties that heretofore have shown a steady growth from year to year, the retrogression being due to the disastrous flooding of the reclaimed lands during the early part of 1907. Orange county, in the southern part of the State, a heretofore important dairy county, has suffered in butter production by the exodus of dairymen into the San Joaquin and Imperial valleys, where lower priced lands and other equal opportunities present themselves. The old counties in which the dairy business established itself years ago, such as Marin, Sonoma, Humboldt, and San Luis Obispo, have held their own, while it is notable that Mendocino, and a few of the other more isolated counties, have suffered a marked decline, which is undoubtedly due to the difficulty in securing laborers in isolated districts. In fact, the labor situation is at the bottom of the lack of progress that the industry on the average has shown. Had it not been for this obstacle, with a favorable year all over the State so far

as feed production is concerned, few counties would have fallen off, while it would have brought about a vast increase in the business in alfalfa growing districts.

The relative position of the leading counties of butter has undergone little change as a result of the last season's production. Humboldt county still holds her place at the head, followed by Marin, Sonoma, Stanislaus, Fresno, Tulare, and Merced, in the order given.

W. H. SAYLOR,  
Sec. State Dairy Bureau of Cal.  
50 Clay St., San Francisco.

### Daylight Calving.

To the Editor: During the last 35 years, and in hundreds of cases, I have successfully applied the following rules:

When a cow is drying up, before calving, she should be milked only once a day during a couple of days or a week, or two weeks, as the case may be. It facilitates the drying up process. Let this milking be done in the afternoon or evening, and never in the morning. Follow this rule and her calf will be born by daylight.

Where blooded stock is kept and the calf is quite valuable, at agricultural schools for the purpose of demonstration—in fact, in nearly all cases it is most convenient not to have the calf born during the night.

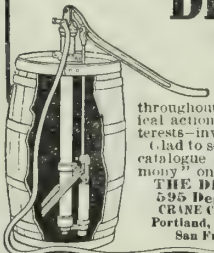
Perhaps someone can explain this result. I cannot, and neither could the old dairyman in the Netherlands who taught me the trick; but it goes all the same, and it is one of the mighty few good things in this world that cost nothing.

E. C. W. MACDONALD.  
Aptos, Cal.

### Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." (I had to send our Nineteen Eight catalogue and "Expert Testimony" on request.)  
THE DEMING COMPANY  
595 Depot St., Salem, Ohio.  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma, San Francisco, Salt Lake City.

## The Fresno Scraper



3½—4—5 FOOT

Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.

### SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada. Pa.

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

# A

# LFALFA

makes a tremendous growth if fertilized with

# POTASH

When properly fed—with a fertilizer rich in Potash—twice or three times the average yield of succulent, nutritious hay is obtained.

Let us send you our free book, which tells you exactly what increase the farmers have gotten with it. From cover to cover, the book is filled with money-making facts. Write to-day and learn all about it. Address

GERMAN KALI WORKS

New York—93 Nassau Street Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## Trees that Grow and Bear Fruit

SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

## Orange County Nursery & Land Company

FULLERTON, CAL.

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.**

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untried. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

## THE FRESNO NURSERY

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

## TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

**RHODES DOUBLE CUT PRUNING SHEAR**

Pat'd June 2, 1903.

RHODES MFG. CO.,  
GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded **WOOD PIPE** Made from California Redwood or Selected Puget Sound Yellow Fir.  
Patent Continuous  
404 Equitable Savings Bnk. Bldg. 268 Market St., San Francisco  
Los Angeles  
Olympia, Washington Dooly Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.



## THE MARKETS.

San Francisco, Feb. 18, 1908.

### WHEAT.

The gradual decline has continued in eastern markets, on account of heavy Argentine shipments, though poor reports have come from Kansas and Dakota. In the local market little interest is taken in May wheat, and very few transactions are reported. Further weakness is shown with a general decline on both cash and future grain. Spot shipping wheat is neglected, and all other grades show a falling off of about 2½ cents, with little inquiry.

California White Australian..	1.70 @ 1.75
California Club.....	1.62½ @ 1.65
California Milling .....	1.65 @ 1.67½
California lower grades.....	1.50 @ 1.57½
Northern Club.....	1.60 @ 1.65
Northern Bluestem.....	1.65 @ 1.70
Northern Red.....	1.55 @ 1.57½

### BARLEY.

While very little barley is being received, the market, both for cash and the speculative interest, is almost at a standstill. Buyers for shipment are paying no attention to the market, and the brewers are now holding off. No stock of any description has had any marked demand for several weeks, and feed is the only article that is worth quoting at present. This grade is still lower than last week, choice feed bringing only \$1.32½ at the outside.

Brewing .....	Nominal
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.32½ @
Common to Fair .....	1.30 @ 1.31½
Shipping.....	Nominal

### OATS.

All grades of oats are practically nominal, as the market seems to be in a condition of complete stagnation. Prices last quoted as still asked, as all holders are quite firm, and show no disposition to make any concessions. With no arrivals of any consequence, the supply on hand is not excessive. Buyers, however, are holding off, as the immediate needs are small, and they are not inclined to meet the prices now asked.

Choice Red, per ctl .....	\$1.60 @ 1.85
Gray.....	1.55 @ 1.60
White.....	1.45 @ 1.60
Choice Red, for seed.....	1.85 @ 1.90

### CORN.

Business in corn seems to be gradually increasing. Though the market is officially described as dull, several fresh shipments have come in during the week, and offerings are disposed of without difficulty. Prices are quite steady, all descriptions remaining as last quoted.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @
White .....	Nominal
Western State sacked Yellow, new.....	1.60 @ 1.65
White, in bulk.....	1.53 @
Mixed, in bulk.....	1.50 @
Brown Egyptian.....	1.37½ @ 1.42½
White Egyptian .....	1.60 @ 1.70

### RYE.

Rye is dull this week, with scarcely any movement whatever. Spot stocks are light, and the price is firmly held, though practically nominal under present conditions.

California .....	\$1.50 @ 1.52½
------------------	----------------

### BEANS.

The bean market is comparatively quiet on most varieties, with prices about steady as last quoted, with the exception of bayos, which are lower, and small whites, which have advanced about 5 cents. Local business is about up to the average in all lines, and the shipping demand is quite satisfactory for both small and large whites, the movement to the middle and the southwest being very well sustained. Limas show no particular feature here, but in producing districts the rain-damaged stock is said to be moving better than anything else.

Bayos, per ctl.....	\$3.00 @ 3.15
Blackeyes .....	3.75 @
Butter .....	4.50 @ 5.00
Cranberry Beans .....	2.75 @ 3.25
Garvanzos.....	3.50 @ 3.75
Horse Beans .....	2.25 @ 2.75
Small White.....	3.55 @ 3.60

Large White .....	3.45 @
Limas.....	4.75 @ 4.85
Pea .....	3.50 @ 3.60
Pink .....	3.10 @ 3.25
Red.....	3.50 @ 4.00
Red Kidneys.....	3.25 @ 3.35

### SEEDS.

The movement of seeds continues very active, with a lively demand from all parts of the country. Everything is held firmly at former prices, with alfalfa as before a leading feature.

Utah Alfalfa .....	18 @ 19 c
Turkestan alfalfa.....	18 @
Alfalfa .....	17½ @ 18 c
Broomcorn Seed, per ton .....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @
Canary.....	3½ @ 4 c
Flaxseed .....	Nominal.
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	5 @ 5½ c

### FLOUR.

There has been a sharp decline in Kansas and Dakota brands of flour, but the Coast millmen have made no change in their prices. The market is quiet, with little demand except for immediate local consumption, as the jobbers are following a conservative policy.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras .....	5.40 @ 5.65
Superfine .....	4.20 @ 4.50
Oregon and Washington, Family .....	4.75 @ 5.25

### HAY.

In the face of a very discouraging hay market the shipments have continued to come in in larger quantities. The arrivals for the week were 3380 tons, as compared with 2920 tons last week and 2130 tons for the week preceding. The market is still very dull with little or no change to be noted from last week. There have been no new developments in the way of increased demand and prices are practically unchanged, with quotations on most grades a shade lower. The dry cold winds of the past few days have been rather disquieting to the farmers, but as yet they have done no harm.

Choice Wheat, per ton .....	\$15.50 @ 16.50
Other Grades Wheat .....	10.00 @ 15.00
Wheat and Oat.....	10.00 @ 15.00
Tame Oat.....	10.00 @ 14.50
Wild Oat.....	9.00 @ 12.00
Alfalfa .....	9.00 @ 13.50
Stock .....	7.50 @ 9.50
Straw, per bale.....	50 @ 90 c

### MILLSTUFFS.

There is a scarcity of bran all over the Coast, and it is in great demand, in spite of the unusually high prices asked. There is scarcely any stock on hand in this market, and little is to be had anywhere, as the production is limited by the inactivity of the flour market. There was a further advance last week. Shorts and middlings are also very firm, but unchanged. Oil cake meal is lower, and rolled barley has declined \$4 a ton, to correspond with the reductions in feed barley.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing .....	23.00 @
Bran, ton .....	29.50 @ 31.00
Broom Corn Feed, per ctl.....	90 c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	26.00 @
Jobbing .....	27.00 @
Corn Meal.....	37.00 @
Cracked Corn.....	38.00 @
Mealalfa.....	22.00 @
Jobbing .....	23.00 @
Middlings.....	32.00 @ 35.00
Mixed Feeds.....	26.00 @ 27.00
Oil Cake Meal, per ton.....	38.00 @ 39.00
Rollod Barley.....	29.50 @ 30.50
Shorts.....	30.00 @ 31.50

### POULTRY.

The poultry market is some stronger than last week, and all strictly good stock is selling readily at appearing quotations. Last week's arrivals cleaned up very well, and while receipts of California chickens have been liberal, they are mostly good young stock, which meets with lively demand. Supplies of Western poultry are much lighter, and as they are large and fine, bring better prices. Large hens, choice broilers, and fryers are the leading features. Arrivals or dressed turkeys are not so large, and the best offerings bring a slight advance.

Broilers .....	\$5.00 @ 5.50
Small Broilers.....	4.00 @ 4.50

Ducks.....	4.00 @ 7.00
Fryers.....	5.50 @ 6.50
Geese .....	2.00 @ 2.50
Hens, extra .....	7.00 @ 9.00
Hens, per doz.....	5.50 @ 6.50
Small Hens .....	4.00 @ 5.00
Old Roosters .....	4.00 @ 4.50
Young Roosters .....	6.00 @ 7.50
Pigeons.....	1.00 @ 1.25
Squabs.....	3.00 @
Hen Turkeys, per lb .....	15 @ 17 c
Gobblers, live, per lb.....	14 @ 16 c
Turkeys, dressed.....	18 @ 21 c

### BUTTER.

Butter shows comparatively little change, prices of fresh stock standing a little lower than last week, after a number of fluctuations, varying between 30 and 33 cents on extras. Storage goods are a little firmer, as the recent overstock is getting cleaned up. The market seems to be in good shape for sellers at present, as liberal arrivals of fresh stock move off well. The dealers look for some shipping orders from the north during the next few days. There is a feeling, however, that prices will be lower during the next few months than for several seasons.

Cal. (extras) per lb.....	31½ c
Firsts.....	28 c
Seconds .....	23 c
Thirds .....	
Fresh Eastern, extras.....	
Fresh Ladles, extras.....	
Fresh Ladles, firsts.....	
Storage, Cal., extras.....	25 c
Storage, Cal., firsts.....	23 c
Storage Eastern, extras.....	24½ c
Storage Ladles, extras.....	20 c

### EGGS.

For some days past fresh extras have been selling 2 cents lower than last week, as receipts have increased considerably, and stocks do not clean up well, in spite of a better demand. Prices are badly broken up on storage goods, and there is very little demand. They are no longer quoted on the exchange. With the dry weather of the last two weeks, production has increased materially, and still lower prices are looked for.

California (extra) per doz.....	22 c
Firsts.....	21 c
Seconds.....	21 c
Thirds.....	20 c
Storage, Cal., extras.....	
Storage, Eastern, extras.....	

### CHEESE.

Cheese continues weak, with liberal receipts and heavy supplies of everything but Young Americas, and quotations on fancy flats have taken a drop, standing now at 12½ cents, lower than they have been for some time. Quotations on storage California flats and Y. A.'s have been withdrawn. Buying is very slow, the trade taking only enough for present necessities on a falling market.

Fancy California Flats, per lb.....	12½ c
Firsts.....	12 c
New Young Americas, Fancy.....	13½ c
Storage, do.....	
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	
Oregon, Fancy.....	14½ c

### POTATOES.

Arrivals have been very heavy, especially from the River district, as large stocks are still in growers' hands, and are being sold for whatever they will bring. The Southwestern market being almost entirely cut off. This market is accordingly very weak on all table goods, all stock except Oregon being lower. Early Rose for seed are higher.

Oregon Burbanks.....	75 @ 1.00
Burbanks, Salinas, ctl.....	75 @ 1.00
Lompoc Burbanks.....	1.00 @ 1.15
Burbanks, River, bag .....	40 @ 90
Early Rose, ctl.....	1.35 @ 1.50
Garnet Chiles .....	75 @ 90
Sweet Potatoes, per ctl .....	2.75 @ 3.00

### VEGETABLES.

Further receipts of eastern onions have weakened the market, and all lines are lower, Oregon still being higher than the eastern stock. Considerable damage has been done to vegetables in the south by rain and frost, and most arrivals from that section are poor. Supplies are comparatively small, however, and prices show little change. Some Cuban tomatoes have come in, and sold at high prices.

Garlic, per lb.....	5 @ 7 c
Green Peas, per lb.....	3 @ 10 c

## LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best for the West—all other sorts being discarded. Why experiment, why take chances? You can absolutely depend on **LILLY'S** seeds. Our catalogue for 1908, consisting of 112 pages, 16 colored pages made from actual photographs, with full cultural directions, is yours for the asking. You'll also find that **LILLY'S** seeds are **SOLD BY DEALERS**

The Chas. H. Lilly Co.  
Seattle, Portland, San Francisco.

Chile Peppers, per lb.....	3 @ 5 c
Bell Peppers .....	8 @ 15 c
Cabbage, per ctl.....	50 @ 60 c
Onions—	
Oregon Yellow, per ctl.....	2.65 @ 2.75
Eastern Yellow.....	2.50 @ 2.65
Eastern Red.....	2.40 @ 2.50
String beans, per lb.....	15 @ 17½ c
Tomatoes, crate.....	1.50 @ 2.50
Marrowfat Squash, per ton.....	10.00 @
Carrots, sack .....	75 @
Hubbard Squash, ton.....	10.00 @
Summer Squash, per box.....	1.50 @ 2.00
Celery, crate, small.....	1.00 @ 1.25
Egg Plant, lb.....	12½ @ 15 c
Rhubarb, lb.....	6 @ 8 c
Mushrooms, lb.....	30 @ 50 c
Asparagus, lb.....	20 @ 25 c

### FRESH FRUITS.

Only the choicest offerings of apples and pears receive any attention at present, and the market is very slow, though prices show no change. Good strawberries bring about \$3 per crate.

Apples, fancy .....	1.25 @ 2.00
Apples, common to choice.....	60 @ 1.00
Pears—	
Winter Nelis.....	2.00 @ 2.25

### CITRUS FRUITS.

Arrivals of oranges have again increased, and with heavy shipments left over from last week, the market is overstocked. Buying is slow and little is sold over \$1.75. Tangerines are firm at higher prices, and the better grades of lemons also bring higher prices. Repacked limes are \$1 higher.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.00 @ 2.50
Standard .....	75 @ 1.50
Limes.....	4.00 @ 5.00
Oranges—	
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.60
Tangerines, large box.....	75 @ 1.25
Grape Fruit .....	2.50 @ 3.00

### DRIED FRUITS.

It is reported that considerable damage is being done by mildew among the raisins stored by the Fresno growers. The eastern demand for raisins is slow, and this market shows little feature, lower prices being quoted on seeded and seedless Sultanas. Peaches are weaker in the East, but unchanged here. Both prunes and figs are lower here, and the market in general is quiet.

Evaporated Apples .....	7 @ 8½ c
Figs, black.....	2½ @ 3 c
do white.....	3 @ 3½ c
Apricots, per lb.....	18 @ 20 c
Fancy Apricots.....	21 @ 22 c
Peaches .....	9 @ 10½ c
Prunes, 4-size basis, 1907 crop.....	3½ @ 4 c

### RAISINS.

2 Crown .....	4½ @
3 Crown .....	4½ @
4 Crown .....	5 @
Seeded, per lb.....	5 @ 7 c
Seedless Sultanas .....	4½ @
London Layers, per box .....	\$1.25 @ 1.40
London Layers, cluster.....	1.30 @ 2.00

### NUTS.

Nuts are very quiet, with no movement worth mentioning, but prices have so far



been well sustained, all descriptions being quoted as before.

Almonds, Nonpareils .....	15 c
I X L .....	14 1/2 c
Ne Plus Ultra .....	14 c
Drakes .....	13 c
Languedoc .....	12 c
Hardshell .....	8 c
Walnuts, Softshell No. 1 .....	14 1/2 c
Softshell, No. 2 .....	12 c
Italian Chestnuts .....	10 @ 12 1/2 c

#### HONEY.

Water-white extracted is cleaned up entirely and is no longer quoted. Dark amber and candied honey are lower, with a weak market, but other grades bring former prices.

Water White, Comb .....	16 @ 17 c
White .....	15 @
Light Amber .....	7 @ 7 1/2 c
Dark Amber and candied .....	5 1/2 @ 5 1/2 c

#### WOOL.

Goats are being clipped in Shasta county, but the mohair will be held for better prices. Prices on wool are unchanged, and the market is about at a standstill, as there is no demand for California clips in the eastern markets.

Humboldt and Mendocino, year's staple .....	22 @ 23 c
Fall clip: Northern free, mountain .....	8 @ 11 c
do. defective .....	6 @ 8 c
San Joaquin and Southern .....	5 @ 8 c
Fall Lambs, Northern .....	9 @ 11 c
Fall Lambs, Southern .....	7 @ 9 1/2 c
Nevada .....	12 1/2 @ 16 c

#### HOPS.

Hops are dull, with a lower range of prices on all lines. It is said that the prohibition movement in the East is checking the consumption. A northern expert recommends a decrease in acreage, as he figures that present production is greatly in excess of requirements.

1906 crop .....	1 1/2 @ 2 1/2 c
1907 crop .....	4 @ 7 c
1908 (contracts) .....	9 @ 11 c

#### MEAT.

Prices on livestock are the same as last week, but the whole market is easy, with some reduction on beef, veal, and lamb. A considerable decline is expected in hogs at any time, and the tendency of the market in general is downward.

Beef: Steers, per lb. ....	7 1/2 @ 8 c
Cows .....	6 1/2 @ 7 1/2 c
Heifers .....	6 1/2 @ 7 1/2 c
Veal: Large .....	8 @ 9 c
Small .....	8 1/2 @ 9 1/2 c
Mutton: Wethers .....	11 @ 12 c
Ewes .....	10 1/2 @ 11 c
Lamb .....	12 1/2 @ 13 c
Spring lamb .....	15 @
Hogs, dressed, heavy .....	7 1/2 @ 8 c
Light .....	9 1/2 @ 10 c

#### LIVESTOCK.

Steers, No. 1 .....	8 1/2 @ 9 c
No. 2 .....	7 1/2 @ 8 c
No. 3 .....	6 1/2 @ 7 c
Cows and Heifers, No. 1 .....	6 1/2 @ 7 c
No. 2 .....	6 @ 6 1/2 c
Bulls and Stags .....	3 1/2 @ 4 c
Calves, Light .....	5 @ 5 1/2 c
Medium .....	4 1/2 @ 5 c
Heavy .....	4 @ 4 1/2 c
Sheep, Wethers .....	5 1/2 @ 6 c
Ewes .....	5 @ 5 1/2 c
Lambs, yearlings .....	6 @ 7 c
Hogs, 100 to 200 lbs .....	5 1/2 @ 6 c
200 to 300 lbs .....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

#### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author that whom no one is better qualified. The subject matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 460 pages. 5 1/2 by 8 inches. Cloth .....

## BOOKS FOR THE FARM

### For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth .....

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the wellknown Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth .....

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold .....

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth .....

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth .....

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth .....

**THE BOOK OF CORN.**—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages, 5 by 7 inches. Cloth .....

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth .....

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from wellknown grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth .....

**THE NEW ONION CULTURE.**—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and experiment stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth .....

#### A NEW SHEEP BOOK.

"Modern Sheep; Breeds and Management," by "Shepherd Boy," author of "Fitting Sheep for Show Ring and Market," is the latest work from the American Sheep Breeder press of Chicago, and it is perhaps within bounds to say that it is the best work on sheep ever published in this or any other country. It contains over 100 half-tone engravings, among them being something like thirty of different breeds of sheep from different parts of the world. The subjects covered by this work are divided into eight parts: Part I deals with History and Breeds; Part II, General Management; Part III, Sheep Management in the Western States; Part IV, Fitting Sheep for Show; Part V, Raising Hot-house or Spring Lambs; Part VI, Dressing Sheep and Lambs; Part VII, Pastures, Forage Crops, etc.; Part VIII, Diseases. The author of this work is one of the world's best known authorities on sheep, having had practical management of flocks in several different countries, and is at present associate editor of the world's leading sheep journal. A unique feature of this work is that wherein the author seems to upset the theory advanced by some scientists that on account of the differences of the genus of the sheep and goat a hybrid from such a mating is impossible, since the pages of this volume contain a half-tone engraving from a photograph of the produce of such a mating and the statement of a member of the Government Bureau of Agriculture giving his opinion that this hybrid is genuine. This is a book that will be read with interest and profit by the veteran sheep breeder as well as the novice. It can be ordered through the PACIFIC RURAL PRESS at \$1.50, postpaid.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.**, Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### POULTRY.

**FEATHERLY FARM BUFF, BLACK, WHITE, ORPINGTONS.** The greatest prize winning and heavy egg laying strain in the West. Free catalog of matings. Featherly Farm, Box R, Redlands, California.

**WILLIAM NILES & CO.**, Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, DUROC HOGS.** Choice, thoroughbred Poultry. **William Niles & Co.**, Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

### BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

#### W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

### Registered Holstein Bulls

#### AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.

#### PIERCE LAND & STOCK CO.,

Riverside Ranch. Stockton, Cal.  
Phone Main 1597. Send for Catalogue.

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth .....

**ASPARAGUS.**—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth .....

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseeded it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth .....

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L .....	121
Beckman, Geo. V. ....	127
Blake, Moffitt & Towne .....	119
Bosanko Medicine Co., Dr. ....	125
Breeders' Directory .....	127
California Fruit Exchange .....	124
Coates Nursery Co., Leonard .....	121, 123
Cook & Son, Thos. ....	121
Croley, George H. ....	127
De Laval Dairy Supply Co. ....	123
Deming Co., The .....	125
Dewey, Strong & Co .....	127
Disbrow, F. H. ....	121
Driver, E. S. ....	127
Fancher Creek Nurseries .....	119, 121, 122
Featherly Farm .....	127
Ferry & Co., D. M. ....	123
Fresno Agricultural Works .....	125
Fresno Nursery .....	125
German Kall Works .....	125
Golden Rule Nursery .....	121
Gurr, A. R. ....	121
Hanford Nursery .....	123
Hamlin School, The .....	120
Hart, Ed. ....	127
Hess & Clark, Dr. ....	122, 125
Holcombe & Co., R. A. ....	119
Hopkins, G. H. ....	121
Howard Cattle Co. ....	127
Hoyt's Tree Support Co. ....	—
International Harvester Co. ....	—
Jackson & Co., T. W. ....	119
Lawrence-Williams Co. ....	118
Lilly Co., Chas. H. ....	126
Lister, Henry B. ....	127
Ludemann, F. ....	121
Luther, A. W. ....	121
Lynch, John .....	127
McClanahan, E. E. ....	—
Meacham, Frank A. ....	—
Miller, F. A. ....	121
Mills, A. A. ....	121
Morse & Co., C. C. ....	123
Mountain Copper Co. ....	119
Myers, Wm. S. ....	119
National Wood Pipe Co. ....	125
Niles & Co., Wm. ....	127
Oakland Poultry Yards .....	127
Orange County Nursery & Land Co. ....	125
Oregon Nursery Co. ....	123
Pacific Coast Business College .....	121
Pear Blight Remedy Co. ....	124
Pierce Land & Stock Co. ....	127
Reeves & Co. ....	128
Rhodes Mfg. Co. ....	125
Roeding, Geo. C. ....	127
Scheidecker, A. F. ....	121
Seulberger, J. ....	121
Shaw, Henry .....	121
Sharples Separator Co. ....	124
Silva & Bergholdt Co. ....	128
Simmons Hardware Co. ....	—
Smith, Francis .....	119
Snow, D. A. ....	121
Stewart, W. A. ....	121
Stowe, C. A. ....	127
Stratton, W. A. T. ....	124
Sullivan, W. ....	127
Sure Hatch Incubator Co. ....	—
Teague, R. M. ....	123
Temple Pump Co. ....	—
The Cutter Laboratory .....	119
Tribble Bros. ....	121
Trumbull Seed Co. ....	125
Tuttle's Elixir Co. ....	119
Van Der Nallen, A. ....	125
Vermont Farm Machine Co. ....	124
Wagner, J. B. ....	121
Waite, Thos. ....	127
West Coast Cresol Dip .....	118
Western Meat Co. ....	118
Willson, F. C. ....	123
Willson, J. C. ....	123
Wright Brothers .....	118

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

#### DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

**DADD'S MODERN HORSE DOCTOR.**—By George H. Dadd, M. D., V. S., containing practical observations on the causes, nature and treatment of diseases and lameness of horses—embracing recent and improved methods, according to an enlightened system of veterinary practice, for preservation and restoration of health. Illustrated. 482 pages. 5 by 7 inches. Cloth .....



YOU never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

# PLACER NURSERIES

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.



The above cut shows in actual field operation our 32 H. P. Cross-Compound Engine and 12 Bottom Flexible-Frame Steam Plow. WILL PLOW ANYTHING ANYWHERE

Write for Catalogs and Full Information.

WE CARRY SUPPLIES, AND OUR CALIFORNIA TRAVELERS MAKE HEADQUARTERS AT STOCKTON.

# REEVES & COMPANY

Western Branch  
DENVER, COLO.

Factory  
COLUMBUS, INDIANA

# Plow! Thresh!

WITH

# REEVES MACHINERY

## Nothing Experimental

Our engines are of the double-cylinder type only, locomotive-style boiler, and when so ordered are specially equipped for pulling a combined harvester. :: ::

Our special catalogue will also tell you about our Compound Grain Separator.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 9.

SAN FRANCISCO, SATURDAY, FEBRUARY 29, 1908.

Thirty-eighth Year.

## PLANTING CUTTINGS AND ROOTED VINES.

As it is just the season for vineyard planting and people in all parts of the State are putting into the soil cuttings, rooted cuttings, rooted bench-grafts, we indulge again in viticultural discussion on the basis of Prof. Bioletti's bulletin published by the University Experiment Station from which we have already reproduced certain very interesting and practical matters about vine pruning.

The basis of the grape vine is the cutting, no matter whether this cutting is to be expected to develop its own tissues into bearing condition or whether it is merely to make roots to develop the tissues of the scion which is grafted into it. For this reason it is then very important to know all that can be known about the making and treatment of cuttings. There is much philosophy about what sort of growth should be secured for cuttings, and this is all very interesting and important, as was shown by Prof. Bioletti's essay in the PACIFIC RURAL PRESS of November 10, 1906. What we have to do with at this time is not philosophy but practice: i. e., the way to make and to plant cuttings.

Cuttings should be made from well-ripened canes of medium thickness and of greater or less length, according to the climate and soil of the vineyard in which they are to be planted. The range will be from 10 to 18 inches, according to conditions. Shorter cuttings are generally used in the more retentive, heavier soils or in nursery

planting; the longer in deep, light soils for vineyards made from cuttings put in permanent place.

Cuttings are most conveniently made by means of ordinary one-hand pruning shears. In making them, the lower cut should be made just below a bud, and the upper just above a bud. These cuts should be made as near the bud as is possible without danger of destroying or removing the diaphragm which crosses the cutting at the base of a bud. Figure 2 is a diagrammatic representation explaining several things freely talked about in connection with grape cuttings and grape pruning, viz.: the node or joint of the cane; the internode or stretch of cane between the joints; the diaphragm (already mentioned), and the pith.

It is best to remove the upper bud, either when making cuttings or afterward, though this is not absolutely necessary. The bud from which growth is expected is the second from the top. The reason for leaving the internode above is to protect the second bud and to insure its strong growth. It is for this reason that the diaphragm should be left. If removed, the pith in the upper internode will be exposed to alternate wetting and drying, and may decay, thus weakening or killing the bud below.

In planting, the cutting should be placed with just one bud above the surface of the ground, as indicated by the dotted line in Fig. 1. It is a great mistake to leave more than one bud out of the ground, as this increases the danger of drying out.

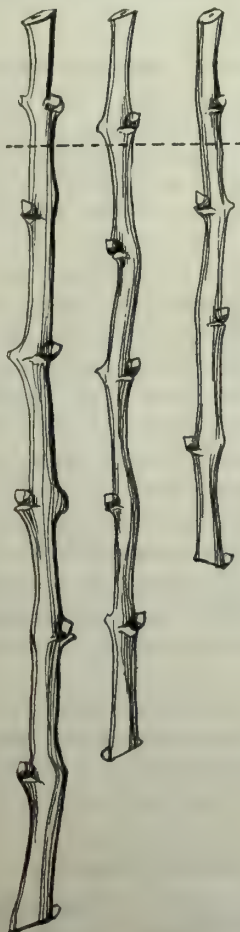


Fig. 1. Properly Made Cuttings.

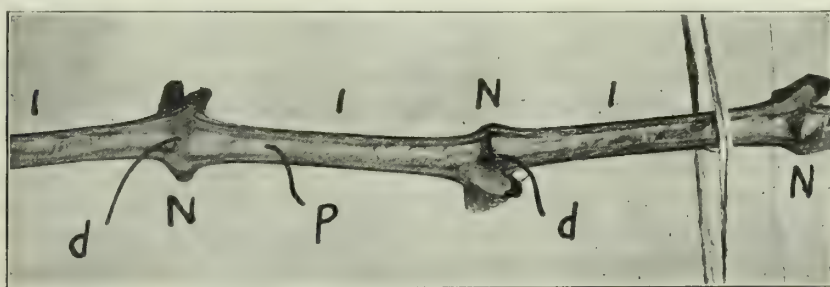


Fig. 2. Structure of Vine Cane. N, node; d, diaphragm; I, internode; P, pith.

The treatment of the young rooted vine at transplanting is closely related to the planting of cuttings. Prof. Bioletti gives very explicit advice on this subject in connection with a typical drawing (Fig. 3) of a rooted vine which has made a good top growth which also needs treatment at transplanting.

A young rooted vine before planting should have all its roots shortened to from 4 to 6 inches, according to their vigor (see Fig. 3, A, B, C). If the soil has been very deeply plowed and it is desired to plant the vines with a dibble, there is no objection to cutting back the roots to stubs  $\frac{1}{4}$  of an inch long. Such a vine will make better growth in deeply prepared soil than one with longer roots planted with a spade in shallow-plowed soil.

The top of the vine should be thinned to one cane, the strongest and most upright being left.

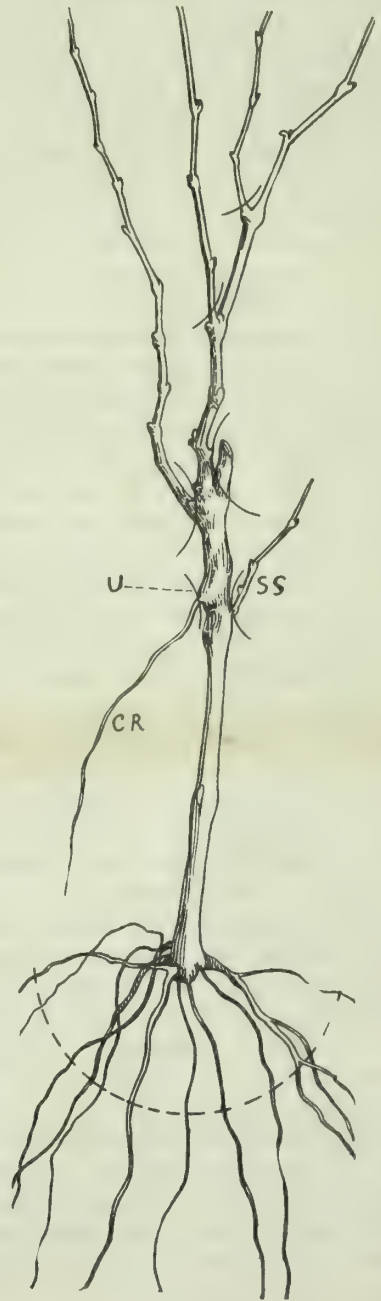


Fig. 3. Method of Pruning Rooted Vines.

This cane must be shortened to two good buds, making the cut close to an internode, as in making cuttings.

The pruning of rooted bench grafts is practically the same as that of ordinary rooted vines, though the cutting back of the single cane or two buds is best deferred until after planting and just as the buds commence to swell. This affords some protection to the graft, and makes it less likely to dry out before the sap starts and the young rootlets are formed. All scion roots (CR) above the union (U) and all suckers (SS) from below the union should be carefully removed, as marked in Fig. 3.

During the summer of the year the vines are planted, no pruning or training of any kind is needed in most cases. For this reason it is nearly always unnecessary to stake the vines when they are planted.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS  
E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

The increasing heat is bringing out a handsomer growth of grass and grain, and the park-like winter aspect of the California valleys and foothills is now being fully realized. Everything is favorable to the large acreage of alfalfa, sugar beets, fruit trees and vines, etc., which is now being put in. The agricultural interest is keenly awake and inquiry for farming lands is apparently not reduced by the stringency, as is the case with city and suburban property. The popular view is one of confidence that the land is the surest thing to give returns, although it may not be so rapid as other kinds of productive property sometimes is. The world's history justifies this view, and when other prospects are displeasing the multitude seeks to recoup itself by recourse to the agricultural industry. In our own parish this seems to be strikingly true this winter, for we do not remember a time when we have been so freely consulted by those who wish to put time and money into agricultural things, or when we had more need for a chilling conservatism to tone undue anticipation. Still the recourse is wise as a whole, and the result is great activity in rural real estate and good business for all who minister to farming undertakings. This bids fair to continue, for the transportation companies are out with their usual forecasts of increased cut-rate westward movement of home-seekers which is due to begin March 1. During recent years such forecasts have been realized, and though this is a presidential election year, there will probably be plenty of people who will be sure enough that the country is all right to lose their votes for the sake of gaining a season in California. So far as we can see, the issue is not going to be close enough to be influenced by the coming of a select few thousand to California, and the gain of these thousands may be significant enough to California during the next few years to warrant what little present risk there may be. At all events they will come anyway, and the country will have to make the best of it.

The sulphur question has passed its acute stage, though the lifting of the menace from this year's cured fruit must not be lost sight of. There seems to be an impression that the rule will be held in abeyance until this product is made and disposed of, but we have not seen authoritative announcement of that fact. President Roosevelt has adhered to his original intention of appointing a referee commission without industrial qualifications, although Californians rather strenuously asked for consideration in that line. The following are the members of the referee board:

Ira Remsen, M.D., Ph.D., LL.D., President of Johns-Hopkins University; Russell H. Chittenden, Ph.D., LL.D., director Sheffield Scientific School and professor of Physical Chemistry, Yale University; John H. Long, B.S., S.C.D., professor of chemistry, medical school Northwestern University; Alonzo E. Taylor, M.D., professor of pathology, University of California; Dr. C. A. Harter, professor physiological chemistry, College of Phy-

sicians and Surgeons, New York, and special inspector of foods.

Dr. Taylor, the California member of the board, is an exceedingly well qualified man, a leader in research in his line, conscientious and of broad views on public questions. The growers' committee under Mr. Arthur R. Briggs, is on the watch tower and will be doing things as required. The cured-fruit interest is not going to be a bit quiet.

We sometimes wonder whether the matter of experiment stations is not likely to be run into the ground. The Davis bill, which is now pending in Congress, arranges to have experiment stations in connection with agricultural high schools, which is clearly a good thing and will help the teaching and give many hints to local growers. It is said that the experimental grounds in connection with the county farms in some States are quite worth while. What makes us mistrust that the movement is being whittled down to the little end of nothing is a proposition by a Kansas Congressman involving "the establishment of 100 experimental farms of one acre each in every county in a group of four Western agricultural States for the purpose of giving the farmers a practical demonstration of the best methods of growing different kinds of crops. It is proposed that the lands for this purpose shall be furnished by the farmers themselves and that they do the work of cultivation under the direction of the experts of the Department of Agriculture. No additional appropriation from Congress will be required to test Scott's plan, it is explained, as the Agricultural Department now has the requisite number of experts to carry out the plan." Single acre plots might be useful for plant trials on a garden plan, but how to "give practical demonstration of the best methods of growing different kinds of crops" on an acre puzzles us, if there are to be many methods or many crops. Still, we shall see.

The courts say that the cities shall have clean milk and richer milk than the State law is satisfied with, if they so desire. Judge Cook recently decided that there was no conflict between the State law and a municipal ordinance, and that the latter might require a higher per cent of fat than the former. The city seems to be able to enforce its standard without the objection of the cow, either, for out of twenty-three samples of milk analyzed by the city chemists only one was found to show a lack of solids, or signs of adulteration. The week previous eight out of thirteen samples indicated that the milk was below the standard. The dairyman who blamed the poor milk upon the cow, because she made it that way, will now have to get another kind of cow or smother her poor product with something better from other members of a mixed herd. It may help a poor cow, as it does some other organisms, to be in good company.

Evidently we are to have clean sheep also. The last Legislature created a board of sheep commissioners, but made no appropriation for their compensation or expenses, and the Governor did not feel like making appointments under the circumstances. The State Veterinarian, Dr. Charles Keane of Sacramento, has been advised by the Attorney General that he can go ahead with the fight against the scab disease the same as against any disease among livestock. For several years, says Dr. Keane, there has been absolutely nothing done toward eradicating or getting scab under control. The disease has grown to such proportions that at present almost two-thirds of the sheep in the State are affected. Some flock own-

ers have been dipping their stock regularly, but the small owners have, through ignorance or neglect, totally disregarded the disease or gone about the dipping in the wrong way. Now Dr. Keane proposes to require the owners of all the sheep in the State to dip the animals under the supervision of the agents or representatives of his office. With a view of covering the entire State properly and systematically Dr. Keane has applied for and will receive the assistance of the Federal Government. The United States Bureau of Animal Industry, Department of Agriculture, will co-operate fully with the State of California in this work of eradicating scab in sheep. This work will be taken up March 1, 1908, and after that date every head of sheep in this State shall be required to be dipped under supervision of an inspector one or more times, as is necessary. So California has a scab law in operation, and sheep owners should act accordingly.

One of our Eastern exchanges recently encouraged Eastern asparagus growers by the statement that California was being chased out of the asparagus field by the rust, and therefore competition from this side of the continent would be less sharp. The facts are quite otherwise. California, as we have already stated, has learned how to keep down the rust, and is so encouraged by this fact that planting was renewed on a large scale two years ago. This year, however, we shall send east less canned asparagus than formerly because Eastern people are just beginning to learn how fine fresh asparagus is from California in February and March, and Eastern shipments will not only make some of the canneries idle, but are also taking the delicious vegetable right out of the mouths of our own people. This will not last long, however. Asparagus planting is lively this winter and the acreage will be increased sufficiently to amply supply the Eastern demand for both fresh and canned asparagus, and our own people also in both lines. California has asparagus adaptations and resources which are simply unparalleled.

## Queries and Replies.

### Strawberry Lice and Ashes.

To the Editor: My strawberry plants are covered with small white lice. What can I do to get rid of them? Is wood ashes good to sprinkle on them? Are ashes from sagebrush good to use in the garden, or do they contain alkali?—Amateur, Dos Palos.

The best treatment for plant lice is kerosene emulsion, but you must, of course, be careful to prepare the emulsion to avoid having free kerosene oil, which would kill the plants. You also need a proper sort of a spraying outfit with a Cyclone nozzle, so as to reach the under sides of the leaves, where the lice chiefly congregate. You may, of course, destroy a good many by the application of wood ashes, and if you could apply very fine ashes with a blower such as is used for the application of sulphur to cure grape vine mildew, you might get satisfactory results. Sprinkling ashes upon the plants will not avail much.

Ashes from sagebrush are good for garden use when the land needs potash. Of course, if your land is naturally alkaline, the addition of ashes might prove disadvantageous.

### Interior Limas.

To the Editor: I have a small ranch of 20 acres in the foothill region, 3½ miles east of Pasadena. The land has a gentle slope and is admir-



ably adapted to grapes. Adjoining is a vineyard of 180 acres. The land has no water and depends on frequent cultivation. Two years ago this land grew a fine melon crop. Last year it was sown to barley, which was a light crop. The soil is rich, and weeds flourish like tropical plants if not subdued. I wish to ask your opinion if I could raise Lima beans on this land to profit this year. Is the climate of Pasadena too hot for beans? Can beans be grown to advantage inland without irrigation? Is my land, about 37 miles distant from the ocean, too far away to get the benefit of the modifying influence of the ocean? Do you think with careful cultivation that I would be assured a crop?

Lima beans are grown successfully on the San Joaquin ranch, east of Tustin. I do not know whether they irrigate or not. Lima beans are grown east of Sawtelle, ten to fifteen miles distance from Santa Monica, and without irrigation. This region, of course, has the benefit of fogs and both sea and land breezes.—Reader, Los Angeles.

Your description of the conditions of your land east of Pasadena and such knowledge as you have of the requirements of lima beans as shown at Santa Monica and in Orange county, would indicate that you have gone about as far in this matter as anyone can go without an actual experiment.

Lima beans are not successfully grown away from the coast, either with or without irrigation. They suffer from dry heat in field culture; although it is quite possible in irrigated market gardens to grow them on a small scale for local sale, probably because the local atmosphere is rendered somewhat moist by the irrigation and the abundance of other succulent vegetation.

The only thing for you to do is to put in some lima beans, that is, a few of them, sufficient to demonstrate what you desire to know. If we were compelled to guess at it, we should say that the beans would be short of moisture during the latter part of the summer, and this would be serious, because they would not have the evaporation checked by ocean influences as they do in the bean region of Ventura and in the Santa Monica district.

#### Pruning Almond Trees: Grafting Wax.

To the Editor: I have a number of almond trees 12 years old that have never been pruned. They have been gaining in height year after year until it was a problem this year to gather the nuts. What is the best way to handle them—give a severe pruning or let them go as they are? Will you also kindly publish a recipe for a grafting wax that will stand the spring sun here without melting and running off.—Reader, Kingsburg.

We should let the almond trees go as they are, except to thin out somewhat if the branches are in tangles. If you cut back severely you will be busy for years thinning out, or else the trees will be thickets. We have published many grafting wax recipes, but rather than make our own we should try "Snow's grafting wax," made in San Jose and in the trade generally. If anyone thinks he has a recipe better than that we shall be glad to print it.

#### Carobs in California and Elsewhere.

To the Editor: We send you a sample of what seems to be a small bean, and would be glad to know the name of it.—Readers, San Francisco.

The beans are the fruit of the carob. This is grown in the Mediterranean district for the sake of the sweet pods and nutritious seeds. These are supposed to be the "husks which the swine did eat" in the story of the prodigal son, and we used to feel worse for the prodigal when we were a boy and supposed that unfortunate chap had been trying to live on corn husks. The shuck or husk of the carob bean is rather sweet and nice.

Considerable quantities of these beans are ex-

ported from the Mediterranean district, and some are brought to California by a party whose name we forget, but who is engaged in the preparation of proprietary stock food. This tree grows well in parts of California, and is also producing seed in some quantity. Mr. E. B. Beecher, Auburn, is growing it. It is also doing well on the University grounds, and there are some old bearing trees in the Santa Clara valley which were introduced by the late Mr. Arnerich. The tree is well adapted to considerable areas in California, and might be profitable. We shall have an early opportunity to print an account of it from the consular reports.

#### Muscats in Southern California.

To the Editor: Here in Etiwanda we have trouble in getting our Muscat grapes to set a full crop. There are always enough bunches, but just as the little grapes are forming they drop and leave the bare stem hanging to the vine. I am going to get a spraying outfit and spray my vines once before they start to grow and once after they begin growing. I would like you to advise me what kind of a mixture to use each time. If we could overcome dropping of the grapes we would be sure of a large crop every year, excepting frost injuries. We are growing cover crops in our orchards, and with good success, using peas and vetches.—Vine Grower, San Bernardino.

The Muscat grape has always been somewhat uncertain on the southern California mesas. The failure of the fruit to set is due to obscure trouble, which is called "coulure," and is produced by a lack of pollination of the blossom. Just how to overcome this has not yet been ascertained. In the San Joaquin, the coulure is, in some cases, believed to be reduced by an early use of sulphur. If you wish to try the efficiency of spraying, the Bordeaux mixture is the first thing to use.

#### Corn for Silage.

To the Editor: I write you for a little advice in regard to selecting seed corn for a small field in Marin county. The field has a very rich alluvial soil and for a number of years produced good crops of corn, which gradually deteriorated until last year it was found necessary to change it to oats. We wish to get it back into corn this coming season, and are anxious to get seed which will produce the very best results. The corn is usually cut up for fodder just when it begins to dent, and we desire a variety which will produce the best results both for fodder and grain. Do you know anyone in California who could furnish seed for this plot of ground which would give the results desired? We have thought of shipping seed corn from Nebraska, but hesitate to do so on account of the difference in climatic conditions. What would be your opinion of using Nebraska corn for the above field?—Owner, Marin county.

We in California really know very little about corn. We would advise with San Francisco seedsmen concerning the corn which is chiefly grown for silage in this State. They must supply such seed, because much silage is made in places where conditions are not favorable for the ripening of corn. As for shipping corn from Nebraska, the probability is that, at first at least, it would make a little freer growth in California than it does in Nebraska, and this free, tall growth is just what is wanted for silage purposes. For this reason it seems to us it would be desirable to try the largest growing Nebraska varieties.

#### Sales of Eucalyptus Logs.

To the Editor: Will you kindly inform me what market there is for logs of the rostrata or red gum. It costs about \$3 per cord to work it into stovewood, which is worth about \$4 on the ranch corded up. Where does the big profit come in as figured out in articles appearing at different times in your columns? If there is a market for

the logs I want to know it. Splitting is a hard proposition. My trees are two feet or more at the butt and probably 30 years old or more. I wish to remove them to make room for fruit trees. The gum appears to do well here in strong alkali soil when once started.—G. A. Roberts, Hanford, Kings County.

These are things which we also would like very much to know. We have put in warning notes frequently in connection with the high values of eucalyptus timber which writers make use of. It seems to us that they need, for their attainment, a sawmill, a lumber yard, and a hustling salesman, and all these cannot be supplied on every ranch. At San Jose there is a special eucalyptus sawmill and trade outfit, and we understand that they are short of logs. How far can they be profitably shipped by rail? What are the San Joaquin lumber mills ready to do with eucalyptus logs? Except in a few places, perhaps, these figures on the value of gum logs seem to us prophetic rather than actual. Who will write us how he actually finds it?

#### Lime and Peanuts.

To the Editor: I wish to know the most economical method of supplying the soil with lime. Peanuts on this soil produce a large proportion of unfilled pods, and I am informed that this is caused by a lack of lime in the soil. What would probably be the cheapest means of supplying the same?—Farmer, Corning.

Ordinary builders' lime is the cheapest form in which you can obtain that material for use on the soil. If it has been air-slaked it is more available for distribution. Consequently, refuse lime which might not be sharp enough for builders' use would be perfectly good for application to the soil. Surface sowing, or scattering, at the rate of 500 to 1000 pounds to the acre at a single application would do, and several such applications can be made if it is found to work well. Usually California soils are so well supplied with lime that it is not necessary to add it, except to heavy soils for the purpose of rendering them more friable. Our light, loam soils are generally not helped by the use of lime. What effect it will have upon peanuts under your conditions can only be told by experiment.

#### Cultivating Berries.

To the Editor: Will you kindly advise me through your columns as to the care of raspberries? How many canes should be left to a vine or hill? Should they be cut back? Some advise cutting back at intervals during spring. Which is best, to plow and cultivate the same as an orchard, or run cultivator through them?—Subscriber, Sebastopol.

These are all things requiring judgment, and methods will vary under different conditions. As for number of canes, it will vary according to the strength of the stool; it is a good rule to take out all weak ones and save the others, unless there are clearly too many—four to six ought to be the average. They should be cut back so as to force fruiting laterals on the lower part of the cane and not have a lot of top fruit to beat about in the wind and out of easy-picking reach. Cutting back to four or five feet will generally do. Pinching the new growth is theoretically perfect but practically impracticable, so to speak, if one is doing field culture. A few plants in a yard can be made very pretty and productive in that way. In light soils not disposed to compact, the cultivator alone will do, although one plowing is better. On heavy soils, needing lightening up, one plowing is indispensable as a foundation for good cultivation. Think about what you are doing and watch your plants; they will teach you a lot.



## Sylviculture.

### EUCALYPTS FOR ARIZONA.

By PROF. J. J. THORNER, Botanist of the University of Arizona Agricultural Experiment Station, Tucson.

No group of plants, perhaps, is the subject of greater inquiry in southern Arizona at the present time than the Eucalypts. The importance which this remarkable genus is assuming in parts of California as a producer of wood that can be turned to a variety of purposes, together with the similarity of the agricultural valleys of southern Arizona and certain interior ones of California where the trees are grown successfully, is responsible largely for this growing interest. On account of the marvelous growth of Eucalypts, which enables the California planter to net handsome profits from his groves, it is only natural that their planting should be given consideration here.

If the most drouth-resistant varieties of Eucalypt trees are once well established during a period of wet years, or better yet, by means of moderate irrigation, there appears to be no good cause to believe that they may not be grown successfully with limited irrigation on lands that are of secondary value for cultural purposes at the present time on account of limited water supply. Also waste pieces of land about the farm, borders of ditch banks, and even roadsides, might well be planted with these useful trees.

Examples are known of small groups of Eucalyptus trees growing in valley lands, which are usually deep and alluvial in nature, for periods of six to ten years without irrigation. Not infrequently the underflow in these valleys is within reach of these deep-rooting trees, which undoubtedly explains in part their ability to grow under such extremely arid conditions. However, the writer would warn the practical planter not to expect too much from trees growing with a limited water supply.

Eucalypts to grow in the warmer parts of Arizona must be able to endure maximum temperatures from 108 degrees to 120 degrees F, with low humidity and intense sunlight, and also survive ten to twenty degrees of frost in winter. It will be interesting to note that almost without exception the varieties that are capable of growing under a wide range of conditions in California are the identical ones that succeed best with us. Except in sheltered situations, it remains to be seen whether any of the species can be grown with success at altitudes above 2000 to 3000 feet.

The species that have been found to withstand best the above conditions are the forest red gum, *Eucalyptus tereticornis*; red gum, *E. rostrata*; desert gum, *E. rudis*; red box, *E. polyanthema*; narrow-leaved iron-bark, *E. crebra*; and manna gum, *E. viminalis*. According to Professor McClatchie sugar gum, *Eucalyptus corynocalyx*; white gum, *E. leucoxylon*; and gray bark, *E. hemiphloia*, grow successfully at Yuma and Phoenix; and there is even a possibility that blue gum, *Eucalyptus globulus*, will survive in the mildest situations near Yuma.

Forest red gum, *Eucalyptus tereticornis*, is a rapid-growing tree, and considered valuable in Australia for its lumber. When planted near together the trees become tall and erect with uniform trunks, while if scattered they are likely to grow stocky and branched. A small clump of this species is growing in the Santa Cruz valley three miles northwest of Tucson. These have never suffered any injury from our wide range of temperatures. It is stated that they have not been irrigated during the past six years. At this time they are about twelve years old, and the taller ones range from fifty-five to seventy feet high, with trunk diameters fourteen to seventeen inches.

Red gum, *Eucalyptus rostrata*, is quite similar in appearance to the last species, being nearly related botanically. Though it is thought to be less drouth-resistant than the forest red gum it is apparently equally resistant to our temperature extremes. Its growth is rapid, though somewhat variable, some trees being tall and straight, others irregular. In Australia it is considered one of the most valuable of Eucalypts on account of the extreme durability of its wood. It is being much

planted in parts of California at this time. Professor McClatchie recommends the red gum very highly in his bulletin on Eucalypts cultivated in the United States. Good specimens of the red gum can be seen growing in Phoenix. It is said that this tree can be planted in land that is periodically inundated for a considerable time, also in slightly alkaline situations.

Desert gum, *Eucalyptus rudis*, has been planted more, perhaps, in southern Arizona than any other variety. With favorable conditions it is said to be one of the most rapid growing of Eucalypts, especially when young. At Tucson it has shown itself extremely resistant to summer heat and winter cold, never having suffered any injury therefrom. It is also drouth-resistant. For ornamental planting it is one of the best. Its commonly erect habit, combined with its symmetrical form and dark green foliage, makes it a desirable tree for shade or avenue planting. There are two forms of the species, a weeping one and an erect oval-leaved one, the latter of which is the most desirable. Specimens of this tree growing under rather unfavorable circumstances on the University campus at five years of age average twenty to twenty-two feet in height and five and one-half to six and one-half inches in diameter. The desert gum, especially when newly set, is subject to a chlorosis or yellowing of the leaves which eventually kills the tree. The disease is known locally as "frizzling" from the abnormal bush-like development of the young limbs. The affected plants should be replaced early by healthy ones.

Red box, *Eucalyptus polyanthema*, is another species equally resistant to heat, cold, and arid conditions. It is of a more or less erect habit, usually with a single stem, though not always symmetrical in development. Its silver-gray round leaves render it a conspicuous plant in a landscape, contrasting nicely with trees having dark-green foliage. On this account it should be used considerably for ornamental purposes. A fine lot of young trees of the red box two years after planting may be seen on the west line of the University grounds, also on the Station farm at Phoenix. Those at the University average fifteen feet in height and three inches in diameter at the base. The red box is not so desirable for shade as the desert gum, on account of its less dense leaf canopy. There are probably few localities in southern Arizona having altitudes below 3000 feet where with sufficient, though scanty, water supply these two species may not be grown.

Narrow-leaved iron-bark, *Eucalyptus crebra*, also endures nicely the climatic conditions at Tucson. The trunk is ordinarily straight and of uniform diameter, and with the willow-like leaves and pendulous branches gives to the tree a graceful appearance. The narrow-leaved iron-bark is not known well enough yet, however, to be highly recommended. It is also subject to the chlorotic condition already noted for *Eucalyptus rudis*.

Manna gum, *Eucalyptus viminalis*, is growing successfully at Yuma and Phoenix. It is a very rapid grower, and in Australia becomes one of the largest of Eucalypts. It was formerly much planted in California, but because its wood is of very secondary value, even for fuel, it has been largely superseded by the red gum. It is said to be of some value as an ornamental.

With reference to Eucalypts for particular localities, the writer would suggest for altitudes up to 3000 feet, as on the upper Gila, desert gum, *Eucalyptus rudis*; forest red gum, *Eucalyptus tereticornis*, and red gum, *Eucalyptus rostrata*; for the Salt River and Colorado River valleys, desert gum, *Eucalyptus rudis*; red gum, *Eucalyptus rostrata*; red box, *Eucalyptus polyanthema*; forest red gum, *Eucalyptus tereticornis*; narrow leaf iron-bark, *Eucalyptus crebra*, and manna gum, *Eucalyptus viminalis*.

The most favorable time to set out Eucalypts is from the middle of February to the first of April, according to locality. They may be planted from four to ten feet apart, depending upon the water supply. The closer they are planted together the greater will be their tendency to produce straight timber. Small trees may be obtained from California nurseries. Under our conditions of arid climate and more or less alkaline soil, the small planter will find it advisable not to attempt to grow Eucalypts from seed in Arizona, as he is almost certain to meet with failure.

## The Field.

### GROWING CALIFORNIA ONIONS IN STATE OF COLORADO.

A report was current in eastern journals some months ago that onion bulbs were grown in Colorado by California growers with the idea of bringing them back to this State to plant out for seed bearing. It was claimed that this was done to re-vitalize the bulbs so that they would bear stronger seed. A California seed grower, in a letter to the *Florists Review*, repudiates any such idea. He says:

The writer is in error in regard to the growing of onions in Colorado, or in any other place outside of the State of California, to improve the quality of the stock seed that is planted here, not only by ourselves, but by all the growers on this coast. The facts are that the California growers for the past season, owing to the onion districts being flooded during the month of March, necessitated finding districts to grow their onion bulbs in neighboring States, it being too late to re-sow here. It was for this reason, and for this alone, that the onion growers produced a large quantity of their onion bulbs this season in Oregon, Utah, and Colorado. Had we not done so, we would have had no onion bulbs to plant for seed purposes this Fall, and we beg to state right here that the seed stock which was given to the onion growers in the other States mentioned is the same identical seed stock that would have been planted here in California were we in the position to re-sow our fields after the flood. The thought that any of the growers went outside of this State with revitalization in view is wholly in error. The writer claims without fear of contradiction that California produces seed of the highest quality, equal to that grown in any other section of the United States or Canada.

Mr. W. V. Falconer, who has entertained the idea that such a re-vitalizing process was intended, replies to the letter of the California seed grower, in the *Rural New Yorker*, as follows:

In accepting this assurance we venture to predict benefit from a continuance of the plan of growing onion bulbs in climates where the seasonal changes are sufficiently well marked, even if the actual commercial seeds are afterward grown in the sunlit valleys of California, where absence of rain and low atmospheric humidity favor easy harvest and abundant crops. The long-keeping varieties most in demand were developed in comparatively high latitudes in Europe and America, where the short summer is followed by a long, cold, resting season, thus inducing the plant to form a capacious and shapely bulb for the storage of the energy needed to start effective growth during the cool weather of the following spring. Deprive the onion plant of its accustomed climatic changes, and deterioration, from the gardener's view, soon becomes apparent, and will naturally progress at an increasing rate. The large, watery onions of the Prizetaker or Mediterranean group were bred in a milder climate, where the seasonal changes are less sharply defined. Their resting season is short, greatly lessening their keeping quality. The best seeds of the Mediterranean varieties are now grown in Tenerife, off the coast of Africa, and they may be expected to succeed as well under California conditions.

[We doubt if Mr. Falconer can establish his claim. The length of the growing season in California and the full maturing of the bulbs by the advancing dryness of the soil produces perfect bulbs, not alone of onions but of other less fragrant plants. Of course onions grown with too much irrigation or on soils naturally too wet might not attain such maturity, but they would be an exception and not the rule.—Ed.]

### Those Irish Problems.

To the Editor: I can assure Subscriber of Oakland that there is not any such system as a "lazy soil system," even in Ireland, that I know of.

There is a system of growing potatoes called the "lazybed," which is done as follows: Plow a furrow for a certain length and then turn short



and plow back, and so on until you make a bed say six feet wide. The potatoes are then set in the sod every 12 to 14 inches apart. It is then hoed up with a hoe called a "griffawn" and left for a short time. The dead furrows are then plowed or dug up and the earth thrown over the bed, say 2 inches in depth. This is then left until the potatoes are 3 or 4 inches high, when it is again covered with earth up to, but not over, the plants. This is called the "second earthing," and they would be no good without it. This is called the "lazybed" plan, but I think that it is chiefly useful for drainage, as there are open drains on each side of the beds.

About the other question about cattle in the West Meath, there is no doubt but that they have fine pasture grasses there and they do send fine fat cattle and sheep to market, but most of these cattle are fed through the winter with hay and are finished off in the good grass. I should say that Dublin, Liverpool, and Manchester take all these cattle that are fat; London the least, if any. Most of the cattle that leave for England are store cattle, poor and underisable, but when on the other side are bought by farmers to feed and fatten.

The grasses are native, since the pastures have not been broken up for centuries. Limerick, Cork (east part), Tipperary, Waterford are all the same about grazing.

W. J. B. MARTIN.

Redding.

## Horticulture.

### GRAFTING THE CHERRY.

Mr. E. C. Armstrong, fruit inspector for Marion county, Oregon, gave at a recent meeting at Salem his idea of grafting the cherry tree in the Willamette valley. It seems that in that district many persons are planting the seedling tree with the idea of top-grafting so that the body and the main forks will be in the Mazzard seedling. This is recommended by Mr. Armstrong, but he does not state why. The way to get such a tree he describes as follows:

When the tree is planted, the top should be cut off at a height of not more than 20 inches from the ground. This will form a head, and four or five limbs should be allowed to grow the first year. The following spring three of the best of these limbs should be chosen as the ones on which to graft the variety selected.

**The Tongue Graft.**—There are several methods of grafting, but the one which I would recommend for the grafting of the young trees is known as the tongue graft. This is made by cutting the stock to be grafted at an angle of 45 degrees, making a slit lengthwise of the limb and parallel to the sides in this cut. The scion is treated in the same manner, and the 'tongue' of each of the parts is then slipped into the slit in the other, and a successful graft is assured if proper precautions are observed in the waxing.

**The Wedge Graft.**—Another method is known as the wedge graft, and is one that I would recommend for the larger limbs. This is well known to most of the horticulturists of the valley, and needs but little description by me. This is performed by cutting the limb square off at the end, and then making it smooth with the knife. A cut slit is then made through the bark into the wood, parallel with the limb, and following the regular shape of the limb. Never make a cut straight into the tree, toward the center, as this is more difficult to heal over. The scion is next cut to a point, and in a wedge shape, and is inserted into the cut in the limb, in such a manner that the thick part of the wedge is outermost.

**The Method of Waxing.**—The place where the graft is made is waxed for the purpose of excluding air and moisture and preventing the evaporation of moisture from the scion. The wax is made by taking six parts of resin, one of beeswax, and one of tallow. Melt these together, and apply to the entire graft with a brush while the wax is yet warm. Be very careful to see that all wounds in the tree are thoroughly covered.

**Cultivation.**—Some persons have the idea that

cultivation of the cherry tree is not necessary. This is an error. The trees should be given a thorough early cultivation, which should cease in time to allow the wood to ripen before the winter season sets in. [This is for places where there is harder freezing than is common in the California valleys.—Ed.]

**Grafting the Old Trees.**—There are many old trees in this valley that are practically worthless as they now stand, which by proper top grafting can be brought into bearing and made profitable. I would recommend the Royal Ann or Lambert varieties, for they are better than others.

### CANNERS' VARIETIES.

Mr. E. A. Francis, who has just been chosen manager of the new Modesto cannery, has prepared for the guidance of local planters a list of the best varieties of fruits and vegetables to plant, from a canner's point of view:

Apricots—Blenheim, Royal, Moorpark.  
Blackberries—Lawton, Early Crandal.  
Cherries (black)—Black Tartarian, Black Republican.  
Cherries (white)—Royal Anne, Centennial, Governor Wood.  
Grapes—Muscat.  
Peaches (free)—Muir, Lovell, Early Crawford, Foster, Mary's Choice, Salway.  
Peaches (cling)—Phillips, Tuscan, Sellers, Lemon, Orange, Levi, California, Nichols.  
Peaches (white cling)—Heath, McKevitt, Winters.  
Pears—Bartlett.  
Plums—Egg, Washington, Green Gage, Gold Drop, Jefferson, Burbank, Silver Prune.  
Raspberries—Cuthbert and Red Antwerp.  
Strawberries—Longworth, Dollar, Linda.

### PROTECTION OF FRUITS FROM FROST INJURY.

By PROF. A. G. MCADIE, U. S. Weather Bureau, San Francisco, in a circular to call the attention of weather observers to phenomena worthy of study.

[Concluded from page 117 of last issue.]

The warming or the chilling of the ground has not much effect upon the air at a distance of 10 or 12 feet. That is to say, the rate of heat conduction from one layer to another is very slow. Therefore it is not unusual on frosty nights to obtain readings of 32° F at the ground, while at 6 to 10 feet above the ground the temperature may be 36 to 38° F.

Under the third head; viz., the construction of devices and apparatus for use in orchards, vineyards, gardens, etc., we believe that each local forecaster can contribute materially to successful work by examining, in position for operation, any device brought to his notice. It is suggested that he read up the history of the wire coal baskets, first used by Edward Copely at Riverside, Cal.; the use of oil by Everett at Arlington; the application of hot water, first used by Meacham; the smudge machines of Hall, Hammond, and others; the oil pots; and the small cheap, sheet-iron stoves in which briquettes are burned, and which are now on the market. The methods of protection by covering, whether cloth or lath, should be looked into. The question of expense will determine the availability of the method. In California the diversity of interest is so great that no general recommendation can be given, and in each locality the local forecaster should fit the method to the fruit. In the Riverside, Redlands, Colton section the orange naturally claims first attention; at San Diego, both lemons and oranges; in the foothills of the San Joaquin, oranges; in the valleys, the grape vines in the spring; in the Sacramento Valley, the garden truck; in the Bay valleys, the almonds against the late spring frosts; and in northern California, the deciduous fruits. In all directions there is room for improvement. And not only in the construction of apparatus, but in the manner of application. Particularly valuable are cases where apparently effective devices fail to accomplish the desired protection. Such cases should be studied and the reason for failure ascertained. This constitutes progress.

Under the fourth heading—use of our knowl-

edge so that a maximum good result may result—much of what has been said above is applicable. As an illustration, we may instance the case of a large number of fruit growers in a certain section working together. The result was success, where individual effort previously had not been altogether successful. Study your community, as well as the physical problem or the efficiency of the machine.

### BUDDING THE ORANGE.

Mr. E. L. Koethen of Riverside gives the Fruit World advice on this subject in answer to a correspondent who wishes to know how to proceed to bud over a block of orange trees. Part of them were topped off last summer, and have grown sprouts for budding into; the balance of the trees are not topped. As to the sprouted trees, the process is a simple one. The operator may as soon as danger of killing frost is past, and growth begun, go over the trees and thin out the sprouts so as to leave an abundance of well located sprouts for budding into, at the same time selecting the most vigorous. This is sometimes perplexing, as the most vigorous are not always located at the best points to make a good shapely tree; so it may sometimes be necessary to sacrifice the best and use a second choice. If the limb to be supplied with buds is two inches in diameter or under, it is easy enough to decide. Select the best, and if it is not located near the end, the limb can be stubbed later close to the bud. This is in order to bring the stub so close to the budded twig that as it grows it may clasp the wound, and in time grow it over entirely. With larger limbs, two or more shoots must be left, so distributed that they will keep the sap flowing to the top of the branch. Otherwise in time you will find the bark dying down in irregular patches from the top, making vulnerable points for decay to attack your trees in after years. The twigs selected should be as close to the top as possible, and at regular intervals around the limb. From two to three, or in extreme cases four, are enough. It is better to leave too many than to be stingy. If in after years it is deemed advisable some may be thinned out, and an abundance makes allowance for loss by accident. In this pruning the thorns may be cut off, and if the leaves are in the way they should be taken off, in order to prepare the way for the budder.

The untopped trees will be best budded into the heavy bark, if you can obtain an expert budder to insert the buds. As this is much more difficult and requires much more experience than budding into sprouts, the need of experience becomes apparent. In order to prepare these trees for budding a portion of the top should be removed before the buds are inserted. The best time for this is after the sap has begun to flow. The budding may then follow closely in the wake of the pruning. This is to call into service the "repair gang of the citrus service." When the superfluous tops are removed, there is an excess of sap being brought up by the roots, and not going to the tops, which have been removed, an extra active growth takes place in the remaining branches, which is the "psychological moment" for your buds to be knitting. Nature always sends special energies to the organism that has been injured, hence heavy pruning always means a vigorous growth to follow.

In this pruning the limbs should first be selected which are to bear the buds which are to form your new tree. Then all else should be severed clean, and if, owing to the shape of the tree, this does not take off about one-third of the top, the top should be thinned out by further cutting. Some budders leave a low hanging branch to draw the sap and keep the roots active, after the tops are removed. This is better than removing all the tops at once, but we believe it better to leave some of the budded branches girdled, a process which we will describe later. The advantage of the latter method is that upright branches may be selected, which will not act as an umbrella over the tree during the first winter. The low-lying limb is usually removed in the summer, and even if left over winter is of little service as a protection. All this done, your trees are ready for the insertion of buds. The best time is at the first vigorous flow of sap.



# BEEF SCRAPS RAW BONE

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

## POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

## West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide, and Disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool, but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25% Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils which run about one-half the strength of imported oil. Permission was given by the U. S. Department of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For Sale by many Dealers. If yours does not keep it, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

## GRAFTED Franquette Walnut Trees

Walnut trees require 1600 to 3600 square feet per tree, according to the soil. A tree planted to fill that space cannot be too good. In other words, too much care cannot be taken to be absolutely sure that the variety being propagated is true to name and that the seedling trees used for grafting shall be only those of first-class strength and vigor, everything else being rigidly discarded.

Our stock is selected *only* from strong, vigorous seedlings of the best types of the California Black Walnut; and our grafts were taken from our own trees, and they were grafted from the best bearing trees in the famous Vrooman grafted Franquette orchard.

Write for circular and price list if you are interested in walnuts.

**IMPERIAL WALNUT NURSERY CO.,**  
F. A. LEIB, Manager,  
SAN JOSE, - - - CAL.

## The Dairy.

### About Dairy Hogs.

M. B. Stevens of San Mateo discusses in the Pacific Dairy Review a question of great local importance, viz., the raising of hogs in connection with the production of milk. In the Eastern States the practice is just as common, but where we have the year around growth of alfalfa to supplement the feeding of skim-milk they have cheap grain—corn. In parts of our State, where alfalfa is not grown, skim-milk is often nearly the sole ration of the hogs, and with this kind of feeding I have found from experience that there is a certain per cent of the hogs that take on symptoms similar to what is known as "swine plague."

It was this disease that threatened to make hog raising on skim-milk a failure with the herd I had charge of, and I have reason to believe it must be common in other dairies where similar feeding is practiced.

To describe the disease: In the first stages the hogs began to get thin and cough a good deal. They showed a disposition to lie buried in manure or litter much of the time, and then gradually their hind legs became too weak to hold them up. In the last stages the hind quarters became lifeless and they were unable to use them at all. Then we either killed them or they died from starvation. Sometimes an apparently healthy sow would have a large litter of pigs, and from the first some of the pigs would show leg weakness, but would thrive pretty well until they were weaned, then usually they would get worse and finally die or be killed. Occasionally some of them thus affected would get stronger and live. A hog a year old was rarely affected, although we did have an old boar that was closely confined that finally lost the use of his hind quarters. It usually affected the hogs when they were in that rapid growing stage, about eight weeks old.

The place where we kept the hogs was a pen, where all the cow and horse manure was dumped. The idea was for the hogs to get what grain was left in the manure, as the cows were heavily grained, and also for them to mix the manure. There was a small yard connected, with a few pens for the brood sows and place for feeding the milk. With this arrangement the hogs had no pasture and very little access to the soil.

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

They were fed all the skim-milk they could drink night and morning, and with what they got out of the manure, that was their living. Those that were not taken sick grew fine, but there was such a large number of them dying off it looked as though they might all get it. We had tried giving them medicine and bringing in new outside stock and getting rid of the old breeders, but it appeared to help matters little. We finally came to the conclusion that possibly feeding so much skim-milk and keeping them so closely confined was the cause of the trouble. So we fenced in a strip of land adjoining the manure pen and allowed the younger hogs to run out and get more soil and some pasture. They also had access to the manure and we fed all the skim-milk they would drink as usual. The result was that fewer hogs became affected and we were able to keep many more. We also found it beneficial to keep before the hogs continually a mixture of wood ashes or charcoal and salt in proportion

### WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25 cents.

## MEXICO

### THE IDEAL SPOT

For Miner, Agriculturist, or Pleasure Seeker.

**Are You  
Interested in  
Mining?**

Then the MEXICAN CENTRAL is the line touching Zacatecas, Parral, Guanajuato and other famous mining districts, the latter destined soon to become one of the greatest mining centers in the world.

**Are You  
Interested in  
Agriculture?**

If so, the MEXICAN CENTRAL'S *through daily train service* will land you in safety and comfort where are located the most desirable lands in this Republic.

**Are You  
on Pleasure  
Bent?**

Then *by all means* the MEXICAN CENTRAL RAILWAY should be your choice, touching as it does nearly every interesting city and health resort of Mexico—Guadalupe, Lake Chapala, Cuernavaca, Tampico, and many more.

**Thru Daily  
Pullman "Broiler"  
Car Service**

Between El Paso and Mexico City; between St. Louis and Mexico City, via San Antonio, C. P. Diaz and Torreon; between Mexico City and Guadalajara, and San Luis Potosi.

For Detailed Information, Illustrated Booklets, Rates, etc., Write

J. C. McDONALD,  
General Passenger Agent  
Mexico City, D. F.

H. J. SNYDER, G. A.  
15 Flood Bldg.,  
San Francisco, Cal.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



of about one of salt to ten of ashes. A government bulletin recommends adding a few ounces of copperas to act as a kind of a tonic.

Hogs fed on skim-milk and what they get from manure are practically a clear gain, aside from the labor of caring for them and cost of new breeders. When selling these hogs to the butcher he was surprised at the firmness of the flesh, not equal to grain fed hogs but they brought prices but little lower. It is claimed by an eastern experiment station that sour skim-milk is a better feed than sweet skim-milk, but for feeding about a dairy to have sour milk standing in tanks to draw flies and make a bad smell, it is not desirable. There is no trouble getting the hogs to drink all they will hold of good, sweet, separator milk.

In conclusion, my experience has proven that hogs may be grown with good profit from feeding merely skim-milk and what they can get from the manure of grain fed cows. The loss from what may be termed "swine plague" or leg weakness, may be reduced very materially by allowing the growing pigs the run of a small pasture and plenty of dry earth and supplying them with plenty of wood ashes and salt. In the rainy season it is best to furnish a shelter and a good tight floor, well up from the ground.

#### Organized Efforts for Better Cows.

Clyde Mitchell, a student at the State Dairy College at Ames, Iowa, who is now spending his vacation with his parents, S. H. Mitchell and wife, of Eureka, has written for the *Ferndale Enterprise* a very interesting and instructive article regarding the formation of cow test associations. This will be of interest to every dairyman in the valley and is as follows:

Cow test associations were first started in Europe, on which continent there are several thousand. They are most numerous in Denmark, Holland, and Sweden. In Canada there are 58, and in Minnesota a few have recently been started. The purpose is, of course, to determine accurately which cows are profitable and which are not. In Denmark the test associations have increased the production of butter fat per cow 10 per cent.

No place on earth is better adapted to cow test associations than in Eel River Valley. In no other place are there so many large dairies in so small a territory. In the Center West the number of cows per dairy seldom exceeds 10 or 15, and the milking is a side issue and a chore. Here the situation is radically different. It costs little more to test 60 cows than it does to test 15.

The advantages of an association to a dairyman are several. In the first place, he can intelligently weed out unproductive cows. No sane dairyman will deny but there are many cows in Eel River Valley that are not worth their keep. Of two cows tested at the Ohio Experiment Station, one yielded 5754.9 pounds of milk per year, containing 330.2 pounds of butter fat. The other yielded 7365.1 pounds of milk containing 241.4 pounds of butter fat. The profit on the first cow per year was \$50.72, while that on the second was \$24.82. Most any of our dairymen would have beefed the first in preference to the second. Second, most dairymen raise heifers each year; and it is important that they save them from their best cows. Third, a dairyman could keep track of what each milker was doing, and the milkers would take pride in keeping their string up. Fourth, the dairyman would take more interest in his work, and would get increased pleasure as well as profit. Fifth, if the dairyman were selling out and had improved stock, he could obtain a large price if he could show a record of each animal kept by a reliable tester. Sixth, if the tester were a man of experience, education and judgment

he could advise the dairyman in different matters when called upon to do so. The very fact that he was traveling from place to place would put him in a position to do this.

The difference between the farmer and the business man is that the latter keeps books, while the former does not. Swift & Co., probably the largest and most successful meat packers in America, have their business so systemized that at five minutes' notice their book-keeper can trace any lot of hogs through the slaughter house, and can state to one cent the profit or loss from the sale of fresh meat, bacon, ham, and lard. Let us suppose the case of a renter whose gross receipts are \$6000 per year and whose profits are now \$1500. If he can increase his gross receipts by 10 per cent, as has been done in Denmark, without materially increasing the expense, then his gross receipts will be \$5600. His profit will be \$2100, or an increase of 40 per cent. If he increases his gross receipts only 5 per cent he increases his profits 20 per cent.

This testing can be done by at least two systems with slight expense or trouble to the dairyman. The dairymen can form an association and hire their tester, or a competent man can make a canvass of the dairymen and begin work when he secures a sufficient number of subscribers to justify him. The essential feature for the success of either plan is that the tester be thoroughly competent and trustworthy. The tester should own his horse, wagon, scales, sample bottles, test ware, acid, and stationery. The dairyman should feed the man and horse and keep them over night. The creamery should furnish the tester steam. The tester should be present during the evening and morning milking once a month, should weigh each cow's milk, credit her with the weight and take a composite sample. During the next forenoon he should do his testing at the creamery and in the afternoon his book-keeping. Thus the dairyman would know each month what each of his cows is doing. At the end of the year the tester should make out a statement for each dairyman, showing exactly what each cow has done. The cost for each ranch would be about \$50. Dairies too small to justify a visit of the tester could take their own samples and do their own weighing, and pay the tester a reasonable price for testing and accounting.

#### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address

W. A. Stewart,  
Rio Vista, Cal.

#### \$5 A THOUSAND

RESISTANT GRAPE CUTTINGS FROM IMPORTED STOCK.

VARIETIES—3306, 3309, 1202

A. W. LUTHER Healdsburg, Cal.

#### Trees

French Prunes and Apricots; Mulrs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

A. F. SCHEIDCKER, Sebastopol, Cal.  
Proprietor Pleasant View Nursery.

#### Orange Seed Bed Stock.

SWEET AND SOUR

Orders Booked Now for Delivery Spring of 1908.

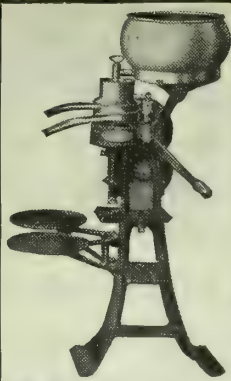
SOUTHLAND NURSERIES,  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.

#### PATENTS

Write for our Guide to Inventors sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1880.



## MAKING CREAM SEPARATOR HISTORY

The year 1908 will mark an important period in the history of the centrifugal cream separator. Probably never again will such a large number of valuable separator improvements be brought forth at one time as are now shown in the new improved 1908 De Laval machines. After thirty years of ceaseless testing and experimenting and the expenditure of many thousands of dollars, the really perfect cream separator has at last been produced in the new De Laval. Nothing anywhere near like it has ever been made before and all who have seen and examined it marvel at the great degree of perfection which has been attained in every feature of the machine from the supply can to the base. Although the improved De Laval has only recently been placed on the market it is already SWEEPING ALL COMPETITION ASIDE and experienced buyers everywhere are saying of it—"YOU DON'T CLAIM NEARLY ENOUGH." The many new De Laval improvements are of almost equal importance with the invention of the separator itself and must be seen to be fully appreciated. To this end you may have a free demonstration of the machine in your own home for the asking. Write us today for full particulars and receive our handsome new catalogue illustrating and describing the machines and improvements in detail. You will thank us later that we induced you to do so.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

#### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

#### Continuous Slave Pipe.

#### Machine Banded Slave Pipe.

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

268 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.



Ferry's Seeds are the best known and the most reliable seeds grown. Every package has behind it the reputation of a house whose business standards are the highest in the trade.

Ferry's 1908 Seed Annual will be mailed FREE to all applicants. It contains colored plates, many engravings, and full descriptions, prices and directions for planting over 1200 varieties of Vegetable and Flower Seeds. Invaluable to all. Send for it.

D. M. FERRY & CO., Detroit, Mich.

Red Gum } for  
Sugar Gum } timber,  
Gray Gum } posts, piles,  
Desert Gum } poles, etc.

Best Four. Get Our Prices.

Cling and Free Peaches, Apricots, Almonds, Cherries, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

Leonard Coates Nursery Co., Inc.  
Morganhill, Santa Clara Co., Cal.

## WALNUT TREES

Grown from carefully selected seed  
Postal for prices.

A. A. MILLS, Anaheim, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$30 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

#### Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 2c



## The Home Circle.

### Mother and Child.

One night a tiny dewdrop fell  
Into the bosom of a rose—  
"Dear little one, I love thee well,  
Be ever here thy sweet repose!"

Seeing the rose with love bedight,  
The envious sky frowned dark, and  
then  
Sent forth a messenger of light  
And caught the dewdrop up again.

"Oh, give me back my heavenly child—  
My love!" the rose in anguish cried;  
Alas! the sky triumphant smiled,  
And so the flower, heartbroken, died.  
—Eugene Field.

### Before the Rain.

We knew it would rain, for all the morn  
A spirit on slender ropes of mist  
Was lowering golden buckets down  
Into the vapory amethyst

Of marshes and swamps and dismal fans,  
Scooping the dew that lay in the flowers,  
Dipping the jewels out of the sea,  
To scatter them over the land in showers.

We knew it would rain, for the poplars  
showed  
The white of their leaves, the amber  
grain  
Shrunk in the wind, and the lightning  
new  
Is tangled in tremulous skeins of rain.  
—T. B. Aldrich.

### BESSIE'S COUNTRY VISIT.

In her way, there was no better woman than Miss Bessie Randall's Aunt Jane Pilaster, spinster, having her own great farm and living according to her own lights.

She was full of sympathy and charity and good deeds, but "propriety" had been her motto so long that even her best friends thought she carried matters too far when she withdrew from the church because the minister called and found her up a cherry tree, picking fruit.

For primness and preciseness and propriety Aunt Jane was without a rival.

In after days, and not so very long after, either, Aunt Jane admitted to herself that she must have been crazy when she wrote up to the city for her niece, Bessie, to spend July with her.

She hadn't seen the girl for several years. As she remembered her, Bessie was a long-legged child, with a lonesome face and demure demeanor, who would sit and play with a rag doll by the hour and ask few questions.

She had two real rag dolls made before she wrote the letter of invitation. She had also decided in her own mind that she would let the child chase grasshoppers in the back lot and climb fences, but she must not chase or climb boisterously—only properly.

"You dear, darling old thing of an aunt, but I could just stand on my head for gladness," was the greeting the spinster received one day two weeks later when the girl of eighteen was deposited at the gate by the stage from Sherlockville.

Her aunt felt chills of horror creep up-and down her spine, but before she could do more than utter a groan the young girl seized upon her hand and waltzed her around—actually waltzed her up the path between the rows of pinks and peonies and hollyhocks, with the hired man looking on.

That evening, after Miss Bessie had talked about rowing, swinging Indian clubs, pitching quoits, bathing, climbing trees and riding about in

the electric runabout her father was to send down to her—talked and never observed the pallor of her aunt's face nor her primness of demeanor—after she had talked and gone to her room, Aunt Jane said to the hired man:

"James, something has got to be done."

"Yes'm, something has," he replied.

"You saw my niece waltz me around?"

"And were properly shocked."

"Very properly."

"And you may have caught some of her words about climbing trees, swinging clubs she bought of an Indian, bathing in the river and riding about the country in a machine of some kind? You were also shocked again?"

"Properly shocked, Miss Pilaster."

"Then you must agree with me that we must take certain steps to save my niece from herself. She is a dear girl and a sweet girl, and she must not be allowed to fall into hoydenish ways. She must be reduced to a state of propriety, and that without offending her."

"She must, ma'am—she must," solemnly answered James.

"Fortunately for us," continued Miss Pilaster, as a mingled hope and relief showed in her face, "we are situated within two miles of the insane asylum. Insane patients now and then escape and go roaming over the country. If my niece were to be told that a male lunatic had escaped from that place and was at liberty, and that he was a dangerous character, I don't think she would want to go gallivanting around in that what-do-you-call-it."

"She surely wouldn't, ma'am."

"Nor do any climbing of trees nor clubbing of Indian clubs. If you have heard of any male lunatic escaping from the asylum within a day or two, and haven't said anything about it because you feared to render me nervous and perturbed, it will be your duty to notify my niece early in the morning."

On the following morning James found opportunity to say to the visitor:

"Miss Randall, did your aunt mention the fact that we have a large insane asylum not far distant?"

"Gee! A place for crazy people!" she exclaimed. "I want to go and see them this very afternoon!"

"There are dangerous lunatics among them, Miss. Sometimes one escapes."

"Oh, I hope one will escape while I am here and come to the house. I shouldn't be a bit afraid. Don't you know that if you look a lion or lunatic in the eye he will become as timid as a rabbit? If you hear of one escaping—"

"But I have heard of one," desperately interrupted James. If I were in your place, I shouldn't go far from the house until we learn that he has been recaptured. Before you look him in the eye he will murder you. This one who escaped the other day—"

But Miss Bessie was gone to tell the news to her aunt, and to add to that she should spend the whole day looking for the coming of the lunatic. If he came, she would wager her runabout against a hill of potatoes that she would subdue him and lead him back to the asylum.

Three days passed and the runabout arrived, and she announced her intention of taking a long ride at once. Miss Pilaster groaned and told

more tales of lunatics. James groaned and predicted death by strangulation. Nevertheless, the girl went.

She started out in a cloud of dust, and had gone two miles, when there was a bur-r-r, and the vehicle came to a stop. She worked at the levers without avail. Then she got down and peeked and peered, but it was no use.

She was stamping her foot in anger when a man came out of the woods. He was a young man of twenty-five—a good looking young man, and he had a professional air about him.

"Something wrong?" he pleasantly queried as he looked from the girl to the runabout.

"Yes; it won't go."

In three minutes he had discovered the cause of the trouble, and after running the vehicle up and down, he halted and asked if she were going to Sherlockville. When he received an affirmative reply, he said: "So am I. If you have no objection I will ride with you and see that all goes well. The machine is new and must be coaxed a bit."

To her surprise, Miss Bessie found herself seated beside the stranger and bowling along at a merry gait. They had gone a mile when she suddenly remembered that the young man had not introduced himself.

Then she remembered the escaped lunatic and the words of warning. For half a minute her heart was in her mouth.

Then she took a sly peep and failed to see anything murderous in the man's looks. They were a bit gloomy and preoccupied, but not savage.

"Excuse me," he finally said, as he turned to her. "I am from the asylum, but I haven't a card with me. My name is Ashley, and if I mistake not you are the young lady at Miss Pilaster's."

Miss Bessie bowed in acknowledgment and her heart jumped again. This man must be the escaped lunatic!

She developed her plan in a moment. She became very communicative. In fact, she gushed to throw him off his guard. If he was on an errand to the village she would wait and take him back, and to this he readily agreed.

There was a wait of ten minutes, and then he reappeared. Little was said on the return trip. The young man was moody, and Miss Bessie was wondering how to land him at the asylum without provoking a desperate resistance.

Aunt Pilaster and James were waiting at the gate, and to her astonishment the vehicle came to a halt, and the lunatic raised his hat to the woman and nodded to James.

"Why, Bessie, where did you find the doctor?" asked the aunt as she came forward.

"Doctor?" repeated the girl.

"Why, yes, Dr. Ashley of the asylum."

"Good heavens, but isn't he that escaped lunatic, and are all my plans for his capture to be knocked in the head?"

"Sorry for you," replied the doctor with a smile. "I am from the asylum, but not exactly a lunatic. You have just kindly taken me to the village to have an aching tooth drawn."

"But I—I have captured you, you know."

"I won't dispute it."

When it is said that from that day on for two months the doctor was a frequent caller at Miss Pilaster's, and that he and Miss Bessie have

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, and accredited by the University of California, Leland Stanford, Junior, University, and by Eastern colleges.

Special attention is given to lessons in singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

been writing twice a week to each other since her return to the city, the reader can draw his own conclusions.

He will, at any rate, feel a bit of sympathy for Miss Pilaster, who turned to James the day her niece went home, and with her apron at her eyes, tearfully exclaimed:

"O, James, things have so changed since I was a g-girl that I can't make 'em out. We told Bessie to look out for lunatics, and now she's going to marry a whole asylum of 'em."—  
Brooklyn Times.

### Got His Omelet.

"I've never tried to be funny with a waiter," the returned traveler was saying, "since the time when I had a little experience with one in California. It was several years ago, and I was rather 'fresh.' I stepped into a restaurant one morning and ordered an omelet.

"What kind?" asked the waiter.

"Why, are there more kinds than one?" I said.

"Oh, yes, sir," he answered me; "there are several."

"Well, bring me an ostrich-egg omelet."

"All right, sir," he said; "but you'll have to wait quite a while. It takes a long time to make an ostrich-egg omelet."

"I told him I had plenty of time. He went away and was gone fully an hour. Then he came back with a big covered dish.

"There you are, sir," he said, placing it before me and uncovering it.

"Well, it was an omelet, all right, and big enough for half a dozen men. Whether there was an ostrich farm in the neighborhood and he got a real ostrich egg, or whether he made it from a couple of dozen hens' eggs I don't know, but I distinctly remember that it cost me \$2—and I learned a valuable lesson."

"You'll have to send for another doctor," said the one who had been called, after a glance at the patient.

"Am I so sick as that?" gasped the sufferer.

"I don't know just how sick you are," replied the man of medicine, "but I know you are the lawyer who cross-examined me when I appeared as an expert witness. My conscience won't let me kill you, and I'll be hanged if I want to cure you. Good day."



## The Railroads Must Have Telegraph Operators

*Special inducements to young men to take up the work.*

WRITE FOR PARTICULARS.

PACIFIC COAST BUSINESS COLLEGE,  
SAN JOSE, CAL.

### Curious Facts.

A single bee collects only a teaspoonful of honey during a season.

The ants of South America are great tunnel builders. They have been known to construct a tunnel three miles in length.

A woman in Manchester, England, has eyes which magnify objects fifty times their natural size. The oculists consider her a wonder.

The smallest inhabited island in the world is, we believe, the rock on which the Eddystone Lighthouse stands. It is only just large enough to admit of the foundations of this structure being laid.

In Iceland horses are shod with sheep's horn, while in the Soudan they are shod with camel's skin. A German not long ago invented a horseshoe of paper, prepared by saturating with oil, turpentine and other ingredients. Thin layers of such paper are glued to the hoof till requisite thickness is attained. The shoes thus made are said to be durable and impenetrable by moisture.

A Norwegian inventor has patented a suit of clothes which will protect its wearer against drowning. The clothes are lined with a non-absorbent material made of specially prepared vegetable fibre which without being too heavy will effectually hold up the weight of a man in the water. Twelve ounces of the new material will, it is claimed, save a person from sinking. The invention has been tested with favorable results at Christiania. Successful trials were also made with rugs made of the same material capable of supporting two persons in the water.

### Luck.

Did you ever happen across Max O'Rell's definition of "luck"? It may serve as an answer to some of those who refer to freaks of fortune.

"Luck means rising at 6 o'clock in the morning, living on a dollar a day if you earn two, minding your own business and not meddling with other people's. Luck means appointments you have never failed to keep, the trains you have never failed to catch. Luck means trusting in God and your own resources."

"The idea of that lawyer asking me such rude questions."

"Well, auntie, how else did you expect a lawyer to treat a witness for the other side?"

"But I was told that this was a civil suit."

Burglar Trust Manager—You will be required to turn night into day; to throw aside all sentiment; to enter the house of the best families regardless of their feelings; to act the hypocrite, and if necessary go to jail.

Applicant—Um! You don't want an ordinary burglar. What you want is a newspaper reporter.

### Pith, Point, and Pathos.

When a man lapses into poetry he is either suffering from love or the delusion that he is a genius.

Manhood is something that always shines the clearest through the clouds of defeat.

When a man is in love he thinks the girl is as nice as she thinks that he is.

Prejudice is the barrier that pride throws about itself to keep from getting hurt.

Some men seem to think that honesty is nothing but the willingness to stay bought.

A cynic is a man who finds that all humanity is about as unreliable as he himself is.

An optimist can be as happy after marriage as he thought he was going to be when he contemplated it.

If you want to make a woman believe you believe she is pretty, tell her in superlatives.

When a woman knows she has pretty feet, it is astonishing how confident she is that the men are watching as she crosses the street.

You never know that you know a man until he has hit you a good hard thump.

Luck is what prompts opportunity to send you an alarm clock before it knocks at your door.

If the worm would learn to lie abed mornings the early bird would never be so famous.

You can generally spot a conceited man by the way he laughs at his own jokes.

Originality is what gets a man into trouble and then shows him the way out of it again.

### Pointers Worth While.

Ground ginger used for plasters instead of mustard is just as good to 'draw,' and it never blisters.

A few drops of cider vinegar rubbed into the hands after washing clothes will keep them smooth, and take away the spongy feeling they always have after being in water for a good while.

Never use soap in washing silk stockings. Bran in water is the proper fluid to use—four tablespoonfuls to one quart of water. Rinse in several clear waters, pressing the water out. Dry stockings in the sun.

A drop of oil will prevent door hinges creaking, and it will cause locks and bolts to move easily. Care must be taken to guard the floor under hinges and the contents of drawers from becoming greasy, by protecting them with newspaper.

A half cupful of milk added to a dishpan half full of hot water will be found very beneficial in washing dishes. It gives the dishes a clean, polished look, softens the hardest water, preserves the hands from chapping, and also prevents a greasy scum from appearing on the top of the water.

Soap improves with keeping, and it will be found economical to purchase it in large quantities. Before storing it, however, the bars should be cut into pieces of convenient size, for this is easily done when the soap is soft and new, but not when it has become dry and hard. The easier plan is to cut it with a piece of wire or a bit of twine, in the same way as grocers cut cheese.



## California Fruit Exchange

(INCORPORATED)

Head Office:

SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## Trees that Grow and Bear Fruit

SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

Orange County Nursery & Land Company  
FULLERTON, CAL.

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untied. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

THE FRESNO NURSERY

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

## 1 1/2 Million Eucalyptus Trees

(IN VARIETY)

Only an announcement that we intend to supply our patrons with Eucalyptus trees of our usual high standard; our present stock is nearly exhausted, and we will grow

### ONE MILLION

if necessary—transplanted in flats of 100 each. Correspondence invited. Our booklet on Eucalyptus will prove interesting to planters. No postals. Address

W. A. T. STRATTON, Nurseryman  
PETALUMA, CALIFORNIA.

## TAKE ADVANTAGE of the opportunity

THE ALL-AROUND TILTON APRICOT  
Is offered at special rates by the introducer.

HANFORD NURSERY

Hanford, Kings County, California.

PATENTS OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinions as to Patentability and Infringement HANDBOOK FOR INVENTORS FREE  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco



# True to Name

# TREES

# Buy the Best

## Largest Stock on the Coast

When you buy trees you surely want trees of known value—strong and thrifty with well developed roots and every one true to name. Our 25 years experience and our perfect methods of growing and handling enable us to guarantee our trees.

## Plant Trees for Profit

A good orchard is an excellent investment and, if well cared for, will earn immense profits. We can give you valuable suggestions regarding the most advisable trees to plant, and can furnish you with the finest nursery stock obtainable. Place your orders at once and get your trees in the ground as early as possible.

## Burbank's New Creations

Luther Burbank has done more than any other man in this country for the betterment and propagation of superior fruit products. We are sole propagators and distributors for all of Burbank's new creations and now have seven of his valuable new tree products ready for market in limited quantities. Send 10c. for our beautiful Burbank booklet, illustrated in natural colors, telling all about them.

Oranges

Lemons

Limes

Pomelos

Apples

Apricots

Almonds

Peaches

Plums

Prunes

Pears

Cherries

Olives

### Must be Sold

Prices lower than ever before. Our immense stock of Muscat and Wine GRAPE VINES. If your requirements are small or large it will pay you to obtain our quotations.

### Special Prices

On our heavy stock of Sugar and Tragedy prunes; Wickson plums; Bing, Black Tartarian, and Royal Ann cherries; Nonpareil, I. X. L., and Ne Plus Ultra almonds. Write for our figures immediately.

### Roses

No better stock in the State than our field-grown roses. Order now and secure the pick of our stock.

Figs

Grape Vines

Berry Bushes

Guavas

Loquats

Quince

Chestnuts

Pecans

Walnuts

Rhubarb

Roses

Palms

## AGRICULTURAL REVIEW.

### BUTTE.

The Hamilton City Sugar Factory of the Alta California Beet Sugar Co. will have its first capacity campaign this season, according to a report from P. J. Prein, agricultural expert for the company, who states that between 7000 and 8000 acres have been contracted, which will yield a total tonnage of 90,000, against 20,000 last year. Planting is now going on at the rate of 150 acres daily. The Chico country will produce 1500 acres, Woodland 3000, Tehama 500, and Hamilton City 3000.

### SACRAMENTO.

Recent advices from Folsom state that a destructive worm has made its appearance in the section between Folsom and the Cosumnes river, causing considerable alarm. Large numbers of the worms were noticed last year about January and remained until March, eating the roots of the grass and cultivated crops. At this time they changed into a fly and disappeared. Not much attention was given them until this season, when it was noticed that scarcely anything grew on the area over which they had traveled; that they reappeared in greater numbers and in different spots. In many parts only one-half of the usual wild feed is apparent, and the surface over which the pests have traveled presents the appearance of a drouth. They resemble an angle-worm, but average only about a quarter of an inch in length, and appear to have a jointed body with a thin, pliant outside shell. On sunny days they are inactive, while in damp weather they are the reverse. They have appeared in such alarming numbers that advice has been sought from the State University for information in combating them.

### SAN BENITO.

Pajaronian: Fruit raising is becoming an industry in San Benito valley, and the orchard area is being constantly added to. Recently the orchardists of that section, patterning probably after the growers of the Jajaro valley, formed themselves into a permanent organization, by-laws were adopted and officers elected. This is a good move. There is plenty of work ahead for such organizations in this section of the

State in successfully fighting fruit pests and hunting for new markets for fruit, and there should be unity of action along these lines between all the district and county associations.

### SAN JOAQUIN.

Sacramento Bee: Lodi has been selected by the Agricultural Department of Washington to test eighty varieties on resident grape stock. The manager of the Government's horticulture experimental station has been asked to set aside an acre of ground for the purpose of experimenting with table varieties. The best selection of high-class table grapes gathered from all grape growing sections of the world will be grafted on resistant stock. Several different varieties of table grapes will be grafted on the same kind of resistant stock, and by this means the Department hopes to learn which of the many different kinds of resistant roots are adapted to the various varieties of table grapes. The experiment will be watched with great interest by table grape growers.

### SANTA CLARA.

San Jose Herald: An organization was formed in the office of County Entomologist Earl L. Morris that promises to be prolific of excellent results to the horticulturists of this section of the State. County Entomologists Volek of Santa Cruz and Monterey counties, Day of San Benito county, Hunter of San Mateo county, and Morris of Santa Clara county met, at the suggestion of Mr. Volek, and organized the Association of County Entomologists. Mr. Volek was elected president and Mr. Morris secretary of the new society. In general, the purpose of the organization is to forward the horticultural interests of the districts represented. The members will meet at the call of the president to discuss the results of work done and talk over future plans of campaign against blight and pest.

### SHASTA.

Sacramento Bee: J. A. Whitehead is planting 11,500 walnut trees on Battle Creek bottoms. He is planting the Franquette variety, the stock of English walnuts, as they are called locally, being imported, oddly, from France. The grower claims to be an expert in walnut culture, and says the soil and climate of this section are splendidly suited to the growth of the trees.

Our nurseries comprise over 1500 acres in the most fertile sections of California and our trees are grown in these different locations where the soil is best suited to their perfect development.

## You Should Have Our Catalogue

WRITE TODAY

FREE ON REQUEST

Our catalogue is the best book of its kind ever published on the coast. Contains 148 pages of illustrations and valuable information about nursery stock and trees of all kinds. If you are interested in trees you should send for it at once. We mail it free to any address.

## FANCHER CREEK NURSERIES (Inc.)

GEO. C. ROEDING, Pres. and Mgr.

P. O. Box 18

FRESNO, CALIFORNIA.

## SEEDS Trees Plants

If you are interested at all in gardening or farming, for pleasure or for profit, it will pay you to send for our new catalogue of best seeds and plants. It is well illustrated, describes all varieties, and gives the best cultural directions for our climate.

LIVERMORE NURSERIES. In our Livermore Nurseries we grow our choicest stock of plants and trees and call your attention to a fine lot of Muir Peaches, French Prunes, on both Almond and Myroblan roots, Orange and Lemon Trees.

### ALFALFA SEED

We are the largest dealers in Alfalfa on the Pacific Coast. Our entire stock of new crop Utah Seed is in hand and as the crop is extremely short we advise you to order early for the supply is sure to be exhausted before the planting season is over.

Successors to Cox Seed Co.

Send for our CATALOGUE, it will tell you about all the good things we have which you ought to plant.

C. C. MORSE & Co.

41 Jackson St. San Francisco



**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

**Contract now the trees you want**

**WRITE US**

# PLACER NURSERIES

**SILVA & BERGTHOLDT CO.**

**NEWCASTLE, CAL.**

### SISKIYOU.

The action of the Board of Supervisors in adopting an ordinance to rid the county of the coyote pest by imposing a bounty of \$2 on each scalp brought in, is already beginning to have its effect. The county clerk is receiving scalps every day. Some are brought in by parties killing the animals, and others are sent in by mail. Quite a large number of scalps have already been received.

### STANISLAUS.

Modesto Herald: While the Calimyrna fig is a variety greatly esteemed either fresh or dried, the black fig must not be overlooked or forgotten. D. W. Morris is about to plant nearly a thousand trees of that fine blue-black fig that originally came from the South Sea Islands but has been so successfully grown on a large scale by Mr. Kelsey of Merced county as to have acquired the name of the Kelsey fig.

### SUTTER.

Farmer: The work in the orchards and vineyards is further advanced this season than usual. The pruning, spraying, brush burning, etc., has been about completed and everything looks well for a good big crop. The second spraying of peach trees will begin soon. Cultivation will come later.

### YUBA.

Reports from Marysville state that crane flies in larvae stage in countless numbers are invading the pasture lands in the Rose Bar township section and throughout the region east of Marysville, and threaten to lay in waste thousands of acres of

rich pasture land. Already a great amount of pasture has been destroyed and there appears to be no means of successfully fighting the pest, which is a hundred times worse than the grasshopper pest that laid waste large acreages of vine and orchards in northern California. The pests now work in spots in the infested area, but are spreading with alarming rapidity. Hundreds of acres of pasture have already been ruined, the larvae or worms literally burning up the grass, working from the roots and making the land absolutely valueless as far as this year's early feed is concerned. The larvae, which is that of the crane fly, is present by the millions, and pastures, after worms have operated, resemble a tract laid waste by a prairie fire. The grass is blackened and burned and not a spear of feed is left. The crane fly is of the same family as the "daddy long legs," familiarly known to all. It is the larvae that causes the damage, for when the fly is hatched there is little danger to the grass.

### Eucalyptus

#### Red Gum Sugar Gum

6 to 12 inches.  
In Flats F. O. B. \$15 to \$18 per 1000  
Packed and Prepaid to you by Express,  
\$2.50 per 100—\$23 per 1000

**HENRY SHAW,**

320 River St. Santa Cruz, Cal.

## FOR SALE

A few Holt Grafts at the extremely low price of \$2.50 each. These grafts are new and price is one-half factory cost to close out stock. The best device for top-grafting trees or vines ever invented.

**The Grafts all Live.**

Order early as supply is limited. Address  
**J. C. WILLSON, 1016-27th St., Sacramento.**

### FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

**50 Clay Street, San Francisco, Cal.**

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



**DEMING**  
Hand, Knapsack, Barrel and Power Sprayers

for the poultryman, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it is possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.

"THE OLD RELIABLE"

**DIETZ**  
LANTERNS

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## The Irrigator.

### Irrigation of Deciduous Fruits.

Some suggestions drawn from his own experience, which Mr. C. A. Hickenlooper of View, Utah, gave at a recent meeting of fruit growers at Vancouver, B. C., will be interesting to Californians.

In arranging to irrigate the orchard, he said, it is necessary to take into consideration the conditions of the soil, both the surface and sub-soil. For instance, a deep surface soil of clay or loam nature, with the proper cultivation, will retain the moisture much longer than a light, shallow soil, especially if the latter be underlaid with a heavy subsoil which roots will not penetrate. Every person should study his local conditions. I am speaking now more particularly of conditions as found in the Rocky Mountain basin, where the rainfall varies from twelve to eighteen inches per year, and where most of the moisture falls during the winter and the early spring seasons. It is necessary that a person planting an orchard should take into consideration the lay of the land. In the Salt Lake valley some of our best orchard lands slope in two directions, for example: To the south and west, and if the rows are planted with the compass the water will run too fast and thus wash great ditches, and also be of little use to the tree, as it would not have an opportunity to soak into the soil. In a case of that kind I recommend planting the trees at any angle that will be the most convenient for irrigating. [This would approximate a contour system of laying off.—Ed.]

Great care should be taken the first year with young trees to get them to root as deep as possible, and in order to do this one should not irrigate very much, so that the young roots will go down after the moisture. Best growers understand this principle and hold the water back until the tiny root has penetrated deep into the soil and thus formed a long, slender thread, and

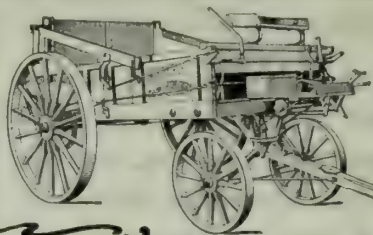
then they apply the water to make the growth.

In planting a tree I always use water either by pouring around the roots or by running the water in a furrow close to the trees, then follow up with cultivation as soon as the ground will admit of it. And then, in case it does not rain, it will be necessary, if the ground is dry, to give it another irrigation in about from ten days to two weeks, as the tree is making an extra effort by putting out a great many tiny roots as feeders to replace those that have been cut off by the digging. After this, if properly cultivated and no crops are planted between the rows to take the moisture away, it will need but very little, if any more, irrigating that season. I have a block of Elberta peach trees planted in that way in the spring of 1906, that have had but one irrigation, and that soon after planting, and have made a much better growth than a similar block planted at the same time on better soil with crops planted between the rows and watered at regular intervals.

I believe that by a proper application of water a much better proportioned peach can be raised than is usually done. I find that where a tree is growing in a low, soggy soil, where it has an over-supply of water early in the season, that the pits are large and all out of proportion to the peach, and that where the water is kept back until the pits begin to harden, that a much better peach is produced. Care must, however, be taken with the Elberta not to allow it to get too dry or it will shed too much of its fruit. From that time don't allow your trees to get dry until your fruit is ready to pick. But great care must be taken not to over-do it and water-log your land (as it is commonly called), for this is much worse than to allow it to go too dry.

After the fruit is gathered it is beneficial to hold back the water, so as to check growth and harden the tender branches, and thus prepare the tree to go into winter, for these tender branches are the ones that will produce the fruit for the following year. Trees prepared in this way will withstand freezing at 16 degrees below zero in the Salt Lake valley. But let me again caution against running to the extreme on this, for if the autumn is very dry another watering will be of great benefit to the tree. To get the best results, from two to four furrows should be run between each row of trees and a very small stream placed in each so as to allow it to soak into the soil.

**Irrigation for Apples.**—Keep the apple growing the entire season. Care should be taken not to allow it to become too dry during June or July, or some varieties will shed nearly their entire crop. Also if allowed to become very dry the latter part of August or September, when the fruit buds are forming, it will weaken their vitality so that the crop the following season will be light. To illustrate this, will say that four years ago last spring a friend came to me and said: "I have about made up my mind to pull my apple orchard out." I asked him why he wanted to do that. He said that they were 9 years old and that he had not had a crop from them yet. Being somewhat familiar with the land conditions, I brought up this line of argument: Your surface



## MAINTAIN YOUR SOIL'S FERTILITY WITH AN I. H. C. MANURE SPREADER

THE best of all fertilizers is barnyard manure. It is your duty to apply it on the land, so that you will get the most out of it, and avoid the necessity of buying expensive commercial fertilizers.

You can make every load of manure you have go twice as far, by spreading it with one of these strong, durable, right working I. H. C. spreaders.

**Kemp 20th Century** (Return Apron Spreader).

**Cloverleaf** (Endless Apron Spreader).

**Corn King** (Return Apron Spreader).

If you have upwards of a hundred loads of manure to spread, any one of these machines will more than pay for itself the first season.

The spreader will do this by enabling you to cover more ground with the same manure, by getting a better stand of grain or grass, by doing your soil more permanent good, and by greatly decreasing

the labor of manure handling.

With an I. H. C. spreader, the work of hauling out and spreading manure is reduced just about one-half, and it is made agreeable work instead of a job to be dreaded and postponed as long as possible every year.

Any way you look at it, an I. H. C. spreader is a good investment.

Should you not make such an investment this year?

Every I. H. C. spreader is made so simple, strong and durable, that, with reasonable care, it will last you your lifetime.

The International agent in your town will supply you with catalog and all information you desire concerning the I. H. C. spreader he handles. Or if you prefer, write for catalogs, colored hangers, etc., direct to our branch house nearest you.

**WESTERN GENERAL AGENCIES:** Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.**  
(Incorporated)



124 Page  
Free Book.

Send today.

## "Old Trusty" Incubators

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

**E. E. McCLANAHAN**

711 So. Main Street

Los Angeles.

soil is almost ideal for the apple if it were deeper, as it is only about from a foot to sixteen inches in depth, but it is underlaid with a very heavy clay and is not under-drained, so that in the spring of the year it has an excessive amount of water and later in the season becomes very dry. During the autumn when your peach crop is on, all the water you have is applied to your peaches and just at that critical period when the fruit buds are forming, your apple trees get no water. But he said: "They bloom every year and a great many of the blossoms die before they set fruit, and the remainder drop off later." Just so; the vitality is so weak that they can't withstand that kind of treatment. He said, "I don't know but what you are right, for last year there was one tree that had a nice load of fruit on it, and the fall before my neighbor above in irrigating had some water break away from him and run down to that particular tree." He has since had two heavy crops from those trees; has just harvested a crop that averaged him about ten bushels per tree.

In conclusion, I desire to emphasize the fact that there is no set rule that will apply to every condition, but that each man must study his own locality and soil conditions and be governed accordingly.

[This is certainly a very wise statement.—Ed.]

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they have better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges

Capacity 500 Boxes a Day

Runs Easily by Foot Power

Cannot Damage the Fruit

Price \$50.00

**WRIGHT BROTHERS,**

Riverside, Cal.

## BEST PILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25c. a box at druggists, or by mail Write Dr. Rosanko Co., Philada., Pa. Sample Free. ONLY ONE FOR A DOSE

## Blake, Moffitt & Towne

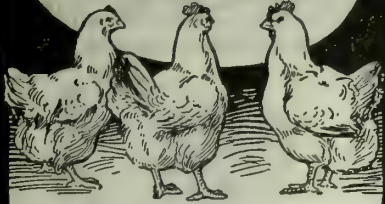
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.



## THE EGG YIELD



What are the hens doing for you this year—how's the egg yield? If you are not satisfied with the record up to date, put your business on a more profitable basis by giving daily in the morning's feed a little of

### DR. HESS Poultry PAN-A-CE-A

That will mean at once a positive and paying increase. Poultry Pan-a-ce-a is a wonderful poultry tonic. It contains the bitter elements which aid digestion, iron for the blood and nitrates which expel from the system of the hen all poisonous and hurtful matter. It is the prescription of Dr. Hess (M.D., D.V.S.) and is guaranteed to make hens lay eggs when other means fail. It is a remedy for roup and all poultry diseases. Fits fowls for market in less time than can be done without its use, and forces early maturity in young chickens. Endorsed by poultrymen in United States and Canada. Costs but a penny a day for 30 hens.

Sold on a written guarantee.

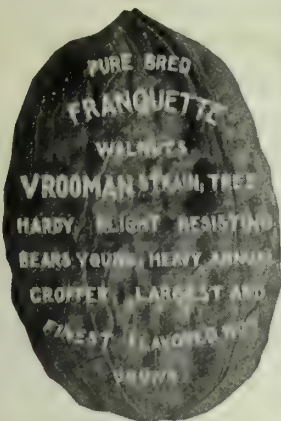
1½ lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75

25 lb. pall \$3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

**DR. HESS & CLARK,**  
Ashland, Ohio.

Instant Louie Killer Kills Lice.  
THE PETALUMA INCUBATOR CO., PETALUMA, CAL.  
Pacific Coast Distributors.



Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.

Salesmen Wanted.

## Surplus Peach Trees

Runyon Orange Cling } \$15.00 per 100  
Seller's Golden Cling } \$135.00 per 1000  
Lovell Free

Almond on Almond \$13.50 per 100  
\$100.00 per 1000

**LEONARD COATES NURSERY CO.**  
MORGANHILL, CAL.

## GRAFTED VINES

FIELD GRAFTING  
BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

**JOHN L. AMES,**  
Elk Grove, Cal.

## The Stockyard.

### The Gibson Shorthorns.

A writer for the North Pacific Rural Spirit has been going around among the breeding farms of California and has prepared an account of Rose Lawn Stock Farm which is very interesting.

It has been a good many years since the late W. B. Gibson began breeding Shorthorn cattle in the State of California. He was one of the pioneers of the business and until the hand of death brought an end to his long and useful life he remained active in the work, which to him was so fascinating—the work of guiding and directing nature in her operations to the end that some higher and more useful form might result to benefit man for all time to come.

One lifetime is too short, however, to bring such a work to its ultimate conclusion when that work has to do with the improvement of living animals. A definite plan may have been followed for years in the mixing of blood and the mating of types and it may in a measure have borne its fruit, but the same policy continued with unbroken purpose will yield greater and greater returns as time goes on. Thus it is that the phrase, "Breeder for Two Generations," bears an important meaning and T. B. Gibson, son and successor to W. B., is one of the few who can rightfully appropriate the phrase.

It was in Yolo county that the father lived, collected his herd and acquired his holdings of land. Since his early day that country has undergone a wonderful change. As is the case in many sections of the West the small improved farm has succeeded the wheat ranch with its 1000 or 2000 acres and the broad range that had no bounding lines.

Rose Lawn Farm, the home of T. B. Gibson, is a portion of one of these early day ranches, but during the age of transition it has shaken up all the ranch appearance it once had. It is now one of the best improved farms in a splendid farming section. It lies at the very suburbs of Woodland and the magnificent farm home upon it has every improvement of a city residence. It consists of 450 acres of alfalfa land well fenced and divided into lots and pastures convenient for the management of the hogs, cattle and sheep.

The Rose Lawn Shorthorn herd consists of 40 head of breeding cows. Senator Lad, by Golden Senator, was used at the head of the herd for several years during which time he got many good calves. Having a good many of his daughters in the herd Mr. Gibson disposed of him at the recent Eakle-Gibson sale and replaced him with the straight Scotch bull Saturn, who is both a show animal himself and a sire of show animals. He did great service in the Eakle herd and will without question do as well for Mr. Gibson. The young bull Prince Knight will also be used when he is old enough for service. He is well bred fellow and should develop into something good. He is a son Noble Knight, a bull that has won many honors on the coast and a grandson of Red Knight, who headed the herd of N. P. Clark for several years and was grandsire of most of the animals in the herd that made at the recent International show the most sensational winnings for Mr. Clark that Shorthorn history had ever witnessed in this country. The dam of Prince Knight is Queen Rose, a Scotch bred Lavender heifer.

Mr. Gibson's Poland Chinas trace to some of the most noted families of the breed. His boar in service, Yolo Boy, is a descendant of Tecumseh and the foundation stock came largely from the herds of prominent breeders in Missouri. Mr. Gibson also re-inforced his stock by a recent importation purchased while in the East attending the International show. There is plenty of demand for the Poland Chinas raised on the Rose Lawn Farm and some of them find

lodgment in lands as far away as Central America.

Mr. Gibson has just recently embarked in Shropshire breeding. Shorthorns, Poland Chinas and Shropshires are not a bad combination, and with experience, means and natural conditions assisting, Mr. Gibson should be able to carry on the work of the second generation in a way that will reflect credit upon himself and his predecessor.

### A CALIFORNIA HERD OF DUTCH BELTED CATTLE.

The same writer for our northern contemporary also visited the herd of Dutch Belted cattle owned by Mr. U. S. Strader, of Ceres, Stanislaus county. Although I had seen specimens of this breed on exhibition at a fair, I had never before seen a herd of them on the farm, and I must say that when seen together in a pasture they are capable of winning favor in the eyes of an unprejudiced observer. It was toward night when I saw them. The owner and I walked out to the field where they were waiting and opened the gate for them to pass through. They came one at a time. They were so much alike that one not familiar with them could hardly tell one from the other. They were certainly very uniform in type and color. They were all dehorned and this added to their similarity of appearance. Their bellies were full and their sides stuck out, and had the belt of white been removed they would have reminded one of a bunch of Galloways, although, of course, they were of the dairy rather than the beef type. I was previously of the opinion that the Dutch Belted very much resembled the Holstein, except in color, but such is not the case. They are of a much smaller, more compact frame. They do not require as much feed per animal, but neither do they produce the large quantity of milk the Holstein does. It is richer, however, in butter fat. They strike a middle ground between the Holsteins as quantity producers and the Jerseys as quality producers.

Mrs. Strader came out in the barn lot to assist in showing the cattle, and she seemed as much interested in them as her husband. She explained that they had only been in the country a short time and were as yet not prepared as well to care for the herd as they expected soon to be. She said that in New Jersey they had owned Holsteins, but on coming to California they heard that the market was all for butter, and so they got what they thought to be the best butter cow.

I enquired if the breed was a new one and was informed that it had been established since the seventeenth century. The proper marking of an animal is something that is still watched with great care. The association refuses to record anything that is off color, even though it be a pure bred animal.

Mr. Strader has about 40 head of pure bred animals in his herd. He had a large exhibit of them at the California State Fair, where he won prizes on them. He is located about 7½ miles from the boom town of Turlock. The entire country has been put under irrigation and its possibilities of production seem to be unlimited.

With plenty of alfalfa, pumpkins, squashes, roots, etc., to feed his dairy herd, Mr. Strader should be able to give the Dutch Belted a pretty good opportunity to prove their worth.

## WANTED

Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306, Riparia x Rupestris 3309, Riparia x Rupestris 106-8 and Mourvedre x Rupestris 1202. Address

**FANCHER CREEK NURSERIES**  
Fresno, California.

## EUROPEAN LINDEN SEED

Grown in Sacramento; 30 cents per ounce.

**F. A. MILLER, P. O. Box 377, Sacramento.**

## Ask for SNOW'S GRAFTING WAX

In use all over the State  
For sale by all the large grocers, or  
**D. A. SNOW, Lincoln Avenue, San Jose, Cal.**



## Healthy Chickens

A high or low death rate is usually the difference between successful and unsuccessful poultry raising.

REX Flintkote ROOFING is used for roofs and sidings on profitable poultry plants, because it keeps the houses warm and dry, with even temperature and humidity.

As a result, fewer chickens are lost and the layers are more productive in poultry houses covered with

## REX FLINTKOTE ROOFING

This roofing is fire-resisting, rain and snow-proof, and very durable. REX Flintkote ROOFING affords more kinds of protection to your buildings and their contents than any other roofing. Everything needed in laying comes with roll—any laborer can lay it.

## Send for Free Samples

and test them for fire, water, pliability and appearance. We also send a booklet about roofing, full of interesting photos of REX Flintkote roofs everywhere.

"Making Poultry Pay" is a booklet worth many times the postage (4 cents) which is all we ask for it. Send for it.

**J. A. & W. BIRD & CO.**  
91 India St., Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & Co.,  
San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Portland,  
Seattle, Tacoma, Spokane.

## 60—TOURS—60

## TO EUROPE

SEASON 1908

\$150 to \$1165

Other tours to Japan, China, and Siberia. Programs giving full story for the asking.

**THOS. COOK & SON**

32 Powell St., San Francisco

Cook's Traveler's Checks Payable Everywhere.

High In Quality Low In Price

## OUR SEEDS GROW

**Vegetable, Flower and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, Al, Lady Thompson and Midnight, Pedigree Plants.

## Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

## Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

**Dewberry, Loganberry, Phenomenal Berry Plants.**

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS, Burbank, Cal.**



## THE MARKETS.

San Francisco, Feb. 26.

## WHEAT.

The local wheat market is almost at a standstill, in regard to both cash and future grain. There has been no speculative buying for several days, and while the market is not so weak as before, on firmer reports from Chicago, all bids are below the ideas of holders. The cash market is both dull and weak. No particular shipping demand is felt, and buyers of milling grades are still holding off in expectation of lower prices. All grades of spot wheat, with the exception of northern red, show a decline of from 2½ to 5 cents from last quotations.

California White Australian..	1.67½ @ 1.70
California Club.....	1.60 @ 1.62½
California Milling.....	1.62½ @ 1.65
California lower grades.....	1.40 @ 1.50
Northern Club.....	1.57½ @ 1.60
Northern Bluestem.....	1.62½ @ 1.67½
Northern Red.....	1.55 @ 1.57½

## BARLEY.

There is very little movement of barley, as no interest is shown by either shippers, brewers or millmen. Everything but feed is entirely neglected and nominal, with very little on the market. The future market is a little steadier at present, but there is still some tendency to lower values. No holders are now asking over \$1.32½ for feed, and few sales are made over \$1.30.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.30 @ 1.32½
Common to Fair.....	1.27½ @ 1.28½
Shipping.....	Nominal

## OATS.

The market on oats is losing its former firmness on some varieties, as some of the holders have been disposed to make concessions in order to reduce their stocks before the tax assessments are made. Buyers, however, still show very little interest, and little trading is done. As there is no further inquiry for seed, choice red of seed grade is considerably lower. Red feed has also declined. White and gray, however, are quoted slightly higher than a week ago.

Choice Red, per ctl.....	\$1.40 @ 1.57½
Gray.....	1.55 @ 1.65
White.....	1.50 @ 1.65
Choice Red, for seed.....	1.65 @ 1.75

## CORN.

A fair amount of corn is arriving all the time from the Western States, and some has come in from California points. The movement is comparatively light, but the market is kept well cleaned up. All prices remain as before stated.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.65 @ —
White.....	Nominal
Western State sacked Yellow, new.....	1.60 @ 1.65
White, in bulk.....	1.53 @ —
Mixed, in bulk.....	1.50 @ —
Brown Egyptian.....	1.37½ @ 1.42½
White Egyptian.....	1.60 @ 1.70

## RYE.

California rye is reported a little easier, some having been sold at \$1.47½. Arrivals are moderate, but sufficient for the current demand.

California.....	\$1.47½ @ 1.52½
-----------------	-----------------

## BEANS.

Small white beans are reported very strong. There was a considerable amount of damaged stock in this line, but nearly all of this has been absorbed by the Eastern markets, where it has been in demand on account of the high price of choice beans. Trading is rather quiet, though there is a steady demand for shipment. Limas and blackeyes are slightly lower, as large holders are anxious to decrease their stock before assessment day. Bayos have recovered their firmness. Other varieties remain about steady.

Bayos, per ctl.....	\$3.15 @ 3.25
Blackeyes.....	3.40 @ 3.65
Butter.....	4.50 @ 5.00
Cranberry Beans.....	2.75 @ 3.25
Garvanzos.....	3.50 @ 3.75
Horse Beans.....	2.25 @ 2.75
Small White.....	3.40 @ 3.55
Large White.....	3.30 @ 3.50
Limas.....	4.50 @ 4.70

Pea.....	3.50 @ 3.60
Pink.....	3.10 @ 3.25
Red.....	3.50 @ 4.00
Red Kidneys.....	3.25 @ 3.35

## SEEDS.

Seeding is still going on all over the State, and practically everything on the list is in good demand. Prices show little change, but all lines are quite firm, and in some varieties an advance is anticipated.

Utah Alfalfa.....	18 @ 19 c
Turkestan alfalfa.....	18 @ —
Alfalfa.....	17½ @ 18 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ —
Canary.....	3½ @ 4 c
Flaxseed.....	Nominal.
Hemp.....	4½ @ —
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	5 @ 5½ c

## FLOUR.

Rumors are spread from time to time about large sales from northern mills for shipment to Vladivostok and Oriental ports, but this movement has not become general, and no effect is felt in the local market. Prices remain stationary, and business for the local and Central American interest is quiet.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.75 @ 5.25

## HAY.

During the past week there was a heavy dropping off in hay receipts, which was welcome to the dealers, though so far it has had no appreciable effect on prices, which, in spite of the smaller receipts, are rather weaker than a week ago. The outlook, however, from the demand point of view, is better, as indications point to an early resumption of building and a consequent increase in the demand for hay. Crop conditions are not so favorable as a month ago, and rain is needed in some quarters. Quotations are unchanged.

Choice Wheat, per ton.....	\$15.50 @ 16.50
Other Grades Wheat.....	10.00 @ 15.00
Wheat and Oat.....	10.00 @ 15.00
Tame Oat.....	10.00 @ 14.50
Wild Oat.....	9.00 @ 12.00
Alfalfa.....	9.00 @ 13.50
Stock.....	7.50 @ 9.50
Straw, per bale.....	50 @ 90 c

## MILLSTUFFS.

There has been no general increase of milling operations on the Coast, and supplies of millstuffs are extremely light. All is brought in that can be secured, but it is no longer possible to obtain enough to supply the market. In spite of the remarkably high prices quoted last week, there has been another advance in bran, shorts and middlings, and buyers are willing to pay full prices for all they can get. Rolled barley is again slightly lower and oil cake meal has dropped 50 cents a ton.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	30.00 @ 31.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	26.00 @ —
Jobbing.....	27.00 @ —
Corn Meal.....	37.00 @ —
Cracked Corn.....	38.00 @ —
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	33.00 @ 35.00
Mixed Feeds.....	26.00 @ 27.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Rolled Barley.....	28.50 @ 30.00
Shorts.....	31.00 @ 32.50

## POULTRY.

Arrivals of chickens this week have been moderate, two cars of Eastern having come in, besides a fair supply of California stock. Quotations are considerably better than last week on several lines, broilers, fryers and extra hens being the leading features. Receipts of dressed turkeys are abnormally heavy for the few days preceding last Saturday, as growers looked for an extra holiday demand. They were badly disappointed, and the large receipts were hard to clean up, scarcely anything bringing over 18 cents. The market is still weak, and from now on the demand will be strictly limited.

Broilers.....	\$5.50 @ 6.00
Small Broilers.....	4.50 @ 5.50

Ducks.....	4.00 @ 7.00
Fryers.....	6.00 @ 6.50
Geese.....	2.00 @ 2.50
Hens, extra.....	7.00 @ 9.00
Hens, per doz.....	5.50 @ 6.50
Small Hens.....	4.50 @ 5.00
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	6.00 @ 7.50
Pigeons.....	1.00 @ 1.25
Squabs.....	3.00 @ 3.50
Hen Turkeys, per lb.....	15 @ 16 c
Gobblers, live, per lb.....	14 @ 15 c
Turkeys, dressed.....	16 @ 19 c

## BUTTER.

Considerable supplies of butter accumulated over the holidays, and the market opened weak, with bids of 27½ cents readily taken on the exchange. Extras are now doing a little better, however, being quoted at 28½ cents, or 3 cents lower than last week. Local business is moderate, but a demand from the Puget Sound cities has kept the market steady up to the last few days. There is little movement of storage goods, though the quoted prices remain unchanged.

Cal. (extras) per lb.....	28½ c
Firsts.....	27 c
Seconds.....	23 c
Thirds.....	—
Fresh Eastern, extras.....	—
Fresh Ladles, extras.....	—
Fresh Ladles, firsts.....	—
Storage, Cal., extras.....	25 c
Storage, Cal., firsts.....	23 c
Storage Eastern, extras.....	24½ c
Storage Ladles, extras.....	20 c

## EGGS.

Receipts of eggs have continued heavy, and prices have declined steadily all the week. At 19½ cents several days ago, orders came from British Columbia, and all surplus under that price finds a good market there. There was considerable stock on hand at the opening of the week, and further large arrivals have brought extras down to 17½ cents, which holders are glad to take. Low-grade fresh stock is fairly firm, and scarce, but no attempt is made to quote storage goods.

California (extra) per doz.....	17½ c
Firsts.....	17 c
Seconds.....	16½ c
Thirds.....	16 c
Storage, Cal., extras.....	—
Storage, Eastern, extras.....	—

## CHEESE.

This market shows continued weakness, with still lower prices on local stock. Fancy new flats are 1 cent below last week's prices, and Young Americas are only 12½ cents. The market is dull even at these low prices, and supplies have been accumulating for some time.

Fancy California Flats, per lb.....	11½ c
Firsts.....	11 c
New Young Americas, Fancy.....	12½ c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14½ c

## POTATOES.

The excessive supplies of potatoes move off very slowly, and the market continues very much depressed. Prices are not well maintained, no Oregon stock bringing over 90 cents, though they are already so low that there is very little profit. Buyers are taking small supplies, and concessions are generally expected.

Oregon Burbanks.....	75 @ 90
Burbanks, Salinas, ctl.....	75 @ 1.00
Lompoc Burbanks.....	1.00 @ 1.15
Burbanks, River, bag.....	40 @ 90
Early Rose, ctl.....	1.35 @ 1.50
Seed Potatoes.....	75 @ 90
Sweet Potatoes, per ctl.....	2.50 @ 3.00

## VEGETABLES.

The oversupply of onions is being gradually worked off, only one car arriving over the holiday, and the market shows some signs of returning firmness. Choice Oregon goods are again bringing \$3, and move well, while Eastern stock is weak and neglected. Garlic is considerably higher. Receipts of miscellaneous vegetables from the South are still light, and prices in general are higher for choice lots.

Garlic, per lb.....	10 @ 11c
Green Peas, per lb.....	5 @ 12½ c
Chile Peppers, per lb.....	3 @ 8c
Bell Peppers.....	10 @ 15c
Cabbage, per ctl.....	50 @ 60c
Onions—	—
Oregon Yellow, per ctl.....	3.00 @ —
Eastern Yellow.....	2.50 @ 2.75
Eastern Red.....	2.40 @ 2.50

## Send for this Catalogue

Of Northern Grown Seeds—Tried and proved Best for the West. Contains 112 pages and 16 colored photos of Farm, Field and Flower Seeds with full cultural directions. A request will bring it to your home free.

Chas. H. Lilly Co., Seattle, Wn.



Sold by Dealers

String beans, per lb.....	20 @ —
Tomatoes, box.....	1.50 @ 2.50
Marrowfat Squash, per ton.....	10.00 @ 15.00
Carrots, sack.....	75 @ —
Hubbard Squash, ton.....	10.00 @ 15.00
Celery, crate, small.....	1.00 @ 1.25
Egg Plant, lb.....	15 @ —
Rhubarb, lb.....	3 @ 6c
Mushrooms, lb.....	20 @ 40c
Asparagus, lb.....	25 @ 40c

## FRESH FRUITS.

Some large lots of Idaho apples have arrived, but are unattractive and bring poor prices. Quotations on choice lines are unchanged, but business is slow and prices are weak. The last Winter Nelis pears have been withdrawn from storage and will soon be out of the market.

Apples, fancy.....	1.25 @ 2.00
Apples, common to choice.....	60 @ 1.00
Pears—	—
Winter Nelis.....	2.00 @ 2.25

## CITRUS FRUITS.

Retailers allowed their stocks of oranges to run low over the holidays, and bought liberally at the opening of the week. There was also a good peddling demand, but arrivals have been excessive, and a good many dealers have been giving concessions to dispose of their stocks. Grape fruit, lemons and limes are firm at former prices.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.00 @ 2.50
Standard.....	75 @ 1.25
Limes.....	4.00 @ 5.00
Oranges—	—
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.60
Tangerines, large box.....	1.00 @ 1.25
Grape Fruit.....	2.50 @ 3.00

## DRIED FRUITS.

It has been estimated that there are still 600 cars of prunes and 900 cars of raisins in the State, and there is some talk of stock being left on hand until next fall. The movement is slow on all lines. Some of the Fresno growers have been selling out raisins at 3 cents. London layers are quoted lower here, and apples and apricots are easy. All quotations on this market, however, are more or less nominal, as there is very little trading.

Evaporated Apples.....	6½ @ 8½ c
Figs, black.....	2½ @ 3 c
do white.....	3 @ 3½ c
Apricots, per lb.....	18 @ 20 c
Peaches.....	9 @ 10½ c
Prunes, 4-size basis, 1907 crop.....	3½ @ 4c
Pears.....	8½ @ 11c

## RAISINS.

2 Crown.....	4½ @ —
3 Crown.....	4½ @ —
4 Crown.....	5 @ —
Seeded, per lb.....	5 @ 7 c
Seedless Sultanias.....	4½ @ —
London Layers, per box.....	\$1.20 @ 1.30
London Layers, cluster.....	1.30 @ 2.00

## NUTS.

Nuts are showing some signs of returning firmness, as the stock of walnuts is nearly cleaned up, and higher prices are expected before the next crop comes in. There are plenty of almonds, it is said, still in growers' hands, which are held



higher than buyers are willing to pay. If there are no heavy rains for the next week or so, the crop outlook will be excellent.

Almonds, Nonpareils.....	15 c
I X L.....	14½ c
Ne Plus Ultra.....	14 c
Drakes.....	13 c
Languedoc.....	12 c
Hardshell.....	8 c
Walnuts, Softshell No. 1.....	14½ c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @ 12½ c

#### HONEY.

A little honey is moving off all the time, but the demand is very light, and while comb and choice extracted honey is firmly held, lower grades are weak.

Water White, Comb.....	16 @ 17 c
White.....	15 @
Light Amber, extracted.....	7 @ 7½ c
Dark Amber and candied.....	5½ @ 5½ c

#### WOOL.

Wool continues very dull, with scarcely any movement to Eastern markets. The local buyers are taking on some stock which the growers had been holding back, and a lower range of prices is quoted on current transactions.

Humboldt and Mendocino, year's staple.....	22 @
Fall clip: Northern free, mountain.....	7 @ 10 c
do. defective.....	6 @ 7½ c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @ 10 c
Fall Lambs, Southern.....	6 @ 8 c
Nevada.....	12 @ 15 c

#### HOPS.

Prices on hops show no improvement, and the market is weak, with very little movement, as the growers are reluctant to sell at present quotations.

1906 crop.....	1½ @ 2½ c
1907 crop.....	4 @ 7 c
1908 (contracts).....	9 @ 11 c

#### MEAT.

Large veal has declined a cent at the inside quotation, and lamb is a little firmer. The market is quiet, and an easy feeling is reported in all lines.

Beef: Steers, per lb.....	7½ @ 8 c
Cows.....	6½ @ 7½ c
Heifers.....	6½ @ 7½ c
Veal: Large.....	7 @ 9 c
Small.....	8½ @ 9½ c
Mutton: Wethers.....	11 @ 12 c
Ewes.....	10½ @ 11 c
Lamb.....	12½ @ 13½ c
Spring lamb.....	15 @
Hogs, dressed, heavy.....	7½ @ 8 c
Light.....	9½ @ 10 c

#### LIVESTOCK.

Steers, No. 1.....	8½ @ 9 c
No. 2.....	7½ @ 8 c
No. 3.....	6½ @ 7 c
Cows and Heifers, No. 1.....	6½ @ 7 c
No. 2.....	6 @ 6½ c
Bulls and Stags.....	3½ @ 4 c
Calves, Light.....	5 @ 5½ c
Medium.....	4½ @ 5 c
Heavy.....	4 @ 4½ c
Sheep, Wethers.....	5½ @ 6 c
Ewes.....	5 @ 5½ c
Lambs, yearlings.....	6 @ 7 c
Hogs, 100 to 200 lbs.....	5½ @ 6 c
200 to 300 lbs.....	4½ @ 5½ c
Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.	

#### University Farm Buildings.

In addition to the finishing of the plans for the barn and seed-house at the University Farm, the plans for the shops and dormitories as well are under way. The sanitary experts have just completed plans for the sewerage system of the entire farm. Under the direction of the best experts to be had the plans for the drainage of the present buildings and those to be put up during the next few years have all been laid, and it is expected that the entire system will be put in at an early date. Professor Hyde, of the sanitary engineering department of the university, has had the matter in charge, and his plans are now before the authorities for approval.

#### Crane Fly Larvae Destroys Crops.

The Department of Agriculture of the University has received for the past two months reports from various parts of the State of the devastations wrought by a certain worm which has eaten the grass and grain roots. Damage has been reported from as far north as Marysville to Mariposa on the south, and from the San Joaquin and Sacramento valleys to a considerable distance into the foothills. The worm seems to take the roots of the growing grain and grass and utterly destroys the crop. Experts of the University have been in the field for some time studying the problem and they report that the worst of the damage has now been done and things are on the mend. The worm is the larvae of the crane fly. They are at this time practically full grown and before long will become flies and the damage for this season will be over. The crane fly has occurred before. It never has shown itself in such large numbers as this year and there is a strong prospect that it will not recur again next year as it has for the last three months. There seems to be no remedy for the pest, and great damage has been wrought thereby.

It is stated that a \$1,500,000 cattle and land company was incorporated in Reno by W. H. Moffat, a cattleman of Nevada and California; H. G. Humphrey of Reno, and Peter Garat and L. L. Bradley of Elko. The company has purchased 75,000 acres of land in northern Elko county, together with 12,000 head of cattle and 15,000 head of sheep, and will include this property with land and stock owned by the different members of the company in Nevada and California.

#### IN ANOTHER COLUMN

Will be found the Trade Mark of the R. E. Dietz Co., 60 Laight St., New York City, the largest makers of lanterns and lamps in the world. The legend, "The Old Reliable" Dietz Lanterns, is familiar to many of our readers who are today using "Dietz" Lanterns, and whose fathers and grandfathers have used "Dietz" lanterns. The Dietz "Bullseye," enclosing the words, "Dietz Lanterns," is a common sight all over the world, the cases carrying "Dietz" lanterns being thus marked, and travelers see them stacked up on the levee at New Orleans, piled on the wharves at Liverpool and Hamburg, and watch them being transferred to lighters off the coast of Africa and handled by perspiring natives into the godowns of India. "Dietz" lanterns have a reputation of over 60 years of excellence behind them, and easily lead the world for strength, good appearance and light-giving power.

#### MORE POULTRY MONEY.

The Sure Hatch Incubator Company has been compelled to get out another edition of the book on "Poultry Profits" to meet the many calls for free copies that keep coming in from people all over the United States. This book contains the experience of hundreds of the most successful poultry raisers in the country, together with a great deal of practical information by the experts of the "Sure Hatch" company.

The Sure Hatch Incubator Co., Box 151, Fremont, Neb., or Dept. 151, Indianapolis, Ind., is the largest incubator concern in this country, and its "Sure Hatch" incubators are built of California redwood and fitted with the most scientific hot water heating system made. Prices and full information regarding them are included in the "Poultry Profits" book.

#### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying. 5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA. Open All Year. A. VAN DER NAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for Circular.

## IMPORTANT SALE OF DUAL PURPOSE SHORTHORNS.

The entire Herd of the late ROBERT ASHBURNER, will be sold at Public Auction on Thursday, March 14, 1908, to the highest bidder for cash.

Sale to take place at Woodland, Yolo County, California.

This entire Herd has been registered, and is without a doubt the best Herd of Shorthorns West of the Mississippi River. For catalogues address GEO. W. MERRITT, Woodland, Yolo Co., or FRANK H. GARDINER, 214 Powell Street, San Francisco, Cal.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal., Breeders and Exporters. Established 1876.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

### HOWARD CATTLE COMPANY.

**BREEDERS OF SHORTHORN CATTLE**

641 Mission St., San Francisco, Cal.

### POULTRY.

FEATHERLY FARM BUFF, BLACK, WHITE, ORPINGTONS. The greatest prize winning and heavy egg laying strain in the West. Free catalog of matings. Featherly Farm, Box R, Redlands, California.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

GEO. C. ROEDING, Fresno, California: Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, DUROC HOGS.** Choice, thoroughbred Poultry. William Niles & Co., Los Angeles, Cal. Established 1876.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls

Stock for Sale Dept. 31, 361 McAllister St., S. F.

### BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

### W. SULLIVAN,

Agnew, Santa Clara County, Cal. Stone's throw from depot.

### Registered Holstein Bulls

AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.

### PIERCE LAND & STOCK CO.,

Riverside Ranch. Stockton, Cal. Phone Main 1597. Send for Catalogue.

### HENRY B. LISTER,

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. 937 Pacific Bldg., Fourth and Market Sts., San Francisco.

### For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED

Address

Fancher Creek Nurseries, Fresno, California.

PLANT LIFE ON THE FARM.—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages, 5 by 7 inches. Cloth, \$1.00

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L.....	141
Beckman, Geo. V.....	143
Bird & Co., J. A. & W.....	141
Blake, Moffitt & Towne.....	140
Bosanko Medicine Co., Dr.....	140
Breeders' Directory.....	143
California Fruit Exchange.....	137
Coates Nursery Co., Leonard.....	135, 141
Cook & Son, Thos.....	141
Croley, George H.....	143
De Laval Dairy Supply Co.....	135
Deming Co., The.....	140
Dewey, Strong & Co.....	135, 137
Dietz Company, R. E.....	140
Disbrow, F. H.....	135
Driver, E. S.....	143
Fancher Creek Nurseries.....	138, 141, 143
Featherly Farm.....	143
Ferry & Co., D. M.....	135
Fresno Agricultural Works.....	—
Fresno Nursery.....	137
German Kali Works.....	—
Hanford Nursery.....	137
Hamlin School, The.....	136
Hart, Ed.....	143
Hess & Clark, Dr.....	141
Holcombe & Co., R. A.....	139
Hopkins, G. H.....	141
Howard Cattle Co.....	143
Hoyt's Tree Support Co.....	—
Imperial Walnut Nursery Co.....	134
International Harvester Co.....	140
Jackson & Co., T. W.....	139
Lawrence-Williams Co.....	134
Lilly Co., Chas. H.....	142
Lister, Henry B.....	143
Luther, A. W.....	135
Lynch, John.....	143
McClanahan, E. E.....	140
Meacham, Frank A.....	—
Mexican Central Railway.....	134
Miller, F. A.....	141
Mills, A. A.....	135
Morse & Co., C. C.....	138
Mountain Copper Co.....	139
National Wood Pipe Co.....	135
Niles & Co., Wm.....	143
Oakland Poultry Yards.....	143
Orange County Nursery & Land Co.....	137
Oregon Nursery Co.....	141
Pacific Coast Business College.....	137
Pear Blight Remedy Co.....	139
Pierce Land & Stock Co.....	143
Reeves & Co.....	—
Roeding, Geo. C.....	143
Scheldecker, A. F.....	135
Seulberger, J.....	141
Shaw, Henry.....	135
Sharples Separator Co.....	141
Shorthorn Sale.....	143
Silva & Bergholdt Co.....	139
Simmons Hardware Co.....	—
Smith, Francis.....	—
Snow, D. A.....	141
Stewart, W. A.....	135
Stowe, C. A.....	143
Stratton, W. A. T.....	137
Sullivan, W.....	143
Sure Hatch Incubator Co.....	—
Teague, R. M.....	—
Temple Pump Co.....	—
The Cutter Laboratory.....	140
Trumbull Seed Co.....	137
Tuttle's Elixir Co.....	—
Van Der Naillen, A.....	143
Vermont Farm Machine Co.....	—
Wagner, J. B.....	135
Waite, Thos.....	143
West Coast Cresol Dip.....	134
Western Meat Co.....	134
Wilson, F. C.....	135
Wilson, J. C.....	139
Wright Brothers.....	140



# Back of the

# Tubular is the

## Largest Cream Separator

## Factory in the WORLD



**W**HAT does that mean to you, Mr. Farmer, when you conclude to buy a cream separator?

It means that when you buy a Tubular back of your purchase stands the safest, surest, strongest guarantee you can possibly get—something that stands as a positive evidence its product must be the best—something that proves beyond question its product must be superior to all others, or the largest factory in the World would not have become necessary to fill the demand.

All the printed claims and guarantees of merit ever written can't compare to this concrete fact—this great monument of proof that Tubulars are the most popular separators on the market today.

"Nothing succeeds like success," and the reason it has been possible to build up the largest separator factory in the world, is simply because Tubulars are an actual, practical success. Because they are the best in the world.

60,000 Tubulars were sold last year; and this year, so far, promises a big increase. Every one sold makes more sales, for their buyers can't help but tell their neighbors of their exceptional superiority.

It is no longer a question whether it pays to buy a Cream Separator. That has become a fact long ago, but it is a difficult question with many as to which Separator to buy, for the reason that so many cheap, impractical and unreliable machines have been flooded upon the unsuspecting buyer. They have been advertised in most glowing terms—offered on what seemed impossible-to-be-deceived grounds, that many purchasers have been caught to their sorrow later on.

For these and many other reasons we say that it means a great deal to the buyer today what is back of the Separator you buy.

When an article has sufficient merit to succeed; to grow to be the most extensively sold; requires the largest factory in the world to supply the demand; wins in every fair competition, is it not wiser, safer, cheaper in the end to put your money and trust into that article, knowing what is back of it, than to take chances on something that has none of these buying safeguards to protect you?

But that is not all. In buying a Tubular you get the product of the most skillful separator builders in the world; the most practical machine genius can

## Don't You Know

that the growth, success, reputation and size of the business that stands back of your purchase is the best, SAFEST guarantee you can get?

It is the ABSOLUTE PROOF that the article you buy is of true merit and worth.

The bigger the business—the safer your purchase and the better the guarantee back of it.

Don't let low prices blind you. The best is the cheapest — that's a TUBULAR.

devise; the highest type of perfection money and brains can build—the result of a life-time of concentration and determination to produce the best separator in the world.

And what's the result?

The illustration at the top of this page, the factory back of it, and a record of more satisfied purchasers than all others combined.

When you buy a Tubular you have the positive assurance that you have a separator that will get from 10 to 50 per cent more cream from your milk than any other; that it will turn much easier; that it is the simplest in construction; has fewest parts, consequently easiest to clean and less liable to breakage; has low supply can; is most durably built and is backed by the biggest and most experienced builders in the business.

Then why take chances on your separator purchase? You have everything to gain in buying a Tubular—nothing to risk. In buying a separator here are the vital points to consider:

- Which Separator gets the most cream?
- Which Separator is easiest to turn?
- Which Separator is easiest to clean?
- Which Separator has the fewest parts?
- Which Separator has no back-breaking supply can?
- Which Separator is most durable and costs least for repairs?

In short—get a Tubular and you'll never have cause to regret. Next to your own experience, that of others who have Tubulars, is as good a guide as you can get, especially when they tell by comparison with other makes why they prefer Tubulars. Send for our 1908 Catalog—it gives many letters on these points.

Just get a postcard and write for it today. It tells all sides of this story of separator buying; gives comparative tests of the Tubular and others; letters from dairy authorities, universities, and shows the Gold Medal awards—the highest honors ever awarded to a cream separator.

If you have an unsatisfactory separator now, write to our Exchange Department and see how easy we make it for you to exchange your old machine for the easy running, clean skimming Tubular. You'll find the Exchange the most profitable experience you ever had. Write for Free Catalog No. 131 today.

## THE SHARPLES SEPARATOR COMPANY

Chicago, Ill.

WEST CHESTER, PA.

Toronto, Canada



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 10.

SAN FRANCISCO, SATURDAY, MARCH 7, 1908.

Thirty-eighth Year.

## A BACKWARD GLANCE AT MEXICO.

We have had many things new and old about Mexico as drawn from the charming descriptions of Mr. T. A. Rickard in his "Journeys of Observation," and the testimony of our readers is that they find these references to our sister republic on the south exceedingly interesting. Upon this page we have scenes and word-sketches from Mr. Rickard's book which are chiefly historical. The author speaks of his visit in Cuba, saying that Havana interested him most as a link in the story of Spanish conquest. We take up the story in the author's words:

Hernando Cortez, after outfitting at Santiago, called at the port of Havana before starting upon his great quest, on February 10, 1519. His fleet consisted of eleven vessels, more than half of them open brigantines, and the biggest not to be rated at over 100 tons. Thence he went to the coast of Yucatan, making a halt at the island of Cozumel, before proceeding to the mainland of Mexico. He landed at Vera Cruz on April 21.

Southeast of the City of Mexico is Iztapalapan—now Istapalapa—where on the 8th of November, in 1519, Hernando Cortez met Montezuma, and the pioneer of European invasion exchanged courtesies with the poor king whom he so utterly destroyed within less than a year. At that time Iztapalapan was a place of 12,000 houses and it was under the rule of Cuiclahua, the brother of Montezuma. Through the town passed one of the three great causeways that led across the lake to the City of Mexico itself, and it was over this causeway that the Spanish adventurers made their way to its capture, in 1521. Today Istapalapa is a small village and where once spread the waters, of the lake, there is marshy ground. The causeway is obliterated by a modern street. North-

ward another street occupies the line of the causeway to Tlacopan or Tacuba, along which the Spaniards retreated on the occasion of the Noche Triste, that black night of July 1, 1520, which saw them all but annihilated by the fury of the Aztec populace. At Popotla the survivors halted under a tree that exists to this day, guarded by an iron railing. If ever there was a time in the Spanish conquest when Cortez and his fellow pirates were heroes, it was just after their sad halt at Popotla. Of the number that had entered the city only a third (250) of the Spaniards survived, and of their native auxiliaries only one-fifth (1000). They had lost most of their horses, all their artillery, all their muskets, so that there remained only their swords and their courage. But Cortez faced the music like a man and was confident even in the hour of deepest gloom. Scarcely one week later, on the plain of Otumba, this handful of men met a multitude of natives, estimated all the way up to 200,000, and beat them off the field, mainly by reason of the desperate resolve of a few of the cavaliers, who followed the immediate lead of Cortez and penetrated the thick of the combat in order to kill the chieftains on the opposite side.



Statue to the Last of the Aztec Kings.

It is a fact, both significant and pathetic, that while there are today several statues to the last Aztec king—Guatemotzin or Cuiclahuac—more particularly the fine monument in the Paseo de Reforma, and while nearly every city in Mexico has a bust of Hidalgo, the priest who started the final revolution against Spanish rule, there is no statue to Cortez in the whole length and breadth of Mexico.

After the capture by Cortez in 1521, three hundred years of Spanish government, varied by revolutions, ensued. In 1810 the people finally revolted against Spanish domination, and after an internecine strife of eleven years, independence was gained. Iturbide, in command of the insurgent troops, marched into Mexico City on September 21, 1821. It was almost exactly three centuries since Hernando Cortez made his triumphal entry. In 1821 Mexico owned an enormous territory; besides the lands of the present Republic, she ruled Guatemala, and to the north all that part of the United States (up to Canada) which is west of the Red and Arkansas rivers. Much of this domain was lost as the result of the war with the United States in 1846 and 1847. Peace was made by the treaty of Guadalupe Hidalgo in 1848. In the territory ceded at that time was the whole of the Rocky Mountain region and California.



Palace of the President of Mexico—the Site of Montezuma's Palace.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS  
E. J. WICKSON - - - Editor  
EDGAR RICKARD - - - Business Manager

## The Week.

Two very interesting and important affairs in the agricultural line are coming along in southern California and should be prominently mentioned so that many can prepare for participation. First, the completion of buildings and equipment of the Southern California Pathological Laboratory of the University is to be celebrated by formal opening exercises, which will begin on Tuesday, March 17, and continue for four days. It will really be a grand Farmers' Institute for southern California which will undertake the opening of the new laboratory which will especially serve the interests of the seven counties south of Tehachapi. The first day will be given to the important commercial vegetable growing, the second to walnut growing, the third to special laboratory and University interests, and the fourth to citrus fruits. The residents of the Whittier district will be the hosts of the occasion, and a grand banquet will be spread by the Whittier Board of Trade on the evening of March 19. The occasion will be unique, and the fact that California has a better special outfit for the study of plant diseases than any other State of the nation ought to attract a large concourse to celebrate its formal opening.

The second event in southern California will also be unique and interesting, viz., the holding of the spring fruit growers' convention at Riverside, under the auspices of the State Horticultural Commissioner. We have already mentioned it, and are now able to give the exact dates—April 28 to May 1, inclusive. A very elaborate and comprehensive program is being prepared by Commissioner Jeffrey. It is expected that some of the leading scientists of the United States, and many of the most prominent fruit growers of southern California will take part therein. There will also be opportunity to visit the new Citrus Experiment Station of the University of California, which is also the leading establishment of its kind in the United States. We shall have the programmes of both these notable assemblies in coming issues.

Upon another page we have a significant article upon the coming provisions by the general government for agricultural high schools in all the States, under a measure now pending in Congress and known as the Davis bill. It will be gratifying to Californians to see that Judge Shields of Sacramento, one of the most enthusiastic promoters and deepest thinkers about the kind of agricultural education which is best for the people and for the welfare of the State, approves the Davis bill. This is a subject which we are quite disposed to write about, so that we shall exercise due forbearance after calling attention to what readers can find in another column. Still we cannot refrain from pushing out a paragraph which Mr. Joseph E. Wing, a traveling correspondent of the Breeders' Gazette, and one of the best agricultural writers in the world, is said to have used in an address to the students of the Oregon Agricultural College recently:

"I am proud of several things that I can do: I can pack a mule; I can cut a tree so it will fall where I want it to—mostly; I can hew a plank straight; I can strike a drill all day without striking the other fellow; I can rig a plow so you can hold it with the thumb and first finger; I can walk five miles an hour, and some other things I can do I am proud of. I am prouder of the things I have done than the things I have said. It takes more brains to rig a plow right than to do a problem in algebra. When you learn a thing you want to do it, and the man who gets the most out of life uses his arms as well as his brain."

This paragraph is quite as significant for what it implies as for what it says. Only a man with a trained mind could have spoken it: only a man with an alert imagination could have conceived of it: only a man who has both can teach from it. The glory of the so-called practical studies and demonstrations which are now being so strongly urged in our educational processes is that they are very much better for mind-awakening and development than the old forms and materials of the schools, but only a good teacher can use them up to the fullness of their power and significance.

The first announcement which comes from Washington after the appointment of the "referee board," mentioned in our last issue, is clearly not satisfactory. It comes in an announcement by Secretary Wilson that pending the action of the referee board ruling 76 will be suspended and that usual methods of fruit curing with sulphur will not be interfered with, but that the product may be required to be marked "sulphured" on the label. This is unsatisfactory for several weighty reasons. Who can tell when the referee board may say something which will enable the waiting authorities to declare ruling 76 on and no longer off? While this doubt exists it is clear that growers will be unable to negotiate for their crops, make contracts with fruit packers or shippers, or to obtain loans for the harvesting of crops. Those who have capital enough of their own will be in doubt as to whether it would not be better to keep it in the bank than to blow it into a product which may be condemned before it can be consumed. Then again, why should it be marked "sulphured" under a suspension of the rules especially made so that the referee board can reach an opinion as to whether fruit should be branded "sulphured," any more than a codfish should be marked "chloirided" or a sausage "capsicumbed." One word is just as bad as the other, and any one of the words would have the same effect, viz., to frighten the ignorant and timid. It is just as common to sulphur fruit in California as it is to salt codfish in Massachusetts, and to let the salt go free because it is common and to hold up sulphur is a very bad discrimination, from a commercial point of view. Sulphur should be considered innocent until it is proved guilty. We are likely to be hit very hard by prejudice and prejudgment, in spite of the consolation continually offered.

We said last week that Californians would not keep a bit quiet. They cannot keep quiet without losing the sheet-anchor of the deciduous fruit interest. It seems almost impossible to convince the authorities at Washington of the importance of the subject. It does not seem possible that men could be so persistent and opinionated if they knew what it all means. They seem to think that any old makeshift will do to quiet things. So long as it seems to them that our dried fruit product of sixteen million dollars annual valuation

is a thing which can be either sold on the market or fed to the pigs, they of course cannot appreciate the importance of the issue. The old eastern notion of dried fruit—that of a small by-product—must prevail with them, or surely a different course would be pursued. At the instance of the growers joint committee, representing all parts of the State, Mr. Arthur R. Briggs, president of the California State Board of Trade, and Mr. W. H. Brilsford of Kings county, started for Washington on Tuesday of this week, and they intend to do everything possible, with the aid of Governor Gillett, who is now in Washington, and of the whole congressional delegation from this State, to have the objectionable ruling officially suspended for a definite time, and thus remove the uncertainty which threatens to ruin the fruit industry in California. It would seem needless to do this, because the referee board was supposed to be for the express purpose of finding out the truth, and that all proceedings would be barred until they had time to report. On the contrary, the California product has to be proved innocent, apparently, and is to be held under a ban until then. The whole thing is apparently in very bad shape, from a California point of view.

It is too bad that Boston had to go to France for beans because a part of the California bean belt went under water by the rise of the Sacramento and San Joaquin rivers last spring. The report is that a cargo of thousands of bushels is on its way to Boston from Marseilles, France. This cargo is the first ever imported by Boston merchants, and is due to the partial failure of the California crop. We can assure our Boston friends that it will not happen again if the present movement for the improvement of our waterways and reclamation of riverside lands succeeds. Boston people might remind Congress of their dependence upon us for a steady supply of their great staple, and the movement mentioned might be expedited.

Until we learn how to grow wheat with more gluten, as our University cereal experts are now trying to do, with the help of a State appropriation, there is some comfort in the announcement that the Commissary-General of the Army has decided to purchase for shipment to the Philippines, Kansas wheat, which shows the best results in mixture with the California flour. This means that no more contracts will be awarded for Australian flour, which has hitherto been shipped to the islands. The Kansas-California blend has been found equal to the Australian product, and it is the policy of the Government to buy its military supplies of domestic sources whenever possible. We will therefore gladly take Kansas into the partnership until we are able to freeze her out and have the business confined to Pacific Coast mills and wheat fields.

The State Board of Agriculture is in good shape again, with the re-election of Senator Rush of Suisun to the presidency and Mr. Zastro of Kern county as vice-president. These two men are beyond reproach for stock expertness and honesty and for public interest. The Governor recently made some changes in the board by the appointment of C. W. Paine of Sacramento and Frank H. Burke of San Francisco. Messrs. Burke and Paine were former members of the board, are thoroughly familiar with all business matters of the organization, and will make valuable members. The outlook for the best fair this year in the history of the State is excellent. Secretary



Filcher will make an extra effort to have the exhibits larger and better than ever in all departments.

We do not sympathize with exchanges who are scolding potato growers for not selling their potatoes for low prices last fall, and thus blaming them for the fact that there are now too many spuds and no profitable outlet for them. The growers did the best they knew how with the light they had. Much of the usual potato area went wet last spring, and everyone did all that he could to make up for an expected shortage, which did not occur to the extent anticipated. If anyone is to be blamed it is the State of California, for not having proper statistics of growing crops collected, compiled, and published in intelligent form before they become textbooks of ancient history. For an up-to-date State, California in this line is the worst possible. If one wishes to get mad on this subject, let him look at what Kansas does. They get fresher statistics from their cyclone cellars than we do from our sunshine.

## Queries and Replies.

### Mountain Valley Pasture in Southern California.

To the Editor: We have a 40-acre irrigated field which has been used as a pasture for a number of years. It was formerly planted to alfalfa, which has been run out. The field is now mostly salt grass and foxtail. We wish to plow it up and plant suitable meadow grasses for an all-the-year-round pasture. What varieties of grass would you recommend? The altitude is 3000 feet; temperature ranges from zero in winter to 110° in summer. We get heavy frosts toward the end of October and first of November, and have heavy frosts as late as the 20th of April. Do you think pasture mixtures such as are used in Missouri and Kansas would stand the hot summer? What would you think of mesquite and gramma grasses for such a location? We have an abundance of water for irrigation. Any information you can give will be greatly appreciated.

Do you think that, owing to the earlier growth of the native grasses, disking would be effective in destroying them in alfalfa fields? I had thought that, owing to its shallow roots, this would destroy foxtail, which is our particular pest. This year I have double-disked our alfalfa fields, using the Clark double-disk harrow, and have drilled in a bushel of barley to the acre after. Some of this disking I did in November after a warm rain. The foxtail was then green, but the alfalfa had already been killed by the frost. The disks seemed to me to tear out nearly all the foxtail by the roots. The barley served to make the first cutting of some value. Foxtail absolutely ruins our first cutting. We can save but little hay. We burn most of our fields while the first-crop hay is in the swath after mowing.—Farmer, San Bernardino County.

The rye grasses, both the English (which is commonly called Australian, in California) and the Italian, would be among the most promising for you to try. Mesquite (*Holcus lanatus*) is quite highly esteemed in our upper coast counties, because of its hardness, and might be worth trying with you also.

With reference to disking, we should hold it not likely to destroy foxtail because this grass is so persistent that one might entirely clear the surface of it at one time without producing any apparent decrease of subsequent growth. On the basis of such observation we doubt very much whether your disking in November would reduce the foxtail growth during the next few weeks or just before the alfalfa starts. If so, we would like to hear about it. It may be said that foxtail surely ruins the first alfalfa cutting almost every-

where in the State where this pest has attained. Subsequent crops, however, are comparatively free from it, and how to save the first crop is what many would like to know. Perhaps you will write further what happens to the field which you have disked to destroy the foxtail.

### Rather Hard Citrus Conditions.

To the Editor: I am figuring on buying a ranch which is set out entirely to lemons. The soil is very good but has a great many rocky or gravel spots. They claim the trees were all planted at same time, but while some are in fine condition others are only half the size of the best. They look dwarfed to me. The party claims it is on account of the ranch having been allowed to run down and has not had the proper care. What do you think of such conditions, and do you think proper attention will put trees in shape. They seem to be bearing moderately well and of good to fair color. What is a good solution to use on lemon trees for scale, also for gumming. Would this kind of soil be alright for English walnuts and soft-shell almond trees? Would only want walnut trees for private use and ornament.—Beginner, San Francisco.

From what you say of the trees, it is probably very true that the place has been neglected. It is also true that there must be a great variety in depth and character of the soil within short distances, and doubt as to its citrus suitability. Under these conditions trees cannot make uniform or satisfactory growth without constant attention in the way of irrigation water, cultivation and fertilizers, as they are required. Such varied soil as to character and depth would not usually be good for English walnuts. Almonds would do better, providing there is nothing in the climatic conditions to prevent their bearing. As for treatment of your trees for scale, you ought to consult with your county horticultural commissioners. Their office is probably in the county courthouse. It is necessary to know more than you have told in order to give advice on the treatment of scales.

### Legumes in Apple Orchards.

To the Editor: I have read something to the effect that legumes and clover would supply nitrates to the soil and enrich it, rather than impoverish it. Is this true, and would it be practical to do this in an apple orchard? If this is true, would it not be a good idea to plant the legumes in this way and then dry the seed for chicken feed, which I note are rich in protein?—Reader, Sonoma County.

Concerning the growth of legumes in an orchard, it would certainly be desirable, providing there is moisture enough to grow the legumes and the trees also, but if the legumes take moisture which the trees need for their summer growth and the perfecting of their fruit, it would be a losing operation. Legumes are generally grown during the winter time, when the moisture is abundant, and are plowed under in the spring, and this is a rational operation. Of course, to grow legumes for seed would require that the plant be carried into the summer; that cultivation would be impossible; and there would be a large using up of moisture by the ripening seed and a large loss because cultivation could not be undertaken. It does not seem feasible to undertake the summer growth of legumes in our orchards unless irrigation facilities are available.

### High Salt Marsh.

To the Editor: I have some salt marsh land, but it has not been overflowed for more than fifteen years. What can I grow upon it?—Owner, San Francisco.

The first thing to do is to test the fertility of the land by sowing a crop of barley. Barley is the

crop which generally succeeds first after the salt content is reduced, and if barley succeeds you can grow other grains or forage plants, or consider the land available for general agriculture, according to its location and suitability. As soon as the land is free enough from salt to carry a pasture grass, the Australian rye grass is most apt to succeed. Of vegetables, stock beets are most apt to succeed on land containing some salt. It is difficult to give general suggestions because so much depends upon the actual condition in which your land is, and that has to be told by experiment.

### Tide-Water Trees.

To the Editor: Which species of eucalyptus will do to plant on bottom land? At times the tide-water backs up and covers part of the land for an hour or two. I want a tree that will be profitable and one that will grow fast.—Enquirer, Santa Cruz.

We suppose that the tide-water which you speak of is actually tide-water, and not fresh water backed up by the tide. If it is actually sea water, we do not know of any eucalyptus or any other tree that will endure it. All we can suggest is that you examine such seaside situations around Santa Cruz Bay and see if any planter has made any sort of a tree grow in such a place. Trees which one would expect to succeed would be the Monterey pine and cypress, both of which are native to the seaside, but they probably enjoy being near the sea water and not in it.

### Generations of Walnuts.

To the Editor: In the PACIFIC RURAL PRESS of February 8, page 84, Mr. Dosch states that walnut trees should be second generation, either grafted or grown from first generation nuts. What I wish to ascertain is, does grafting change the generation, the same as planting the seeds.—Grower, Colusa.

Grafting does not change the generation. The scion carries all the history and potentiality of the tree from which it was taken. It is the real thing, and not subject to variation as the seed is. Although the horticultural view that some changes may occur by grafting is held, they are rare and exceptional, or else our whole theory and practice of budding and grafting would go glimmering. This would be an industrial calamity.

### Aerial Potatoes.

To the Editor: I send a potato plant which grew on my place. I have noticed several plants which were the same. They all had perfectly formed potatoes on underneath as well as on top of the ground. Will you kindly inform me if it is anything out of the common run of potatoes. I bought the potatoes which I have planted for Early Rose, but have an idea that they there were several kinds.—Grower, Los Angeles County.

It is unusual but can hardly be called rare. For some unknown reason the plant makes tubers above ground, and they are called "aerial" to distinguish them from normal, subterranean tubers. They are not significant or important, except that it would be unfortunate if the potato plant should get in the habit of doing it.

### No Vanilla Beans in California.

To the Editor: I have been looking over the Salton Sea country. Will you describe conditions under which vanilla beans may be raised? Has any attempt been made to raise them in California? If so, with what success?—Traveler, Omaha.

The vanilla bean is not a bean in the ordinary sense of the term. It is an orchid and will grow only in tropical conditions; California has no such conditions.



## Agricultural Education.

### PRESIDENT ROOSEVELT ENDORSES DAVIS INDUSTRIAL SCHOOL BILL.

Congressman C. R. Davis of Minnesota feels greatly encouraged concerning the passage in the near future of his industrial high school bill. The numerous endorsements from the leading educational men of the United States, including favorable resolutions from many educational organizations, farmers' associations, State colleges of agriculture and mechanic arts, commercial organizations, boards of trade, manufacturers' organizations and industrial organizations generally throughout the country have inspired the hope that Congress will be induced to consider favorably the measure during the present session.

**President Roosevelt's Approval.**—By appointment Mr. Davis had an interview with the President recently, in which the provisions of the bill were considered. He was very much gratified to receive from the President his hearty and full endorsement of the measure. In this interview allusion was made to the President's speech at Keokuk in October last, and the President was gratified to know that his ideas then expressed concerning this measure were receiving such favorable consideration throughout the entire country. In this speech the President said:

"We should strive in every way to aid in the education of the farmer for the farm, and should shape our school system with this end in view; and so vitally important is this that, in my opinion, the Federal Government should co-operate with the State governments to secure the needed change and improvement in our schools. At present there is a gap between our primary schools in country and city which must be closed, and if necessary the Nation must help the State to close it. Too often our present schools tend to put altogether too great a premium upon mere literary education, and therefore to train away from the farm and shop. We should reverse this process."

**Judge Shields' Endorsement.**—Among the hundreds of endorsements Mr. Davis has received and to which the President's attention was called, a letter written by Judge Peter J. Shields of the Superior Court of Sacramento county, California, especially attracted the President's attention. He not only approved of its contents, but urged that great publicity be given to it as embodying briefly the desirability and necessity of developing education along industrial lines as embodied in this bill.

The President was much gratified at the equitable manner in which this bill distributes technical and industrial education among the masses. He was especially pleased to know that this bill divides the money about equally as between agriculture, the mechanical industries, and home-making.

Judge Shields' letter, written to his friend, Col. Weinstock, of Sacramento, California, is as follows:

"I received your letter enclosing a copy of the 'Davis Bill,' which I now re-enclose to you. I was familiar with the bill from conversation with interested parties, but had never seen it, and was glad to get it through you. I regard it as a very good bill; if it works out well it will prove a great bill. The only wrong about it would have to come in its administration, it is perfectly sound in its purpose. You know that when a Federal fund is provided for State distribution, what a scramble there is for it.

"This to some extent has been true of the agricultural college endowment, although in the long run that has worked its way out and proved a really great success. The danger which I have pointed out, however, is very well guarded against in the 'Davis Bill,' by first requiring the several States to provide the grounds, the farm and the school buildings and making the payment of the semi-annual amounts dependent upon the right use of preceding sums, and placing the Secretary of Agriculture in control of all disbursements.

"Rightly enforced, the bill is admirable. First it provides for technical, industrial, and practical education, as distinguished from the old theory of educating all alike, regardless of his type or

the life he was to lead; of teaching the boy or girl books alone that they might thereby acquire the strength and fiber of mind to later learn men and things. The character of education proposed by this bill will teach the realities of life direct and in the process cultivate the mind as well as the old plan. One of the most fruitful fields of the education of the future will be nature, the wondrous world we live in, and of this field agriculture comprehends its best features. This bill is broader than that, however, including mechanics and domestic science within its purposes. I am sure that a vigorous distribution of learning in these arts and sciences can do no harm, and will do incalculable good. I am not afraid of vulgarizing the world or making it what is called 'utilitarian' by teaching all of the people to know plants and animals; through domestic science to feed the baby with wholesome food and the soul with all of the finer things which are comprehended within the limits of a real home, or through the mechanic arts which train men's bodies to their highest usefulness and to give expression to the mind's best conceptions. I am not afraid of the fate of a country whose people are given over to breeding perfect animals, rearing crops of best excellence, building good roads, labor-saving machinery, automobiles and railroads, constructing convenient houses, furnishing them perfectly and making real homes of them, to the building of bath tubs, arranging plumbing, weaving fine cloths and making them into right form. If the doing of such things does not make for peace and union, for moral industry and wholesome progress, then my judgment is hopelessly at fault.

"Nor can I doubt that out of such conditions will surely spring the soundest moral and intellectual culture and impulse. This bill represents this general direction and purpose, and I have no hesitation in pronouncing it sound and wise.

"When I see you I will enjoy talking it over with you and getting your views of it. My own are even more favorable to it than I have been able to state.

"PETER J. SHIELDS."

**The Agricultural Colleges.**—Mr. Davis has been investigating some of the few objections suggested against the bill, and particularly those wherein it is claimed Federal appropriations would lead to national ownership of the contemplated schools, and also that these appropriations would relieve the States from the sense of responsibility. In answer thereto he quotes from a letter written by the Hon. E. B. Brown, U. S. Commissioner of Education, as follows:

"The recent effect of the national appropriations under that act (1862) has been to stimulate greatly the support of the land-grant colleges by the States in which they are situated. Ten years ago, the amount which these institutions received from their several States was \$2,218,100, while in 1906 this amount was \$7,531,502, showing an increase of about 240 per cent. In 1896 these institutions received, the country over, 29 per cent of their support from the National Government. Ten years later, in 1906, owing to the increase of State appropriations, the grants from the national treasury covered only 15.4 per cent of their total support."

These figures Mr. Davis contends are altogether encouraging as showing that National appropriations have not tended to relieve the State of the sense of responsibility, but have in fact quickened the sense of responsibility in the States which are benefited. The schools provided for in this measure are of exactly the same class as those inaugurated under the Morrill Act of 1862, and like them will strengthen the States directly and the Federal Government indirectly. As these State colleges have remained under State control, so will the schools of agriculture and the school of mechanic arts provided for in this bill remain under State control, hence no cause for alarm from centralization. Instead of destroying the unity of our school system, this measure bridges the gap between the education of the schoolhouse and the education of the home, the farm and the shop. Heretofore our education has lacked unity; it has been too much centered about the literary, the non-industrial; its forms and substance have been too little co-ordinated with the training of the home, of the shop, of the farm, and of the great outdoors. Through technical training it will keep

our youth out of a peasant or submerged class; and by encouraging the States to expend more money for education it will greatly increase general as well as technical education.

## The Swineyard.

### IS THERE MONEY IN HOGS?

By Mr. JAMES THOMPSON, at the University Farmers' Institute at Modesto.

This is a subject that has been discussed but once at a Farmers' Institute, in our county, and as the proofs of profit in hog-raising is one of the most interesting to our farmers, my subject is, "Is There Money in Hogs?"

The Irishman says, "Yes, he is the gentleman that pays the rent," and the Irishman is a good judge on that point. Now, it is well known that the hog has been a reliable source of revenue on the American farm since the earliest recollection of man, when the farmer raised but a few to use up the refuse of the kitchen and dairy, and to supply the family with good, old-fashioned pork and sausage, up to the present day, when his lordship, the up-to-date hog, supplies in his various products, the wants of the people of the civilized world. And not only with choice bacons and hams, but with lard, illuminating and lubricating oils, head cheese, sausages, combs, brushes, buttons, and ornaments of many kinds, there being nothing lost or wasted after his having been slaughtered, except the squeal.

It has been said that the American hog is a machine that oils himself, puts ten bushels into less space than a bushel measure, and in so doing doubles his own value. Corn or wheat loaned to a well-bred hog, is money at big interest. It is like a mint. While the American staple, corn, is the bullion which, put into the hog, is transmitted into coin, it is an honest mint and gives sixteen ounces to the pound of edible material.

Properly bred and fed, and intelligently handled, this high-bred porker will pay all of our debts, educate our boys at our Agricultural College at Berkeley, and leave a balance in the bank for a rainy day.

The question is often asked: "What is the best hog to raise?" "What kind of a hog is most in demand?" "What shall we, as farmers, breed to receive the most profit from in the shortest possible time?" If we want to make any improvement in the quality of our hogs for producing bacon, it can be done by selecting the larger, more rangy sows for breeders; then by a system of feeding the by-products of the dairy, and with good alfalfa pasture and less corn or wheat, we can practically accomplish the result. I believe the early maturing type of hogs will best pay. Most of our breeders and many of our farmers are changing their methods of feeding from all corn and wheat ration, from piggishness to maturity, to one of greater variety.

It is conceded by all up-to-date farmers and breeders that the hog is a grazing animal; nothing so helps to cheapen the producing of our pork products as grass and alfalfa. It is almost a necessity for economy in cost and better thrift for the growing animals. It should find a place on the bill of fare of every breeder and feeder of swine.

In selecting the sows for breeders do not select the young, fat, plump sow, that is immature. Breed from mature animals. Nine-tenths of the loss from swine diseases comes from immature animals. When you have a brood sow in your herd, one that is a good, regular breeder of large, even litters, that is a kind mother, one that furnishes plenty of milk for her young, you should keep her as long as she lives. She is worth a dozen young, immature things. It may not be generally known that there is as much difference in the milking qualities of the swine herd as there is in the dairy herd, but it is nevertheless a fact.

**The Proper Time to Mate.**—I would mate the animals in November, thus bringing the litters during March. The earlier the pigs are farrowed, if one is prepared to care for them (and everyone should be), the better. They can be pushed along during the sucking period by giving them plenty of feed on the side. A feed composed of wheat,



middlings, and skimmed milk, and gleanings of the stubble field, will soon finish them for the early fall market, and their cost up to this time has been comparatively small. During the winter months give good warm shelter where they can be warm and comfortable. Keep but a few in a place, if possible. Careful attention to your breeders will pay. Use good sanitary measures. It is said that an ounce of prevention is worth a pound of cure. Keep all feeding floors, sleeping pens and troughs clean. Air-slacked lime is good. Let them have plenty of charcoal. Old and young should be kept separate during the cold weather. Use small houses. You may say all these things are too much trouble, too much work. In my opinion, it ought to be a pleasure compared to being a dairy slave. Just think of it: To be tied to a cow's tail 365 days in the year. And I very much doubt if it would not pay better than the dairy cow, unless in the hands of an expert. Neither business is a path strewn with flowers, but you will find it one of the best and quickest methods of condensing the products of the farm into cash, and at the same time keeping up the fertility of the land, by feeding the produce and marketing only the finished products. It is the finished products that bring the most money.

Our farms should be manufacturing plants, and everything produced should be sold in condensed form in these days of close margins. No man can sell the raw material from the farm for a series of years and succeed.

In closing I would say: Breed the Berkshire or the Poland-China, which is a good type. Feed well. Select carefully. Use your best judgment, and you will find the breeding of swine one of the most profitable departments of the farm.

## The Stockyard.

### ARTICHOKES FOR STOCK.

To the Editor: The artichoke fever for cheap hog feed and to furnish succulent food where corn is so cheap that you can hardly afford to raise anything else, struck me, as I remember it, something like la grippe. I would ask the neighbors what they knew about artichokes for hogs. To sum up, it was the cheapest and the best hog feed known. But if you planted them, why you had a permanent pest in the ground forever, and one big man got so scared at the thought of always having them on the farm whether he wanted them or not in this free country, that he fed the seed somebody had given him to his hogs and so headed them off from taking the farm, which was worth at the least \$50 per acre.

But Charley Hinton's father had a little three-cornered bit of ground in the fork of a creek, way back in Schuyler county, Illinois. It was fifteen years ago, but the picture of that three-cornered acre and a quarter remains in my mind. Charley said that his father would turn his herd of fattening hogs into that artichoke patch, and the way they would fatten can only be imagined. They were not weighed before nor after. The corn they got at the feed lot across the creek was scooped to them without account. He said that that artichoke patch was the easiest money-maker on the farm. They never plowed it, nor planted it, nor dug it. They just went at the proper time and pulled out a rail, and those hogs did the rest.

I did not take Charley's word. I read such farm papers as the Iowa Homestead. Col. John Scott of Nevada, Iowa, said over his own name that artichokes would produce 600 bushels per acre. As I remember, all this fever was during the winter, and that I found nothing to be said against artichokes for hog feed except that if you once planted a patch you could expect artichokes on that ground forever and forever.

Remember, I had the fever, and wanted to believe all evidence for and nothing against. I concluded to have a little permanent hog feed forever, as we always expected to raise hogs. Spring came, and the seed catalogues said they were cheap hog feed. I read a number of them, and all pointed toward cheap hog feed, and what was better, they were very healthy for hogs. Hogs would sometimes die of cholera. I ordered one gallon of red Brazilian artichokes and planted

three rows. The next year I planted 40 square rods of ground. I planted in good ground and cultivated like potatoes, and had a good crop of yellow flowers on stalks eight feet high, and they looked pretty from the house, anyway. Lots of folks said, "He is taking lots of pains with those wild sunflower weeds. Remember that while the cheap feed was growing I also had forty head of pigs, in another pen of course.

Dear reader, come if you can to the shade of the basswood tree by the south door and look at forty shoats eating artichokes. They got to work in the southwest corner, and side by side they rooted for eight weeks. As I remember it, they faced toward the northeast. When they got to the fence they went back to the southwest corner and started in again. As I remember, they were not rooting for pure cussedness, but that when they got a tuber out, some of them would have time to eat it. It was business: the labor question (forty rods of it) had been solved: the pigs were digging on shares (three thirds), and when the ground froze there were not enough tubers left for seed, neither was the surface of the ground fit for sowing onions. The pigs did not have time nor inclination to level the ground, but they grew, and I concluded that I could plow and plant and cultivate and enlarge that artichoke patch. You know the pigs dug and ate them, and they were not measured nor weighed, so I guess that the crop would go over 600 bushels to the acre.

The next year I had more land and more hogs, but alas, just as the yellow flowers bloomed nicely within one short week every hog and pig on the farm died, except one or two—the artichokes went on growing but the labor had struck. The artichokes did not rot. They lived and grew, but so thick on the ground that they could not do any good. I turned the cows in and sowed grass seed, and in five years could not find an artichoke on the farm.

I went six miles to a neighbor to whom I had given seed for a start. He had planted four rods and never had time to turn his hogs in. His whole crop was left to grow, and I could not find enough tubers to get for seed, and I gave it up. Five years ago I sold out and came to San Juan county, New Mexico, and have the artichoke fever here, and want to plant one or two acres this spring. They will do well here, and when the hogs get them all dug, if I don't forget I will report.

C. P. HANGER.

Riverside, New Mexico.

## Sylviculture.

### STREET TREES FOR THE SAN JOAQUIN VALLEY.

At a recent University Farmers' Institute at Porterville, Miss Grace Redfield read an essay on street tree planting, from which we take the following:

"Authorities usually advise uniformity in the planting on each street, and there is no doubt that in this way the best general effects can be produced and charming vistas obtained. In small towns where scattered planting has been going on for years it would be hard, of course, to compel conformity to this rule. It might be possible, however, to keep the spirit of harmony and avoid such objectionable contrasts as tall, spindling trees on one side and squat, spraddling trees on the other. Personally, I admire the evergreen tree and consider that a long street bordered with peppers, eucalypts, gravillas or other of our beautiful evergreen trees can hardly be surpassed from the artistic standpoint, but I freely admit that I do not admire the mud holes which are their never-failing concomitant. Even supposing that we are fortunate enough to possess a first-class roadbed, during the rainy season that dampness must collect beneath their constant shade, and from lack of the all-purifying sun the street becomes musty and unwholesome.

Of the deciduous trees most attractive for street planting, the following is a partial list of tested varieties:

The big-leaf maple, often called the Oregon or California maple; a rapid grower, clean and very reliable. The hard maple is also said to do well

in California, and is famed for its autumn beauties.

The Carolina poplar is a splendid street tree and swift of growth. It should be propagated from cuttings taken from the male tree, as the female or cottonwood tree produces a crop of downy seeds which are most objectionable.

The Scotch elm is the most desirable elm for a street tree in California. It is two months earlier than the cork elm. The cork elm is a beautiful tree, and well known all over California. If its roots are injured it will sucker, however, and consequently it is unwise to plant it where there is a chance of its being disturbed.

The Texas umbrella is too well known to need any recommendation.

The old fashioned locust is not only of great beauty but also extremely well suited to a hot, dry situation. The wood is also hard and valuable.

To this last, which is especially adapted for city streets, we would add a few more which are more suitable for country roads.

The black walnut, a native of our State, is one of the best, and forms large and beautiful trees in a very few years. It can be especially recommended for its cleanliness and freedom from all insects. [Not everywhere: in the coast valleys it is often very smutty from exudations of aphids and scale insects.—Ed.]

The cottonwood is a beautiful tree and makes a charming addition to a country landscape. Down in our Poplar district many of these trees are to be seen. Their owners find them useful as well as ornamental, for they top them every few years and so keep themselves supplied with excellent firewood, a valuable consideration nowadays. The beauty of these trees is by no means impaired by this pollarding, rather a peculiar quaintness is thus added to the charms of the landscape.

Last but not least, we will suggest for your consideration the claims of the valley oak to be regarded as a shade tree impossible to be surpassed in California. This celebrated tree, once abundant, is becoming sadly scarce, and unless artificial means are adopted to increase and protect them, these lordly oaks will ere long totally disappear. By supplying with water for the first few years the valley oak makes a rapid growth, and wherever it is possible to supply necessary water on our highways I should strongly urge our authorities to at once begin planting them.

### THE CAROB TREE.

In connection with the suitability of this economic tree for growth in California which we recently indicated, it is interesting to read an account of the tree in the countries bordering on the Mediterranean, written by Consul-General G. B. Randal from Beirut:

Arabs and Moors eat carobs. In the south of Europe they are employed as food for horses, cattle, and swine. In Cyprus, next to barley, they constitute the principal article for export. The total yield of the island of carobs or locust beans (not to be confounded with St. John's bread), in 1906 amounted to 69,000 tons. In August the carob tree is seen bearing both flowers and ripe fruit. The latter is a pod, brown and leathery, four to eight inches long, a little curved, and containing a fleshy and at last mealy pulp, of an agreeably sweet taste, in which lie a number of shining seeds; these are bitter and of no use.

On account of the abundant sugar contained in carobs the latter form a nutritious and fattening food for horses and cattle. England, for the feeding of cattle, imports large quantities of carobs in the form of flour (that they may be more digestible) from Spain, Italy, Crete, Samos, and Cyprus. Most of the Cyprus carobs, however, are exported in bulk, and the grinding is done in England. I am informed that a considerable quantity of this "cattle food" is exported from Great Britain to the United States. If proper steamship facilities existed between the United States and the Levant, carobs would probably be carried direct to the United States to be prepared there into cattle food. Carobs are also used in considerable quantities, especially in France, for distillation, and the spirits obtained are deemed choice. Carobs are also employed for the production of a semi-liquid substance resembling molasses largely used in the manufacture of Oriental sweets.



## The Dairy.

### California Cheese Product.

The California State Dairy Bureau has prepared figures showing the California cheese production during the past season, up to the end of September, 1907. Although the State has developed in butter production in nine years from 24,000,000 to 44,000,000 pounds, it did not make as much cheese during the past season as it did ten years ago. The following table shows the production to September 30, 1907, in those counties that make cheese:

Counties.	Pounds.
Contra Costa .....	18,610
Kern .....	38,100
Kings .....	54,750
Lake .....	48,000
Lassen .....	58,893
Los Angeles .....	411,919
Marin .....	464,008
Mendocino .....	22,375
Monterey .....	1,480,755
Napa .....	18,601
Sacramento .....	512,165
San Benito .....	220,076
San Joaquin .....	103,362
San Mateo .....	641,987
San Luis Obispo .....	103,010
Santa Clara .....	392,958
Santa Cruz .....	431,162
Siskiyou .....	15,000
Sonoma .....	332,822
Sutter .....	307,513
Tulare .....	122,021
Yolo .....	130,850
<b>Total .....</b>	<b>5,928,942</b>

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

Out of the fifty-seven counties in the State, only twenty-two produced cheese during the past year, as compared with twenty-eight during the previous year. Comparing the totals for the past eleven years we have the following showing:

Year.	Pounds.
1897 .....	6,399,625
1898 .....	5,148,372
1899 .....	5,294,938
1900 .....	4,989,960
1901 .....	5,681,366
1902 .....	6,503,441
1903 .....	7,218,638
1904 .....	6,133,898
1905 .....	6,020,672
1906 .....	6,418,480
1907 .....	5,928,942

The figures in the first table show that about one-fourth of the cheese produced in the State is made in Monterey county. That county made 1,480,755, which is a gain of about 30 per cent over the previous year, and is due largely to a favorable year, and also to the fact that one large concern started business during the year. Los Angeles county fell off 50 per cent. All the cheese produced in the county is made in one factory, which in former years reported an output of from 750,000 to 900,000 pounds, but the extension of the Los Angeles city milk trade has reduced the milk supply until the factory reports for the past season a make of only 464,000 pounds.

In former years San Benito and Santa Clara counties were important factors in cheese production, but the establishing of a large milk condensing factory in the midst of the cheese producing section has practically cut the cheese business in two. The company that controls this condens-



## TEN YEARS AHEAD OF ALL OTHER CREAM SEPARATORS

In skimming efficiency, simplicity, durability and convenience, the new 1908 improved De Laval Cream Separators are fully ten years ahead of any other machine on the market today. Thirty years of experience, protecting patents, and the many valuable improvements devised and perfected by the De Laval engineers in all parts of the world during the past three years, are responsible for this fact. Every feature of the De Laval has been improved, from the supply can to the base. The new centre-balanced bowl with its separate spindle is alone a triumph in separator construction and must be seen to be fully appreciated. Then, there is the new one-piece "anti-splash" sanitary supply can, adjustable shelves for skim-milk and cream receptacles, new frame designs, and many other but less important improvements—all combining to make the De Laval as nearly ideal as a separator for farm and dairy use can be made. There is the proper size machine for every size dairy from the smallest to the largest, and no cow owner can afford to be without one of these improved machines. It will cost you nothing to see and examine the new De Laval and right at your own home too, if you will but say the word. Our new illustrated catalog describing the De Laval improvements in detail is sent for the asking. Write us at once and you will receive this interesting book by first mail with full information as to how you may have a free demonstration of the improved De Laval in your own home. It will pay you to do so, and your only regret will be that you didn't investigate sooner.

### DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

#### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## REX LIME AND SULPHUR SOLUTION Not Resting on Its Laurels, but Moving on Its Merits.

The using of REX LIME AND SULFUR SOLUTION for Black Knot, Grape Mildew and general vine treatment last season was not confined to any one locality, as you will observe from letters given. Whether North, South, East, or West, the same good results were obtained, so it would appear that climatic conditions or any particular environment such as many times interfered with success hoped for by dry sulphur could not be expected of REX if used at the right time and in the right manner. It is quite evident from many years of dry sulfuring that to do successful work conditions must be just right. Growers last season used dry sulphur as many as eight times, but because of extreme cool weather and general unfavorable season for applying dry sulphur all this work was a failure. REX can be applied at any time easily, and stays where you place it. You have in it the essence of sulphur. By reason of our boiling and treating process all the impurities are removed from it, and if you want evidence of this add 50, 75, or 100 drops of water to 1 drop of Rex Solution, and you will find more sulphur odor or fumes than you would from 5 pounds of dry sulphur. And it is the fumes of course that do the work. You will notice that REX SOLUTION (LIQUID SPRAY) not only holds in check Grape Mildew but it prevents, and in one letter given here shows it STOPPED THE DISEASE WHERE VINES WERE BADLY AFFECTED. The proof of work done by REX SOLUTION is evidence enough to warrant every vine grower in California in using it on his vines this coming season. The time to commence is TODAY. Spray dormant vines.

Letters published here are all by permission of the writers, and we ask your kind consideration of them. Be sure to read them carefully.

#### COPY OF ORIGINAL LETTER.

Corylos Park. Orchards, Vineyards, Poultry Farm.  
Lillienbrantz & Son, Aptos, Santa Cruz Co., Cal.  
Sept. 16, 1907.

The Rex Company,  
Benicia, Cal.

Dear Sirs:—As you know, we have been using your Rex Lime and Sulfur Solution (1 to 60) this summer as a means to fight the mildew in our vineyards. We have had an excess of fog this season and mildew has been very prevalent in this neighborhood. The special vineyard in which we have sprayed has turned out very good. Last year we had absolutely no grapes ripen, all were ruined by mildew in this particular field. At the present moment we have a good crop in very good condition and entirely free from all disease. We are fully determined to use your Rex Solution as a spray on the vines next year, being very much satisfied with the results this year.

Very sincerely yours, LILLENBRANTZ & SON.

A large user of Rex Lime and Sulfur Solution wrote Mr. A. J. Snook, Westminster, Cal., a few weeks ago for candid opinion of Rex for treating grape vines and how he would direct that it be used. Under date of January 30, 1908, this reply was given:

Grapes in dormant state, 3½ gallons of Rex with each 50 gallons of water. When in bloom, 1 gallon of Rex to 50 gallons of water. When the size of a shot, 1 gallon of Rex to 50 gallons of water.

I dry sulphured my vines last season, but they started to mildew in July, and I thought I was going to lose my entire crop. The latter part of July I sprayed them with one gallon of Rex to 50 gallons of water and gave them a

good soaking. THIS IMMEDIATELY STOPPED THE MILDEW, and I was able to ship my crop, with the exception of a few that were too far gone before spraying. NO MORE DRY SULFURING FOR ME.

Very truly yours,  
(Signed) H. J. SNOOK.

#### COPY OF ORIGINAL LETTER.

Orangevale, Cal., Sept. 12, 1907.

The Rex Company, Benicia, Cal.

Gentlemen:—I used some 30 barrels of your Rex Lime and Sulfur Solution on my grape vines when in the dormant state for Black Knot, with the result there is no Black Knot on them. Will use Rex hereafter.

(Signed) J. H. SMITH.

#### COPY OF ORIGINAL LETTER.

Office of Penryn Company.

Incorporated February 11, 1885.

Producers and Shippers.

Placer County, Cal., Jan. 20, 1908.

The Rex Company,  
Benicia, Cal.

Gentlemen:—We used Rex Lime and Sulfur Solution spray on Zinfandel and other wine grapes during the spring of 1907 on our Lewis Ranch. We used it as directed in your book, 50 to 1, and sprayed the vines when they were away out, just after they dropped the blossom. From all vineyards so sprayed we took off a good crop, with practically no mildew on the grapes, WHERE THE YEAR BEFORE WE LOST 10 to 20 PER CENT FROM MILDEW.

Yours respectfully, PENRYN FRUIT COMPANY,  
(Signed) H. E. BUTLER, Assistant Manager.

**THE REX COMPANY, - - BENICIA, CAL.**  
Omaha, Nebraska East Omaha, Nebraska North Yakima, Washington Toledo, Ohio



## THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

### Gombault's Caustic Balsam

IT HAS NO EQUAL

For — It is penetrating, soothing and healing, and for all Old Sores, Bruises or Wounds, Felons, Exterior Cancers, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for  
**Sore Throat**  
**Chest Cold**  
**Backache**  
**Neuralgia**  
**Sprains**  
**Strains**  
**Lumbago**  
**Diphtheria**  
**Sore Lungs**  
**Rheumatism**  
**and**  
**all Stiff Joints**

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than \$120.00 paid in doctor's bills."  
OTTO A. BEYER.  
Price \$1.50 per bottle. Sold by druggists, or sent by express prepaid. Write for Booklet R.  
The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

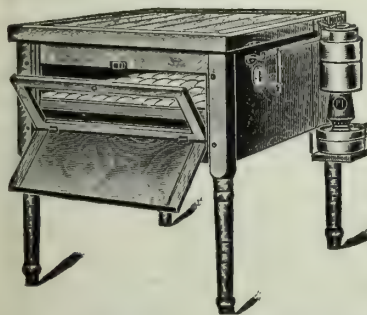
prices that have been paid for cheese during the past few years have been all that could be desired. During the entire year covered by the report above, first class cheese was not sold at any time on the San Francisco market for less than 12 cents, and from that it ranged all the way up to 18 cents, with an average for the year of about 15 cents. This average is equivalent to butter at about 33 cents. During the year that California made 5,928,942 pounds of cheese we brought across the continent 1,198,000 pounds of eastern cheese.

After securing the opinion of Attorney-General Stoddard that it would be legal, the forestry department has issued orders to the rangers of the Hoyabe, Toquima, and Monitor reserves in Lander county to kill at sight any wild horses found on the government domain. There are about 15,000 wild horses on the reserves. They are doing much damage to the vegetation and attracting domestic animals to their herds. This method has been taken as the last resort in checking their vastly increasing droves.

Portland advices say that the Oregon hop crop for 1907 amounted to 140,000 bales. These statistics are as complete as can be compiled at this time, and any later revision will only add to the total a few small lots that may have been overlooked. As usual, the crop was under-estimated early in the season; most of the dealers' guesses ranging from 130,000 bales down to 100,000, and some less. The statistics show that there are 38,348 bales left in growers' hands. In addition to these there are about 10,000 bales in the hands of dealers. Shipments from the State from the beginning of the season, September 1, 1907, to date, amounted to 101,267 bales. Of this quantity about 9000 bales were of the 1906 crop, leaving 92,267 bales of 1907's moved.

ary is establishing one in the center of the Monterey cheese district at Gonzales, which, with the present demand for condensed milk and the prosperous condition of this branch of the dairy industry, will likely mean a large reduction in the make of that county in another year. Santa Cruz and San Mateo counties, which have in past years been important factors in the State's cheese production, have declined, largely on account of the growing local demand for milk and cream during the summer season, as these counties are becoming important as places for the entertainment of city people during the summer season.

Just what is causing the lack of interest in cheese production in California generally, or why other districts do not take it up when it is crowded out in any particular section, is difficult to understand. The



## A New Deal ON Sure Hatch Incubators For Pacific Coast Trade Lower Prices!

### Every Incubator Buyer Should Investigate

We have discontinued our Los Angeles selling agency and are selling direct to the user from the factory. We have a few machines at Los Angeles and a fine stock at Salt Lake City. Don't buy until you get our Free Catalog and New Prices. Quick action is absolutely necessary, as these machines at bargain prices will be snapped up in a hurry. Write immediately to

**Sure Hatch Incubator Company**  
Box 151, Fremont, Neb.

### Free Book and Bargain Price Certificate

SURE HATCH INCUBATOR CO.,  
Box 151, Fremont, Neb.  
Please send Free Book and Bargain Price  
Offer.

Name \_\_\_\_\_  
Address \_\_\_\_\_

FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

## BEEF SCRAPS

Guaranteed 65 per cent Protein

## RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

## POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

## TREES

Best Stock on the Coast  
Every Tree True to Name

### CITRUS

Any quantity in all of the leading Standard Varieties. All grown at Exeter, where they develop perfectly.

### DECIDUOUS

The best of everything in all sorts, strong and healthy, will well developed roots. Properly packed and shipped promptly or when desired. Place your orders now.

## BURBANKS NEW CREATIONS

We are sole propagators and disseminators

**Santa Rosa Plum**  
**Rutland Plumcot, Gaviota Plum**  
**Formosa Plum, Vesuvius Plum**  
**Royal and Paradox Walnuts**

Send 10c. for our valuable booklet, beautifully illustrated in colors, which tells all about these wonderful new creations.

### GRAPEVINES

On their own roots and grafted on Phylloxera Resistant Roots.

**Callmyrna Figs, Ornamental Trees, Roses, Palms, Plants.**

Our large new catalogue sent free.

PAID-UP CAPITAL \$200,000.00  
**FANCHER CREEK  
NURSERIES**  
INC.  
Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## WALNUT TREES

Grown from carefully selected seed  
Postal for prices.

A. A. MILLS, Anaheim, Cal.

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 69 pages 6 by 7 inches. Cloth \$0.50

High In Quality Low In Price

## OUR SEEDS GROW

**Vegetable, Flower  
and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

### Strawberry Plants

Brandywine, Excelsior, Texas, Arizona, A1, Lady Thompson and Midnight, Pedigree Plants.

### Blackberry Plants

Mammoth Blacks, Early Crandal, Giant Himalaya.

### Raspberry Plants

Surprise (earliest known), Millers, Cuthbert.

**Dewberry, Loganberry,  
Phenomenal Berry Plants.**

Mention this paper and get catalog of prices and cultural directions.

**G. H. HOPKINS, Burbank, Cal.**

## GRAFTED VINES

FIELD GRAFTING  
BENCH GRAFTING

done by contract anywhere in central California. Fifteen years experience. Only competent men sent out. Write for estimates and references.

**JOHN L. AMES,**

Elk Grove, Cal.

## ENGINAL NURSERIES.

SPECIALTIES:—Apriest on 'Cot and Genuine Franquette Walnut on black walnut root. Strong, thrifty trees grown on new soil, entirely without irrigation, and surrounded by all safeguards possible, from selection of seeds and buds to the digging of the tree, to have them healthy, free from disease and true to name.

**F. C. WILLSON, proprietor.**  
Sunnyvale, Santa Clara Co., Cal.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

**WRIGHT BROTHERS,**  
Riverside, Cal.



## The Home Circle.

### Nature.

As a fond mother, when the day is o'er,  
Leads by the hand her little child to  
bed,  
Half-willing, half-reluctant to be led,  
And leaves his broken playthings on the  
floor,  
Still gazing at them through the open  
door,  
Nor wholly reassured and comforted  
By promises of others in their stead,  
Which, though more splendid, may not  
please him more;  
So Nature deals with us, and takes away  
Our playthings, one by one, and by the  
hand  
Leads us to rest so gently that we go,  
Scarce knowing if we wish to go or stay,  
Being too full of sleep to understand  
How far the unknown transcends that  
which we know.  
—Henry Wadsworth Longfellow.

### Sun May Shine Tomorrow.

Never seen a day as yet—  
Never will, I'm guessing—  
When a day that's just ahead  
May not bring a blessing.  
If the clouds are hanging low,  
Robing earth in sorrow,  
Then I always tell myself,  
"Sun may shine tomorrow."

What's the use to borrow fret?  
Own enough without it;  
Half your worry's never met,  
Don't you ever doubt it.  
Trouble asks for interest,  
On her load you borrow—  
If it's raining hard today,  
Sun may shine tomorrow.

### AN ADJUSTED HONEYMOON.

As the bell boy sat down the two bags he thrust his hand into his trousers pockets and drew out—a cent. Although she was not looking at them, it was none the less trying. With a smothered explanation he sought again, and pulled out—another cent! How the dickens did those coppers come to be upon him, anyhow! He felt hot and nervous, and then with a desperate dive he produced a dollar, and—although he knew that it was entirely too much—handed it over at once, and the boy grinned and departed—leaving them alone.

They had been married just four hours, and both were fully aware of the fact, but determined not to betray it even to each other. She stood by the table looking at the telegrams and letters and cablegrams spread out there. Her gown was very new and very blue, and her eyes were very bright and her cheeks very pink. He walked carelessly over to the window and let one of the shades up; the setting sun streamed in unpleasantly, and he had to pull it down again at once.

"Oh, this is from Alice Cary," she said, with a deep, earnest joy.

He remembered that he was carrying his hat in his hand and still had on his overcoat. He laid the hat on the mantelpiece and began to take off his overcoat. The sleeve caught somehow.

"And this from Louise," she said delightedly. "The dear thing—to think of me today."

The coat sleeve still caught; he had never had a coat sleeve catch like that before in his life. His ears were getting red, he knew. Ought he to ask her to help him? Would it make things any easier?

"Dear Uncle Andrew," she said, "he wants us to be sure and give them a couple of days. I shall love to have you see the old place."

Darn the coat sleeve! He managed to get into the next room with both arms stuck out behind him, and kick the door partly shut. Then he had to take both coats off at once, and there was—yes—there actually was a pin point protruding from the shoulder seam of his new cutaway.

"Well!" he said. "Well!" and a few other things, and returned to the parlor. He noticed the flowers now for the first time. They were really very well done; there were some potted ones that wouldn't be withered when they were getting breakfast next day. "Heavens, next day!" Was it possible that pleasant, peaceful, placid, unperturbed days could ever follow in the wake of this one!

All those faces when he and Bob had come out from the vestry—and he had forgotten to turn down his cuffs, too! And Bob had dared to say under his breath, "Steady, old man!" just as if he had been nervous. Nervous, he! He had been as cool as a cucumber; he always was as cool as a cucumber; but it certainly was very close here, and would she ever stop reading those letters!

He looked at her furtively and tried to realize that only three days before they had been playing tennis together; and only last night the whole wedding party had been so jolly and informal, but today, everything had changed today.

She had changed. She had changed most awfully. She had been so pale in the church, and afterward at the house they had to give her a cordial; it surely was a great strain getting married. It made him feel queer, and he was a big, strong fellow. Perhaps she ought not to stand there so long reading those letter things. What possessed people to send them letters; they didn't want letters now that they had each other.

He sought to interfere in some way. He started to roll a chair for her to sit down; one of the chair's legs caught in the rug and pulled it all crooked. He tried to put it straight with his foot, but couldn't; he had to take the chair up bodily and put it down beside her, and then all but go down on his hands and knees to straighten the rug.

And she hadn't noticed any of his efforts. "This is from Bessie Bell," she murmured, "dear old Bess!" He remembered Bessie Bell, he remembered her very well; he had been engaged to her for three weeks once, and they had quarreled over his smoking. He wondered whether Bessie would have confined all her attention to telegrams the very first hour.

He went over and opened the window. The dust blew in. He shut the window. Then he cleared his throat. Then he cleared his throat again. The artificial effort suddenly resulted in a genuine sneeze. Now, that was pleasant! Suppose she laughed!

But she didn't laugh. She was reading another of the apparently numberless epistles. And only last night she had slipped away from the rest to kiss him goodby and remind him that that was their last goodby forever. What a change between last night and now. He cleared his throat again.

"Have you taken cold?" she asked, without lifting her eyes.

"I don't believe so." His tone was almost cheerfully conversational. "I hope not," he added.

But he made no other comment. He went over and looked out of

the window again; he was thinking of Mrs. Brookes. He had told Mrs. Brookes that he was sure he would never know what to do with a wife, and Mrs. Brookes had told him that when he found himself actually married and off with his wife affairs would adjust themselves naturally, and he would know just what to do with her. He wondered if Mrs. Brookes would call matters as they stood "affairs adjusting themselves naturally." Nothing was natural. Nothing had been natural since he had walked out of the vestry door this noon. And last evening they had been so happy together; she had been so bright and gay among her bridesmaids. And then that goodby kiss! And now would anybody have the goodness to look at her! Reading congratulations as if the man that they were congratulating her upon getting wasn't there right within ten feet of her, being treated as if he was no more than a stick or a stone.

He went and took his hat off the mantelpiece and carried it to a branching hat rack that stood in the corner of the entrance hall. He was behind her now; she looked very pretty, even if she did still have on her hat. Her hair was so pretty—he had always thought her hair was the prettiest hair that he had ever seen. And she had in it the little jeweled pin that he had bought her as an anniversary present when they had been engaged just twenty-four hours. How sweet of her to be wearing it today. It seemed so sort of poetic, somehow. It seemed that she hadn't completely altered—hadn't ceased altogether to care about him now that they were married.

He cleared his throat again. She started.

"I didn't know that you were behind me," she said, with a catch in her breath.

"Just hanging up my hat," he explained with a carefully careless tone. He wondered what she would answer, and then what he would say, and then what she would say to that, and then—and then—

But she said nothing. Only tore open another of those confounded envelopes, took out another of those blasted sheets of paper and went on with that infernal reading. And Mrs. Brookes had told him that he need not worry, that things would adjust themselves naturally. Naturally! Humph!

He walked to the other side of the table. There was nothing to do there. He turned a discarded envelope over twice. Talk about honeymoons! If this was a fair sample he should make a point of telling a few of his friends a little of his experience when they got back. Did anyone ever see anything alter anybody like getting married had altered this girl! And only last night she had been so affectionate; she had laid her cheek against his coat, and rubbed it softly up and down there, and called him silly boy, and had been perfectly sweet, and now look at her! She was actually so absorbed in those things that she had forgotten him altogether. They must have been alone for the best part of an hour and she had not paid the least attention to him yet.

He turned the envelope over and over in his fingers. Then he drummed on the table with his nails. Then he cleared his throat. Then he thought of Mrs. Brookes. Then he thought of Bessie Bell. He did wonder whe-

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford, Junior, University and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

ther Bessie Bell would have behaved like this.

He took out his watch. Five o'clock. Why, it wasn't but fifteen minutes since they had come in, and it seemed like an hour. He put up his watch. Then he took it out again and looked at the fob. Her mother had given him the fob for Christmas. Her mother had been so serious in bidding them goodby today. Her mother had charged him to be good to her. If any mother could ask a man to behave better than he was behaving he would just beg that mother to indicate what possible alteration in his conduct even a saint might desire.

He cleared his throat again. His throat was actually beginning to feel raw. Suppose he had a sore throat. Suppose he had laryngitis and became dumb for several days! That would be interesting.

He went to the window and then back from the window. Suddenly he remembered Carl Adams, a man who had been popularly considered as his rival. What under the sun should bring Carl Adams into his head now! Such an idiot as Adams was, anyhow! He wondered if she would have treated Carl Adams as she was treating him. Adams was milk and watery. He thought with scorn that very likely Adams would have gone in and begun by unpacking his trunk. That would have been just like Adams. To think of his trunk before his bride would be just exactly like Adams. He was going to be very curious what sort of girl Adams would marry—if he ever did marry. He could just fancy how he could treat her, too. Probably act as if he were afraid of her. Adams never did have any nerve, or any stamina, or any backbone, or any anything.

She was opening the last one of the whole blessed, cursed pile! Hurrah, patience was to have its perfect work at last. He felt his fingers tingling. He went and looked out of the window once more. When he turned she was thoughtfully folding the paper and slipping it back into the envelope.

"I suppose that they must all be answered," she said, laying it carefully on the pile.

"Now!" he cried in an indescribable tone.

She could not help laughing. "Not right now," she said, controlling it to the limit of a smile at once.

Then she began to unpin her veil.



# The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work.

WRITE FOR PARTICULARS.

PACIFIC COAST BUSINESS COLLEGE,  
SAN JOSE, CAL.

"Can I help you?" he asked, approaching.

"Thank you, I'm very well used to doing it alone." She removed it as she spoke. "Do you want to try to fold it?" she said, holding it out to him. He took it. He was perfectly joyful over her noticing his existence.

"Am I folding it right?" he asked earnestly.

She nodded; she was drawing out her hat pins. Then she lifted her hat off and fluffed up her hair in a way that made her look just as she always looked.

"I suppose that I must unpack now," she said with a little sigh.

He thought desperately of Mrs. Brookes. Then he thought of her mother. Then he thought of Adams. It seemed more than probable that Adams in such a minute as the present would stand where he was. There was nothing of the Adams about him, so he refused to consider standing where he was standing one second longer. He moved around the table and stood beside her. She was holding her hat in one hand and he took the other. Such a pretty little soft white hand!

The next second she was in his arms, and when he recovered consciousness he had forgotten her mother and Adams and only remembered Mrs. Brookes. Great Scott! but Mrs. Brookes was a smart woman—Mrs. Brookes knew what she was talking about!

He had bolted the door, and was sitting in the chair whose legs had so awkwardly rolled up the carpet. She was in his arms, her cheek was softly rubbing up and down against his shoulder.

"Do you know, dear boy," she whispered, "I almost thought that you never were going to kiss me. What would I have done if I had not had those letters to pretend to be reading?"—Anne Warner, in the Woman's Home Companion.

Chaff.

Little Tommy Whacken was taken by his mother to choose a pair of knickerbockers, and his choice fell on a pair to which a card was attached, stating: "These can't be beaten."

Passenger—Are you goin' to hang about here all day, or what?

Bussy—If you don't like it, yer can git off and walk.

Passenger—Oh, that's all right. I'm not in such a hurry as all that!

Bank President—You say you belong to the Y. M. C. A., the B. Y. U., the S. C. A., and other sections of the alphabet?

The New Bookkeeper—Yes, sir.

Bank President—Well, any time you feel you need a few thousands, just come frankly to me. I don't care to have the books all tangled up.

## Home-Made Candies.

**Nut or Chocolate Caramels.**—Use three cups of granulated sugar, one cup table syrup, and one quart rich milk or cream. Cook rapidly, stirring all the time. Test in ice water. Drop a small portion in the water, spread thin with the thumb and finger, bend quickly. If it is done it will snap. Set off at once and flavor.

**Nut Caramels.**—Add one cup whole nut meats, stir well and turn into well greased and floured shallow tin. When cool turn on to molding board and cut in squares.

**Chocolate Caramels.**—Use two ounces chocolate and add before the candy is done boiling.

**White Taffy.**—Two cups granulated sugar, one of table syrup, boil over slow fire until some dropped in cold water will harden. Just before done add one tablespoon of vinegar and some flavoring extract; turn into buttered plates and pull when cool.

**Easy Candy.**—Break an egg, put white in plain glass tumbler, add same amount of ice water. Stir in confectioner's sugar until the mass can be handled with the hands. Flour kneading board with sugar, roll out candy, cut with thimble, press nuts down into round balls of candy, and set away on oiled paper to harden. Flavoring can be added when mixing with hands. Dates seeded and pitted with this candy are nice.

For variety use fruit coloring, cocoa, and yolk of eggs, and mold in fancy shapes. Molded into cone shapes and dipped into melted chocolate make good chocolate creams.

## Chicago Public Library.

The report of the Chicago Public Library for 1907 shows a total of 339,282 volumes in stock, a registration of 95,889 borrowers, a circulation of 1,414,282 volumes for home reading, and an issue of 369,891 volumes for reference use. Accessions for the year numbered 24,987 volumes; new readers to the number of 29,740 were added to the registry. The library operates through 70 delivery stations and 10 branch reading rooms. It receives from the city an annual appropriation of \$300,000, of which it expends \$142,748 for salaries, and \$39,953 for books, periodicals, and binding. On the matter of book thefts the report says:

"The annual inventory shows a larger number of books unaccounted for than usual. At the branch reading rooms a more liberal policy of free access to the shelves has been introduced, and one of the results is the number of books reported as missing. The total number of books unaccounted for is 910. Of the 535 books reported as missing last year, 175 have since been accounted for.

Cream or milk that has turned, but is not soured, may be made sweet by stirring into it one teaspoonful of carbonate of magnesia to each quart of milk.

"Of course," said the earl, "everybody will say that you married me for my title."

"Well," replied the beautiful heiress, "what do we care? I get it, don't I?"

## WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO-URINE removes cause. E. W. Grove on box 25 cents.



Hard hitters receive hard knocks and must be made to resist them. The man who bought a nameless hammer a year ago probably has a useless hammer to-day, with a battered, chipped and broken face, and a handle that continually comes out.

To get a hammer that will last a lifetime, that never chips or breaks—that never works loose or flies off the handle—that drives straight and true—you must ask for a Keen Kutter Hammer.



# KEEN KUTTER

## Tools and Cutlery

from a can-opener to a cross-cut saw—from a tack-hammer to a sledge, are as carefully made, tempered and tested as the finest surgical instruments.

Keen Kutter Tools include Carpenter's Tools, and a full line of Farm and Garden Tools—Forks, Hoes, Trowels, Scythes, Manure-hooks, Lawn-mowers, Grass shears, Rakes, etc. Also Scissors and Shears, Pocket-knives and Cutlery. Sold for nearly 40 years under this mark and motto:

"The Recognition of Quality Remains Long After the Price is Forgotten."

Trademark Registered. If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

# Trees that Grow and Bear Fruit

SOUTHERN TREES ARE BEST, BECAUSE THEY ARE THOROUGHLY DORMANT AND HAVE NO SOFT WOOD ABOUT THEM.

Our trees are carefully and well grown. Buy direct from the grower and save the middleman's profit. Special attention given to orders from large planters. We have a general assortment of deciduous, citrus and ornamental trees. Also an extensive line of ornamental and flowering plants, including a large assortment of roses. Write for price list—it is free.

## Orange County Nursery & Land Company

FULLERTON, CAL.

# Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries, Wine, Table and Raisin Grapes.**

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untied. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

## THE FRESNO NURSERY

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual

## TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

# TAKE ADVANTAGE of the opportunity

THE ALL-AROUND TILTON APRICOT

Is offered at special rates by the introducer.

## HANFORD NURSERY

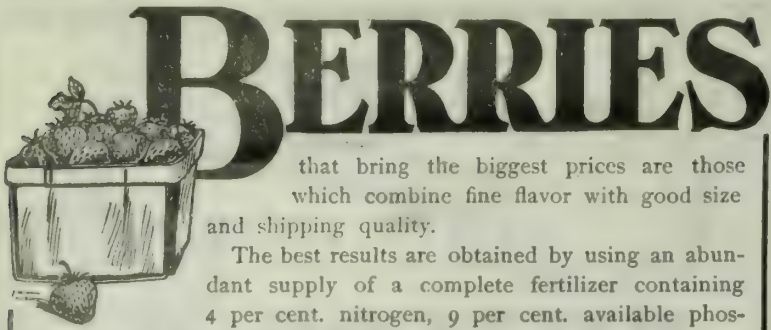
Hanford, Kings County, California.

# PATENTS

OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinions as to Patentability and Infringement HANDBOOK FOR INVENTORS FREE

DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco





# BERRIES

that bring the biggest prices are those which combine fine flavor with good size and shipping quality.

The best results are obtained by using an abundant supply of a complete fertilizer containing 4 per cent. nitrogen, 9 per cent. available phosphoric acid, and at least 10 per cent. of actual

## POTASH

This formula will be found productive of wonderful results with all kinds of berries.

Detailed information is given in our free book—a valuable treatise on scientific fertilizing. It is complete and trustworthy and contains suggestions which will mean money to the man who follows them out. Address

GERMAN KALI WORKS

New York—93 Nassau Street Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## AGRICULTURAL REVIEW.

### BUTTE.

**Chico Enterprise:** The last shipment of matting grass plants from the National Plant Introduction gardens was sent to Sacramento to the headquarters of the Development Association, from which office it is to be distributed throughout the Sacramento valley, in an effort to introduce the matting grass industry in this valley. Harry Speas of the association will take charge of the shipment. It is not known just how many applications have been received for the plants by Secretary Miller of the association, nor from which localities the demands come, but most of the 15,000 plants are already engaged and will be distributed immediately. W. W. Mackay, the government soil expert, has engaged 1000 of the plants and will experiment in several localities. There is a large demand for matting grass in the large business and manufacturing centers, and the government is anxious that this country should be a producer in competition with Japan.

### CONTRA COSTA.

**Antioch Ledger:** A turnip measuring two feet eight inches around and weighing ten pounds was exhibited this week and attracted almost as much attention as Tonopah gold nuggets, for it was the largest ever seen in this vicinity. It is exactly two months old, having been raised from the seed in the garden one mile from Antioch. No doubt but that people will say that this is merely a California fabrication pure and simple, but we have the goods to verify the statement.

**Antioch Ledger:** A crop that attracts more than usual interest each year, and one which is watched most eagerly by all when the harvesting time arrives, is that of asparagus, the vegetable so much sought by easterners. Last week the first grass of the season was shipped east, and if the weather continues favorable

## FOUL ROOSTS AND CLEAN NESTS

Neglect, sheer neglect, lies at the foundation of most poultry troubles. Lice come, multiply and stay because a simple, easy remedy that might be quickly applied is overlooked during press of other business. Keep your houses clean, especially about the roosts, and occasionally sprinkle

## Instant Louse Killer

freely in nests, on roosts, platforms and in any out-of-the-way crevices where lice may harbor. It is a certain remedy and will effectually destroy them.

Instant Louse Killer was formulated by Dr. Hess (M. D., D. V. S.) and is sure death to all animal parasites. Kills rose slugs, cabbage worms, and bugs on cucumber, squash and melon vines. It is also a good disinfectant and deodorizer. Being a powder, it may be used either winter or summer. Sold in shaker top cans. See that the word "Instant" appears on the can.

Sold under a written guarantee.  
1 lb. 35c; 3 lbs. 85c.

If your dealer cannot supply you, send your order to us.

Manufactured by  
**DR. HESS & CLARK,**  
Ashland, Ohio.

THE PETALUMA  
INCUBATOR CO.,  
PETALUMA, CAL.,  
Pacific Coast  
Distributors.

shipments will grow heavier rapidly. On exactly the same date last year the first shipment was made, and this is considered remarkably early. At present all indications point to not only a heavy crop but also one of fine quality.

SAN DIEGO.

Imperial Press: Planting of can-

Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c

**GOOD TREES AND BIG PROFITS**

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

**The San Dimas Citrus Nurseries**  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

**WALNUT FRANQUETTE**  
WALNUT  
VROOMAN'S TREE  
HARDY, BLIGHT RESISTING  
BEARS YOUNG, HEAVY ANNUAL  
CROPS. LARGEST AND  
FINEST FLAVORED NUTS  
KNOWN

Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.  
Salesmen Wanted.

### WANTED

Cuttings of the Following for Grafting Purposes:  
Rupestris St. George, Riparia x Rupestris 3306,  
Riparia x Rupestris 3309, Riparia x Rupestris  
106-8 and Mourvedre x Rupestris 1202. Address  
**FANCHER CREEK NURSERIES**  
Fresno, California.

**EUROPEAN LINDEN SEED**  
Grown in Sacramento; 30 cents per ounce.

F. A. MILLER, P. O. Box 377, Sacramento.

## San Francisco Two Years After

The rebuilding of San Francisco is shown by picture and story in the April number of

## Sunset Magazine

A magnificent 58-inch panorama is used for a frontispiece and gives an idea of how the city looks today. This is followed by 32 full page pictures in colors showing Banks, Business Blocks, Hotels, etc., already completed or in course of construction.

Also the first installment of the serial story

**LIN MCLEAN**

A stirring story of Western Life

**OWEN WISTER**

Author of "The Virginian."

Send it to your Eastern friends.

PRICE 15 CENTS

POSTAGE 4 CENTS

**Blake, Moffitt & Towne**  
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



taloupe seed is now going on generally through the valley, and the field managers of distributing agencies and of the growers' associations are enabled to estimate closely the prospective acreage. The area is largely in excess of last year's, and the crop will be all that the associations and distributors can handle conveniently, amounting probably to about 1500 earloads. The distributors look for about fifty per cent of the planting to "make good," and it is up to the growers of this region to demonstrate that they can do better than that by giving the best care and attention to selection of seed and cultivation of the crop.

## SHASTA.

The forest reserve in Shasta, instead of proving a restriction and a detriment to stock-raisers, is actually a boon to them. By the careful supervision of the Government there is not permitted the over-stocking of any of the ranges, so that feed is not only abundant for every animal thereon, and neither are predatory stock allowed access thereon. Previous to 1905 it was a scramble for range and the devil take the hindmost in getting there in the spring, hence stock were shoved in before conditions were favorable to them, and as soon as these conditions were favorable then an excess of stock were turned on the range, the result being that by fall the stock were underfed and shrinking in flesh, and when returned to the winter ranges were in no condition to weather the winter, and their whitening bones attested the severe losses sustained by the owner. Shipments to market were on a limited scale at any season of the year, and the condition of the stock even then was poor and the prices the lowest. Now shipments are many times greater and the price is top notch for prime beef. The shipment of beef cattle from here in 1906 was about \$40,000, and from Cottonwood about the same, and for 1907 and up to the present time it is in excess of 1906, with the industry increasing and the raisers in a more prosperous condition than ever before.

Goat raisers have begun to clip their goats. The price of mohair is not very satisfactory this year. Last season they got 39 and 40 cents for hair, while 25 cents is about the best

that can be got this year. An average goat yields about a pound and a half of hair. Flockmasters will not sell at present quotations. Goat-raising is an important industry in parts of Shasta county, which is too brushy for sheep.

## SONOMA.

Press-Democrat: A well known local hop dealer and grower stated that he had in his possession data showing that the hop acreage in Sonoma county will be reduced to the extent of a thousand acres this year. This he regards as a conservative estimate. The reason for this, he says, is the very small price paid for last year's crop. He has also received word that a big reduction in acreage is to occur in Oregon and in England for the same reason. A few days ago several hundred bales of the 1907 crop were sold at 4½ cents here.

## TULARE.

Hanford Sentinel: During the past few days the blossoms of the almond trees have unfolded, and the trees now present a beautiful appearance next in order, and before the month is past they also will be open. The apricot blossoms will be followed by the peach, and blossoms of other fruits. The fruit crop of 1908 can be said to have started, and soon there will be comments of frost damage.

## YOLO.

The Alameda Sugar Company has begun planting beets. Twelve hundred acres have been plowed and planting will continue with all possible expedition. The acreage devoted to beets by the company, provided the season is favorable, will not fall short of 2500 acres. A large force of men and horses, besides a traction engine, are employed.

"THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## 60—TOURS—60 TO EUROPE

SEASON 1908

\$150 to \$1165

Other tours to Japan, China, and Siberia. Programmes giving full story for the asking.

**THOS. COOK & SON**  
32 Powell St., San Francisco  
Cook's Traveler's Checks Payable Everywhere.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

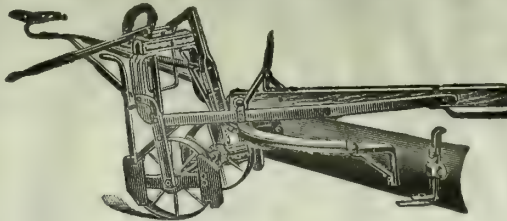
Plants exceptionally strong and true to name. Price given on application. Address  
**W. A. Stewart,**  
Rio Vista, Cal.

## Trees

French Prunes and Apricots; Muirs and Tuscan Clings, and many other varieties of Peach Trees, all fine budded stock. Large stock of all the leading varieties of Apples, grafted on whole roots and free from all pests. Also a fine stock of Cherries, Pears, Plums, etc. Send for price list.

**A. F. SCHEIDT,** Sebastopol, Cal.  
Proprietor Pleasant View Nursery.

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do all

most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

# SEEDS Trees Plants

If you are interested at all in gardening or farming, for pleasure or for profit, it will pay you to send for our new catalogue of best seeds and plants. It is well illustrated, describes all varieties, and gives the best cultural directions for our climate.

**LIVERMORE NURSERIES.** In our Livermore Nurseries we grow our choicest stock of plants and trees and call your attention to a fine lot of Muir Peaches, French Prunes, on both Almond and Myroblan roots, Orange and Lemon Trees.

## ALFALFA SEED

We are the largest dealers in Alfalfa on the Pacific Coast. Our entire stock of new crop Utah Seed is in hand and as the crop is extremely short we advise you to order early for the supply is sure to be exhausted before the planting season is over.

Successors to Cox Seed Co.

Send for our CATALOGUE, it will tell you about all the good things we have which you ought to plant.

C. C. **MORSE** & Co.

41 Jackson St. San Francisco

**Red Gum Sugar Gum Gray Gum Desert Gum** for timber, posts, piles, poles, etc.

**Best Four. Get Our Prices.**

Cling and Free Peaches, Apricots, Almonds, Cherrels, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

**Leonard Coates Nursery Co., Inc.**  
Morganhill, Santa Clara Co., Cal.

**ORANGE SEED BED STOCK**  
We have a fine lot of stock grown from seed of the California sweet seedling or Tahiti, and from the Florida Sour orange, the latter being resistant to gum disease.

Get your order in early, before we are sold out. Planting may begin now.

**SOUTHLAND NURSERIES,**  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.  
Largest Citrus seedling nurseries in the State.

**Eucalyptus Red Gum Sugar Gum**  
6 to 12 inches.

In Flats F. O. B. \$15 to \$18 per 1000  
Packed and Prepaid to you by Express,  
\$2.50 per 100—\$23 per 1000

**HENRY SHAW,**  
320 River St. Santa Cruz, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

**School of Practical, Civil, Mechanical Electrical and Mining Engineering**

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25. Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## The Fresno Scraper



3½—4—5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1880.

## Ask for SNOW'S GRAFTING WAY

In use all over the State  
For sale by all the large grocers, or  
**D. A. SNOW,** Lincoln Avenue, San Jose, Cal.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address  
**P. O. Box 345, Vacaville, Cal.**

## FOR SALE

A few Hott Grafters at the extremely low price of \$2.50 each. These grafters are new and price is one-half factory cost to close out stock. The best device for top-grafting trees or vines ever invented.

**The Grafts all Live.**  
Order early as supply is limited. Address  
**J. C. WILLSON, 1016-27th St., Sacramento.**

2000 Phillip Cling Peaches	2-3 ft.	10c Each
2000 Early Crawford "	" "	" "
1000 Elberta "	" "	" "
1000 Kelsey Plums	" "	" "
1000 Diamond "	" "	" "
1000 Grand Duke Plums	" "	" "
5000 Bartlett Pears	3-4 "	" "

All healthy and fine rooted trees  
**GOLDEN RULE NURSERY**  
Loomis, Placer County, California.



# CREAM PROFITS

If you are selling your whole milk to the Creamery you are not getting as much profit from your cows as you should. In fact you are losing 50 per cent. Without increasing your feed bills one penny or milking another cow you can double your cream profits. This is demonstrated by thousands of dairymen and farmers every day in the year.

## The Sharples

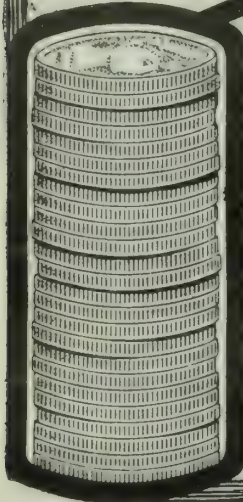
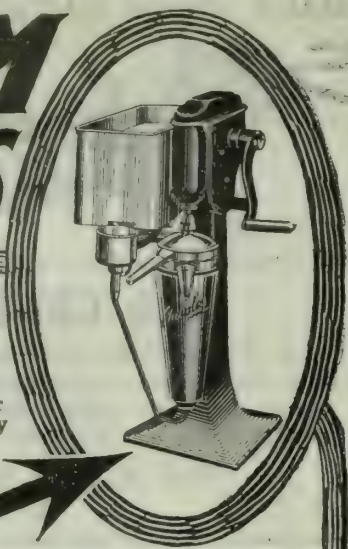
### Tubular Separator

gets all the cream in the milk—it skims out every cent of profit, so that you can turn it into cash. Here's one letter that tells the story of how to double your cream profits:

Union Mills, Ind.  
GENTLEMEN:—We have a Sharples "Tubular." Before we bought it, we had been selling our milk to a creamery at Union Mills, getting not more than \$8.00 a month, but since we have the Tubular, we have been getting twice more, and are so satisfied with the Tubular.  
MRS. JOHN C. MILLER

Such proof as this ought to convince you that a "Tubular" will be a money-maker for you. The extra profit will soon pay for the separator while it will keep right on earning these big profits for years. Write today for our new catalog and free copy of that valuable book, "Business Dairying." Ask for book No. 131.

THE SHARPLES SEPARATOR CO.,  
West Chester, Pa. Toronto, Can. Chicago, Ill.



# West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide, and Disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool, but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25% Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils which run about one-half the strength of imported oil. Permission was given by the U. S. Department of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For Sale by many Dealers. If yours does not keep it, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

# PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## The Field.

### Alfalfa Growing in Washington.

As it is about the time when most alfalfa is sown in the great interior valley of California it will be timely to read of how they are proceeding with the task in the irrigated regions of Washington east of the Cascade mountains. Mr. Frank W. Scott gives the Orange Judd Farmer the following outline which will strike the California alfalfa grower as almost humorous in its method of irrigating and the little devices used therefor. Still there may be conditions where these methods will be found helpful.

When the ground has been cleared of sagebrush or of previous crops, it must be leveled with especial care for the raising of alfalfa. This especial care is made necessary by the fact that the irrigating ditches must, of necessity, be very small. As in other cases of leveling for irrigation, the ground should be worked until it lies in the largest possible planes, having appreciable slope. It should be plowed to the depth of from 6 to 8 inches, and thoroughly harrowed and dragged until the surface is fairly pulverized before it is sown.

By the time the ground is ready for sowing the seed should have been tested. Most of the alfalfa growers in Washington apply a germinating test of 48 hours. Seed which is practically all good should be sown about 15 pounds to the acre. When any considerable portion of the seed is likely not to germinate, the amount might be increased to 18 or 20 pounds, but none but very poor seed will require that amount. The seed is usually sown broadcast, and sometimes, though not usually, a cover of wheat or oats may be sown at the same time as a nurse crop to protect the tender young alfalfa plants from the sun and the wind.

When the ground has been rolled, the ditches for irrigation should be put in. This is usually done by means of a kind of drag, perhaps 4 feet square to the bottom of which two pieces of wood, say two inches wide and 4 inches thick, are nailed edgewise and parallel 3 feet apart. The front ends of these two pieces may be sharpened so that they will push more easily through the earth. When this drag is properly weighed and pulled across the field, it makes two ditches 3 feet apart and approximately 4 inches deep. The whole field should be covered by these ditches.

As in irrigating apples and everything else, for that matter, the ditches are run down the steepest slope at right angles.

If the slope is great enough, there is danger of washing the soil. To avoid this ditches are sometimes run diagonally in order to secure gentler grade. This is not a good plan, because no matter how watchful the attendant is, if a stream of water is flowing diagonally down a hill it is going to find weaknesses in the lower side and break through, leaving the remainder of that particular ditch unsupplied with water. It is far better to allow the water to go the steepest way and avoid washing by regulating the flow. This is especially true in the case of alfalfa, because the break in a sidling ditch cannot be discovered when the ground is covered with a dense growth of the crop until the dying plants indicate the area that is not receiving water.

Of course, when the ditches all follow the steepest slopes the flow of water into these ditches must be regulated according to the steepness. This flow may be best regulated by putting in tubes where the small ditches leave the feed ditch. These tubes, large or small as the case demands, can be made of strips of wood. A lat cut into four pieces and then made into a slim box, gives an opening of about three-fourths of an inch, which does very well for alfalfa. This marker for making the small irrigating ditches should be dragged over the field

## Wagon Wheels

turn easily—loads seem lighter and teams work with less effort when axles are coated with

## MICA Axle Grease

Best lubricant for the purpose ever used. Powdered Mica in the grease forms a glass-like coating on axle which practically destroys friction. Ask the dealer and don't be without Mica Axle Grease for a day.

STANDARD OIL COMPANY  
(Incorporated)

again after the first cutting, of course, following the former tracks. This will insure a good flow of water, and prevent further care in that regard.

### The Precedence of Barley.

Statistics kept by Major P. J. Harney, of the Sacramento Transportation Company, show that barley growing has practically driven the wheat industry of the Sacramento Valley out of business, says the Sacramento Union. Records of the company show that during the past eight or nine years thousands of acres, formerly devoted to the raising of wheat, have been given over to barley. Where in 1899 the up-country shipping points sent out 32 sacks of wheat to every sack of barley, the same places are now distributing seven sacks of barley to every one of wheat.

There was a time when the Transportation Company received from prominent farms up the river two and three sacks of barley to as many thousand sacks of wheat a year. Conditions are now vice versa. In 1906 and also last year there was a surprising increase in the shipments of barley.

All over the Sacramento Valley wheat fields have given way to barley. Barge load after barge load of the latter article is brought downstream without a sack of wheat being taken on board. It is a fact that the flour mills of Sacramento and vicinity have found it necessary to send to Oregon for great quantities of wheat, simply because the up-country farmers have ceased raising that product. It is figured out by Major Harney that seven sacks of barley were handled by his company last year to every one of wheat. He expects this ratio to increase.



**Free Veterinary Book**  
Infallible guide. Makes every man his own horse doctor. Postage 3c.  
**Tuttle's Elixir**  
Insures sound horses. Cures splint, curb, spavin, etc. \$100 reward for failure where cure is possible.  
TUTTLE'S ELIXIR CO.,  
33 Beverly St., Boston, Mass.  
Los Angeles, W. A. Shaw, Mgr.,  
1921 New England Av.

Beware of all blisters; only temporary relief, if any.  
Coffin Redington Co., 625 Third St., San Francisco, Cal.



## Patrons of Husbandry.

### Tulare Grange Meeting.

To the Editor: Tulare Grange convened in its hall on Saturday the 15th ult. The attendance was good, the lunch very good, the social time at the table very enjoyable, the discussion more than interesting. One candidate for degrees was elected.

The subject for the day was: "For this section, what varieties of canning peaches are most desirable?"

In the absence of Bro. P. D. Fowler, who was to open the discussion, but whose duties as Horticultural Commissioner prevented his attendance, the Worthy Master, J. T. Lawson, Bros. E. Barber and F. H. Styles gave their experience and information on the subject.

The most desirable varieties of canning peaches are those that produce the largest income to the grower, from the grower's point of view.

The best canning peaches are the clings. They have the highest and the best flavor; they keep their shape and appetizing appearance in the cans much better than the free-stone peaches; canners will pay more per ton for cling peaches than they will for free, and will pay more for yellow clings than for the white clings. It was, however, admitted that for shape and size of fruit, for yield and regularity of yield, for high flavor and for retaining shape when canned, the White Heath is rarely excelled. The worst feature of the White Heath is its late ripening.

The canners, for reasons known to themselves, prefer the yellow to the white clings. Of the several varieties of yellow clings for canning the Phillips stands highest and, per ton, brings the highest price. In the can it takes the expert to tell it from other good varieties of canning yellow peaches. The Orange cling is grown in larger acreage, and the Tuscan for yield, certainty of crop and canning qualities, stands as one of the best, while some consider the tree less subject to disease than are other varieties of peaches. This is merely the trend of the discussion, based on the observation or information of the members speaking.

It was claimed, and agreed, that this locality has a soil and such climatic conditions as will produce the very highest qualities of peaches for canning or drying purposes, and will give a yield which will insure an excellent profit to the careful grower. It was agreed that damp land, with the same amount of care, will give a heavier yield and larger fruit than will higher and drier soil, but the fruit grown on the higher and drier soil will have higher and better shipping and canning qualities.

The subject of growing trees on the farm for timber and near the roadside for avenue purposes was brought up and discussed with much interest during which the adaptability of the different eucalypts for both purposes was highly commended. Further consideration was deferred until the next regular meeting, on March 7, the discussion to be in open meeting, all to whom the subject is of interest being invited to attend. The Grange also passed a resolution recommending the formation of Tree Planting Clubs, such as that now doing such efficient work at Monterey, and the farmers of this

county are recommended to plant trees for timber and avenue purposes. The 22d of last month was Arbor Day. Trees might have been planted then, but April is deemed a better month for the purpose.

It was stated by Bro. Barber that in southern California pepper trees are badly affected by black scale, while the eucalypts are exempt from all such diseases. It was also said, and admitted, that ground to be planted with trees should be prepared and given time to settle again before planting, the time varying according to weather and soil conditions.

Copies of the Year Book of the U. S. Department of Agriculture for 1906 were received from U. S. Senator Flint, were distributed to the members of the Grange, and a resolution passed thanking Senator Flint for the timely donation.

J. T.

Tulare.

**Farmers! You Should Spray**  
Spraying is cheap but effective insurance against crop destruction—the best policy is a

**DEMING Sprayer**

Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio.  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.

### Surplus Peach Trees

Runyon Orange Cling	\$15.00 per 100
Seller's Golden Cling	\$135.00 per 1000
Lovell Free	
Almond on Almond	\$13.50 per 100 \$100.00 per 1000

**LEONARD COATES NURSERY CO.**  
MORGANHILL, CAL.

## Two Pails From One Cow



The greatest yield of milk requires that food waste be reduced to a minimum and food assimilation increased to a maximum. Hence the road to success as a producer of milk lies in giving the cow a strong digestion and increasing appetite. This seems difficult, because we are continually overfeeding in our effort after increase, and consequently inviting nervous disorders and digestive breakdown. Here

### DR HESS STOCK FOOD

shows its value. A tonic and mild laxative, it contains iron for the blood and nitrates to expel dead matter from the system. Its use strengthens the stomach nerves and increases the secretions. A cow, steer, horse, hog or sheep getting Dr. Hess Stock Food is in condition to benefit from a large amount of food. It makes appetite for coarse fodder (which saves grain) and by improving digestion saves nutrient that would otherwise be wasted in the excrement. Professors Winslow, Quitman and Finley Dun endorse the ingredients contained in Dr. Hess Stock Food. It is the prescription of Dr. Hess (M. D., D. V. S.) and is valuable not only as a tonic but as a preventive of disease. Sold on a Written Guarantee.

100 lbs. \$7.00. 25 lb. pail \$2.00.  
Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal preparation, and this paper is back of the guarantee. Free from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book free any time for the asking. Mention this paper.

**DR. HESS & CLARK, Ashland, Ohio.**

Also Manufacturers of Dr. Hess Poultry Pan-a-c-a and Instant Louse Killer.

Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR CO., PETALUMA, CAL., PACIFIC COAST DISTRIBUTORS.



## GRAFTED Franquette Walnut Trees

Walnut trees require 1600 to 3600 square feet per tree, according to the soil. A tree planted to fill that space cannot be too good. In other words, too much care cannot be taken to be absolutely sure that the variety being propagated is true to name and that the seedling trees used for grafting shall be only those of first-class strength and vigor, everything else being rigidly discarded.

Our stock is selected only from strong, vigorous seedlings of the best types of the California Black Walnut; and our grafts were taken from our own trees, and they were grafted from the best bearing trees in the famous Vrooman grafted Franquette orchard.

Write for circular and price list if you are interested in walnuts.

### IMPERIAL WALNUT NURSERY CO.,

F. A. LEIB, Manager,

SAN JOSE, - - - CAL.



## California Fruit Exchange

(INCORPORATED.)

Head Office:

SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

### NATIONAL WOOD PIPE CO.

Patent Machine Banded

Patent Continuous

### WOOD PIPE

Made from California Redwood

or Selected Puget Sound Yellow Fir.

404 Equitable Savings Bk. Bldg.,  
Los Angeles

268 Market St., San Francisco

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.



## THE MARKETS.

San Francisco, March 4, 1908.

## WHEAT.

Wheat still shows no marked activity in this market, though there is a little more interest than last week. May wheat has been going up for the last few days, but there is little buying. Somewhat higher prices are asked for spot shipping grain, but very little is changing hands. Spot prices on other grades are not changed, but there is more inquiry than for several weeks past, and considerable firmness has been felt for the last few days. Trading, however, is light, as with a quiet flour market milling requirements are not very large.

California White Australian..	1.67 1/2 @ 1.70
California Club.....	1.60 @ 1.62 1/2
California Milling.....	1.62 1/2 @ 1.65
California lower grades.....	1.40 @ 1.50
Northern Club.....	1.57 1/2 @ 1.60
Northern Bluestem.....	1.62 1/2 @ 1.67 1/2
Northern Red.....	1.55 @ 1.57 1/2

## BARLEY.

Barley futures are firm at present, and the cash grain shows a much stronger tone, with some advance in prices. The movement here is still limited, but there is a lively demand in the interior. Arrivals are somewhat larger. Some has been sold for shipment at \$1.40, and choice feed brings \$1.35. Off lots of feed sell as low as \$1.25. There is no demand at present for either chevalier or brewing, and these grades remain nominal.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl.	1.32 1/2 @ 1.35
Common to Fair.....	1.25 @ 1.30
Shipping.....	1.40 @

## OATS.

So far there has been no revival of oats. The market is extremely dull, and prices are still held at last quotations. Buyers have apparently been holding off in anticipation of tax assessments, and last week's reductions failed to bring out any interest. With assessment day over, more inquiry is expected, but so far conditions show very little change from those of last week.

Choice Red, per ctl.....	\$1.40 @ 1.57 1/2
Gray.....	1.55 @ 1.65
White.....	1.50 @ 1.65
Choice Red, for seed.....	1.65 @ 1.75

## CORN.

There have been no arrivals from the Western States this week, and stocks of most varieties are light. Prices are about steady, with no change from last week. The market is dull, however, and while there are considerable offerings of some grades, little interest is shown.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.65 @
White.....	Nominal
Western State sacked Yellow, new.....	1.60 @ 1.65
White, in bulk.....	1.53 @
Mixed, in bulk.....	1.50 @
Brown Egyptian.....	1.37 1/2 @ 1.42 1/2
White Egyptian.....	1.60 @ 1.70

## RYE.

Rye shows very little feature, with quotations on the California grain held steady at last quotations. Little is offered, but the demand is light, and there is no trading of any consequence.

California.....	\$1.47 1/2 @ 1.52 1/2
-----------------	-----------------------

## BEANS.

White beans continue the leading feature of the market, both small and large whites being firm, with an advance on the small variety. The shipping demand on these lines is again increasing. Other descriptions have been rather dull for the last few days, with some weakness in prices, as holders wished to sell out before assessment day, but now the feeling is much better all along the line. Local buyers are taking on stock, and say that the outlook is good for a firm and active market for some time.

Bayos, per ctl.....	\$3.00 @ 3.15
Flackeyes.....	3.25 @ 3.60

Butter.....	4.50 @ 5.00
Cranberry Beans.....	2.90 @ 3.25
Garvanzos.....	3.50 @ 3.75
Horse Beans.....	2.25 @ 2.75
Small White.....	3.40 @ 3.60
Large White.....	3.30 @ 3.50
Limas.....	4.50 @ 4.70
Pea.....	3.50 @ 3.75
Pink.....	3.10 @ 3.25
Red.....	3.50 @
Red Kidneys.....	3.25 @

## SEEDS.

The seed market is still in good condition, with continued activity in most lines. Everything is firm, alfalfa in particular, the best offerings of which sell at about 19 cents. Timothy is now offering at 7 cents.

Utah Alfalfa.....	18 @ 19 c
Turkestan alfalfa.....	18 @ 19 c
Alfalfa.....	17 1/2 @ 18 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 1/2 @
Canary.....	3 1/2 @ 4 c
Flaxseed.....	Nominal
Hemp.....	4 1/2 @
Millet.....	2 1/2 @ 3 1/2 c
Timothy.....	7 @ 7 1/2 c
Yellow Mustard.....	5 @ 5 1/2 c

## FLOUR.

Flour business is reported about up to the average of recent times, with prices on California grades held steadily at former figures. With little shipping demand, few of the mills are running up to capacity. Kansas brands are higher, being quoted up to \$5.85, San Francisco, track.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.75 @ 5.25

## HAY.

In hay, the future is brighter but there is no change in the spot market. Receipts at this place show a small increase for the last week, the arrivals being 2990 tons, as compared with 2750 tons for the week previous. The general idea is that the general resumption of railroad and other extensive building will lead to an increase in the demand for hay before long, and that the market will stiffen accordingly. Some dealers are predicting better prices within thirty days. The recent rains have improved the outlook for the grain harvest, with the result that the prospective hay crop promises to be smaller than it did some weeks ago.

Choice Wheat, per ton.....	\$15.50 @ 16.50
Other Grades Wheat.....	10.00 @ 15.00
Wheat and Oat.....	10.00 @ 15.00
Tame Oat.....	10.00 @ 14.50
Wild Oat.....	9.00 @ 12.50
Alfalfa.....	3.00 @ 13.50
Stock.....	7.50 @ 9.50
Straw, per bale.....	50 @ 90c

## MILLSTUFFS.

Green feed is now becoming more plentiful in the interior, and the demand for bran and shorts is accordingly somewhat lighter. The supply of these lines, however, is still short of the demand, and prices remain very firm, with light arrivals. Quotations on cocoanut cake and meal have been raised \$1 per ton, while cracked corn and cornmeal are considerably lower. All other feedstuffs are steady at former prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing.....	23.00 @
Bran, ton.....	30.00 @ 31.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @
Jobbing.....	28.00 @
Corn Meal.....	34.00 @
Cracked Corn.....	35.00 @
Mealalfa.....	22.00 @
Jobbing.....	23.00 @
Middlings.....	33.00 @ 35.00
Mixed Feeds.....	26.00 @ 27.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Rolled Barley.....	28.50 @ 30.00
Shorts.....	31.00 @ 32.50

## POULTRY.

Receipts of eastern poultry are again lighter, and with considerably smaller offerings from California points, prices show further improvement. All kinds of young stock are in good demand, and even small hens find a better market than

heretofore, with advanced prices. Prices are also higher on fryers and young roosters. No turkeys have come in this week, and as there is no inquiry for them, they are not likely to be much of a feature for some time. It is thought that surplus stocks in the country were pretty well cleaned up by the recent heavy shipments.

Broilers.....	\$5.50 @ 6.00
Small Broilers.....	4.50 @ 5.50
Ducks.....	4.00 @ 7.00
Fryers.....	6.00 @ 7.00
Geese.....	2.00 @ 2.50
Hens, extra.....	7.00 @ 9.00
Hens, per doz.....	5.50 @ 6.50
Small Hens.....	5.00 @ 5.50
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	6.50 @ 8.00
Pigeons.....	1.00 @ 1.25
Squabs.....	3.00 @

## BUTTER.

Butter prices still tend downward, extras being 1 1/2 cents lower than last week, present prices having ruled for several days. Receipts of fresh stock have continued large, and dealers in general seem to be well supplied, as business for the local interest is dull. Buyers and sellers are apart in their views, bids being mostly too low to bring out supplies. Prices are still kept steady by inquiries from other quarters. Storage goods are dull and weak, with no change in prices asked.

Cal. (extras) per lb.....	27 c
Firsts.....	26 1/2 c
Seconds.....	23 c
Thirds.....	
Fresh Eastern, extras.....	
Fresh Ladies, extras.....	
Fresh Ladies, firsts.....	
Storage, Cal., extras.....	25 c
Storage, Cal., firsts.....	23 c
Storage Eastern, extras.....	24 1/2 c
Storage Ladies, extras.....	20 c

## EGGS.

Arrivals of eggs continue to increase, and the market is in a weak condition, with all grades of fresh stock 1 cent lower. Most handlers are carrying a surplus, while there is little demand for shipment to other markets, and many of the retailers also seem to be overloaded. With the production greater than the market can absorb, little improvement is to be expected.

California (extra) per doz.....	16 1/2 c
Firsts.....	16 c
Seconds.....	15 1/2 c
Thirds.....	15 c

## CHEESE.

The low prices which have ruled lately have brought about a little more interest in cheese, and prices show some improvement, though the market is still described as weak. Fancy California flats and Young Americas are 1/2 cent higher. Oregon storage, on the other hand, has fallen off 2 cents.

Fancy California Flats, per lb.....	12 c
Firsts.....	11 c
New Young Americas, Fancy.....	13 c
Storage, do.....	
Eastern, New.....	Nominal
Eastern, Storage.....	17 1/2 c
Cal. Storage, Fancy flats.....	
Oregon, Fancy.....	12 1/2 c

## POTATOES.

Some improvement has taken place this week in all the better grades of Burbank potatoes and the market shows more firmness all round. There is a steady local demand for choice table goods, and the Government will soon take on a large quantity of Oregon stock. Receipts of most lines are smaller. Early Rose have declined.

Oregon Burbanks.....	75 @ 1.00
Burbanks, Salinas, ctl.....	75 @ 1.10
Lompoc Burbanks.....	1.00 @ 1.25
Burbanks, River, bag.....	40 @ 90
Early Rose, ctl.....	1.25 @ 1.35
Seed Potatoes.....	75 @ 90
Sweet Potatoes, per ctl.....	2.75 @ 3.00

## VEGETABLES.

Eastern onions are about out of the market, remaining stock being marked up in sympathy with an advance on Oregon stock. The latter is held for \$3.25, but there is little business at that figure. Some very fine Japanese onions are offering at the same price. Garlic is again higher. Celery and rhubarb are somewhat higher, but asparagus is arriving

# LILLY'S BEST NORTHERN GROWN SEEDS

Are tested and proved best for the West—all other sorts being discarded. Why experiment, why take chances? You can absolutely depend on **LILLY'S** seeds. Our catalogue for 1908, consisting of 112 pages, 16 colored pages made from actual photographs, with full cultural directions, is yours for the asking. You'll also find that **LILLY'S** seeds are **SOLD BY DEALERS**

The Chas. H. Lilly Co.  
Seattle, Portland, San Francisco.

more plentifully, and is cheaper. Mexican tomatoes are plentiful and weak.

Garlic, per lb.....	10 @ 12 1/2 c
Green Peas, per lb.....	5 @ 12 1/2 c
Chile Peppers, per lb.....	3 @ 8c
Bell Peppers.....	10 @ 15c
Cabbage, per ctl.....	50 @ 60c
Onions—	
Oregon Yellow, per ctl.....	3.25 @
Eastern Yellow.....	2.60 @ 2.75
Japanese.....	3.25 @
String beans, per lb.....	20 @
Tomatoes, box.....	1.50 @ 2.50
Marrowfat Squash, per ton.....	10.00 @ 15.00
Carrots, sack.....	75 @
Hubbard Squash, ton.....	10.00 @ 15.00
Celery, crate, small.....	1.25 @ 1.50
Egg Plant, lb.....	15 @
Rhubarb, lb.....	6 @ 10c
Mushrooms, lb.....	10 @ 20c
Asparagus, lb.....	10 @ 20c

## FRESH FRUITS.

Pears are no longer quoted, as all stocks in storage have been cleaned up. Apples alone remain in the deciduous line and they are easier with liberal stocks of all grades. Large shipments of choice stock are arriving from Oregon.

Apples, fancy.....	1.25 @ 1.75
Apples, common to choice.....	60 @ 1.00

## CITRUS FRUITS.

There is only a fair demand for oranges, as the rain early in the week had a bad effect. The market is weak, with already heavy stocks increased by large arrivals, and holders are anxious to sell. Tangerines and grape fruit are well cleaned up and firm, while choice repacked limes are higher.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.00 @ 2.50
Standard.....	75 @ 1.25
Limes, repacked.....	4.00 @ 7.00
Oranges—	
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.60
Tangerines, large box.....	1.00 @ 1.25
Grape Fruit.....	2.50 @ 3.00

## DRIED FRUITS.

There is some movement of prunes in the East at lower prices, but Santa Clara stock is still held firm. The Eastern raisin market continues dull and weak. Locally, apricots are quoted lower, and other fruits are quiet at former prices. Most lines of raisins are slightly lower.

Evaporated Apples.....	6 1/2 @ 8 1/2 c
Figs, black.....	2 1/2 @ 3 c
do white.....	3 @ 3 1/2 c
Apricots, per lb.....	16 @ 20 c
Peaches.....	9 @ 10 1/2 c
Prunes, 4-size basis, 1907 crop.....	3 1/2 @ 4c
Pears.....	8 1/2 @ 11c

## RAISINS.

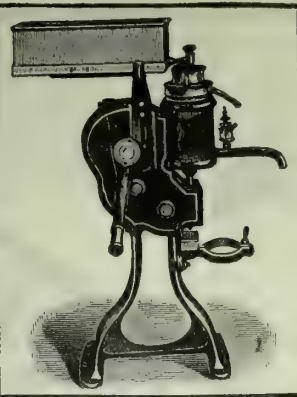
2 Crown.....	4 1/2 @ 4 1/2 c
3 Crown.....	4 1/2 @ 4 1/2 c
4 Crown.....	4 1/2 @ 5 c
Seeded, per lb.....	5 @ 7 c
Seedless Sultanias.....	4 1/2 @ 4 1/2 c
London Layers, per box.....	\$1.20 @ 1.30
London Layers, cluster.....	1.50 @ 2.00

## NUTS.

There is little movement in this line, and no change of prices is reported. Walnuts, however, are inclined to firmness,



# UNITED STATES CREAM SEPARATORS FOR 1908



Have all the qualities that have made the U. S. the standard for many years past, for efficiency, durability and reliability, and have in addition

## New and Important Improvements

both in construction and efficiency—increasing their already unequalled ability to handle milk most easily, quickly, profitably. Remember: you are buying a cream separator first of all to get all the cream—all the money—out of your milk and the U. S. Cream Separator continues to

## Hold World's Record for Clean Skimming

for fifty consecutive runs, in competition with the leading makes of separators of the world. This record has never been equaled. Furthermore: the past sixteen years have conclusively demonstrated the durability and the unequalled reliability of the U. S. Dairymen to-day buy the U. S. because they know it will do for them the best work for the longest time. Competing separators "claim" anything and everything, truthful and otherwise, but the real superiority of the United States Cream Separator has been so thoroughly established in every way, that no one can successfully dispute it. This is so widely known and acknowledged nowadays that dairymen in all parts of the country are rapidly exchanging their old style, unsatisfactory, "cheap" and unreliable separators for the clean-skimming, STANDARD and reliable U. S.

Write to-day for "Catalogue No. 148" and any desired particulars

**VERMONT FARM MACHINE CO., Bellows Falls, Vt.**  
Distributing warehouses at: Auburn, Me., Buffalo, N. Y., Toledo, O., Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Portland, Ore., Kansas City, Mo., Omaha, Neb., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

489

## PROMPT DELIVERY ASSURED

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE.  
No Delays. Address all Letters to Bellows Falls, Vermont.

while almonds are in the same position as before.

Almonds, Nonpareils.....	15 c
IX L.....	14 1/2 c
Ne Plus Ultra.....	14 c
Drakes.....	13 c
Languedoc.....	12 c
Hardshell.....	8 c
Walnuts, Softshell No. 1.....	14 1/2 c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @ 12 1/2 c

## HONEY.

Some water-white extracted is again in the market, but offerings of all lines are very light, and prices are firm. It is reported that some is still held in the country, but arrivals are small. Very little is changing hands in this market.

Water White, Comb.....	16 @ 17 c
White.....	15 @
Water-white, extracted.....	8 @ 8 1/2 c
Light Amber, extracted.....	7 @ 7 1/2 c
Dark Amber and candied.....	5 1/2 @ 5 1/2 c

## WOOL.

Prices on wool are practically nominal, all lines being for the most part neglected. A few small lots are being shipped in, but there is scarcely any movement east. Humboldt and Mendocino are lower.

Spring-clip, Humboldt and Mendocino, year's staple.....	20 @ 22 c
Fall clip: Northern free, mountain.....	7 @ 10 c
do. defective.....	6 @ 7 1/2 c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @ 10 c
Fall Lambs, Southern.....	6 @ 8 c
Nevada.....	12 @ 15 c

## HOPS.

Hops continue low and weak, with scarcely any movement at current prices. Figures show a narrower range, but the best stock is lower. The association of growers seems to be making little progress at present.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 1/2 @ 6 1/2 c
1908 (contracts).....	9 @ 10 c
3 to 5 year contracts.....	10 @ 11 c

## MEAT.

Prices here show little change, veal being slightly lower, owing to large arrivals of small calves from dairy ranches. The heavy shipment of hogs to the Chicago market from the Western States is said to be over.

Beef: Steers, per lb.....	7 1/2 @ 8 c
Cows.....	6 1/2 @ 7 1/2 c
Heifers.....	6 1/2 @ 7 1/2 c
Veal: Large.....	7 @ 8 1/2 c
Small.....	8 @ 9 1/2 c
Mutton: Wethers.....	11 @ 12 c
Ewes.....	10 1/2 @ 11 c
Lamb.....	12 1/2 @ 13 1/2 c
Spring lamb.....	15 @
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 1/2 @ 10 c

## LIVESTOCK.

Steers, No. 1.....	8 1/2 @ 9 c
No. 2.....	7 1/2 @ 8 c
No. 3.....	6 1/2 @ 7 c
Cows and Heifers, No. 1.....	6 1/2 @ 7 c
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	3 1/2 @ 4 c
Calves, Light.....	5 @ 5 1/2 c
Medium.....	4 1/2 @ 5 c
Heavy.....	4 @ 4 1/2 c
Sheep, Wethers.....	5 1/2 @ 6 c
Ewes.....	5 @ 5 1/2 c
Lambs, yearlings.....	6 @ 7 c
Hogs, 100 to 200 lbs.....	5 1/2 @ 6 c
200 to 300 lbs.....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## THE CARE OF A WAGON.

The useful life of a wagon or dray employed in heavy hauling depends very largely on the care of its wheels and axles.

Hosts of farmers and teamsters, who ought to know better, think that "grease is just grease anyway," and so cut the boxes out of their wagon wheels by using some inferior lubricant which runs off and leaves the spindle dry, or forms a stiff, almost gritty substance in the wheel, which is just as bad.

A proper axle grease for use on every type of body wagon should have just the right "body"—that is, it ought to be neither so thin as to run, nor so heavy as to stiffen.

It should have, too, a long-lasting quality, if it is to be economical.

Perhaps no preparation for the purpose is quite as good as Mica Axle Grease. Certainly no other axle lubricant on the market possesses what we have termed "proper qualities" as truly as "Mica" does. A very little of it goes a long way and saves the teamster much loss and trouble.

One valuable quality of Mica Axle Grease is the anti-friction property which it possesses; aside from its lubricating power. It contains powdered mica, which coats the wagon axle with a smooth glass-like surface on which wheels turn easily and with the minimum of wear.

## SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philadelphia, Pa.

## IMPORTANT SALE OF DUAL PURPOSE SHORTHORNS.

The entire Herd of the late ROBERT ASHBURNER, will be sold at Public Auction on Saturday, March 14, 1908, to the highest bidder for cash.

Sale to take place at Woodland, Yolo County, California.

This entire Herd has been registered, and is without a doubt the best Herd of Shorthorns West of the Mississippi River. For catalogues address GEO. W. MERRITT, Woodland, Yolo Co., or FRANK H. GARDINER, 214 Powell Street, San Francisco, Cal.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH,** breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### POULTRY.

**FEATHERLY FARM** BUFF, BLACK, WHITE, ORPINGTONS. The greatest prize winning and heavy egg laying strain in the West. Free catalog of matings. Featherly Farm, Box R, Redlands, California.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

**GEO. C. ROEDING,** Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, Duroc HOGS,** Choice, thoroughbred Poultry. William Niles & Co., Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 81, 361 McAllister St., S. F.

## BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

W. SULLIVAN,

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

## Registered Holstein Bulls

### AT BARGAIN PRICES.

We must sell Fifty Head at once. Breeding second to none. Prices extremely low. You may never again have such an opportunity. Write today.

## PIERCE LAND & STOCK CO.,

Riverside Ranch. Stockton, Cal.  
Phone Main 1697. Send for Catalogue.

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts., San Francisco.

## For Sale: Jerusalem Artichokes

### THE GREAT WINTER HOG FEED

Address  
Fancher Creek Nurseries, Fresno, California.

**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth.....\$1.00

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Ames, John L.....	151
Baker Mfg. Co., The.....	154
Beckman, Geo. V.....	159
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	154
Bosanko Medicine Co., Dr.....	159
Breeders' Directory.....	159
California Fruit Exchange.....	157
Coates Nursery Co., Leonard.....	155, 157
Cook & Son, Thos.....	155
Croley, George H.....	159
Cutter Laboratory, The.....	155
De Laval Dairy Supply Co.....	155
Deming Co., The.....	157
Dewey, Strong & Co.....	155
Dietz Company, R. E.....	155
Dishrow, F. H.....	155
Driver, E. S.....	159
Fancher Creek Nurseries.....	151, 154, 159
Featherly Farm.....	159
Fresno Agricultural Works.....	155
Fresno Nursery.....	153
German Kall Works.....	154
Golden Rule Nursery.....	155
Hanford Nursery.....	153
Hamlin School, The.....	153
Hart, Ed.....	159
Hess & Clark, Dr.....	154, 157
Holcombe & Co., R. A.....	154
Hopkins, G. H.....	151
Howard Cattle Co.....	159
Hoyt's Tree Support Co.....	—
Imperial Walnut Nursery Co.....	157
International Harvester Co.....	—
Jackson & Co., T. W.....	155
Lawrence-Williams Co.....	151
Lilly Co., Chas. H.....	155
Lister, Henry B.....	159
Lynch, John.....	159
McClanahan, E. E.....	—
Meacham, Frank A.....	—
Mexican Central Railway.....	—
Miller, F. A.....	154
Mills, A. A.....	151
Morse & Co., C. C.....	155
Mountain Copper Co.....	154
National Wood Pipe Co.....	157
Niles & Co., Wm.....	159
Oakland Poultry Yards.....	159
Orange County Nursery & Land Co.....	153
Oregon Nursery Co.....	154
Pacific Coast Business College.....	152
Pear Blight Remedy Co.....	156
Pierce Land & Stock Co.....	159
Reeves & Co.....	160
Rex Company, The.....	150
Roeding, Geo. C.....	159
Scheldecker, A. F.....	155
Seulberger, J.....	151
Shaw, Henry.....	155
Sharples Separator Co.....	159
Shorthorn Sale.....	159
Silva & Bergholdt Co.....	160
Simmons Hardware Co.....	153
Smith, Francis.....	151
Snow, D. A.....	155
Standard Oil Co.....	156
Stewart, W. A.....	155
Stowe, C. A.....	159
Sullivan, W.....	159
Sunset Magazine.....	154
Sure Hatch Incubator Co.....	151
Teague, R. M.....	154
Temple Pump Co.....	—
Trumbull Seed Co.....	153
Tuttle's Elixir Co.....	156
Van Der Nallen, A.....	155
Vermont Farm Machine Co.....	150
Wagner, J. B.....	155
Waite, Thos.....	159
West Coast Cresol Dip.....	15
Western Meat Co.....	151
Willson, F. C.....	151
Willson, J. C.....	155
Wright Brothers.....	151



YOU never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

# PLACER NURSERIES

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.



# Plow! Thresh!

WITH

# REEVES MACHINERY

## Nothing Experimental

Our engines are of the double-cylinder type only, locomotive-style boiler, and when so ordered are specially equipped for pulling a combined harvester. :: ::

Our special catalogue will also tell you about our Compound Grain Separator.

The above cut shows in actual field operation our 32 H. P. Cross-Compound Engine and 12 Bottom Flexible-Frame Steam Plow.

WILL PLOW ANYTHING ANYWHERE

Write for Catalogs and Full Information.

WE CARRY SUPPLIES, AND OUR CALIFORNIA TRAVELERS MAKE HEADQUARTERS AT STOCKTON.

# REEVES & COMPANY

Western Branch  
DENVER, COLO.

Factory  
COLUMBUS, INDIANA



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 11.

SAN FRANCISCO, SATURDAY, MARCH 14, 1908.

Thirty-eighth Year.

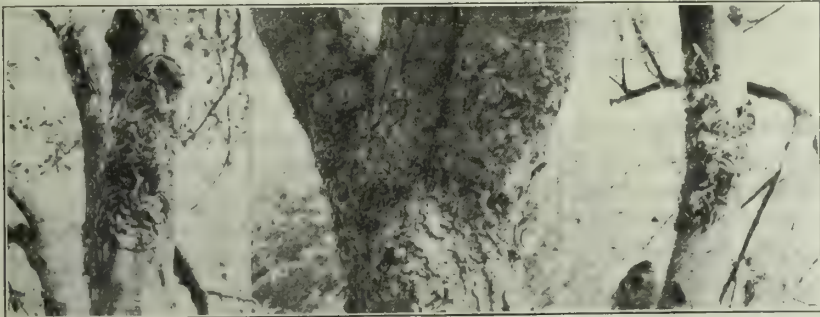
## THE CALIFORNIA TUSSOCK MOTH.

Lest the codlin moth larva becomes puffed up with the idea that it is the only pebble in the path of the apple grower, we desire to give due attention to a much prettier worm which sometimes merits the execrations of the orchardist. Its portrait, somewhat enlarged, on this page will enable all to recognize it, for even when its numbers do not rise to notable injury it may be seen on orchard trees or on garden plants or strolling around on fences or other structures. Under such conditions it is counted a beauty, but sometimes it is very bad, as the pictures on this page indicate.

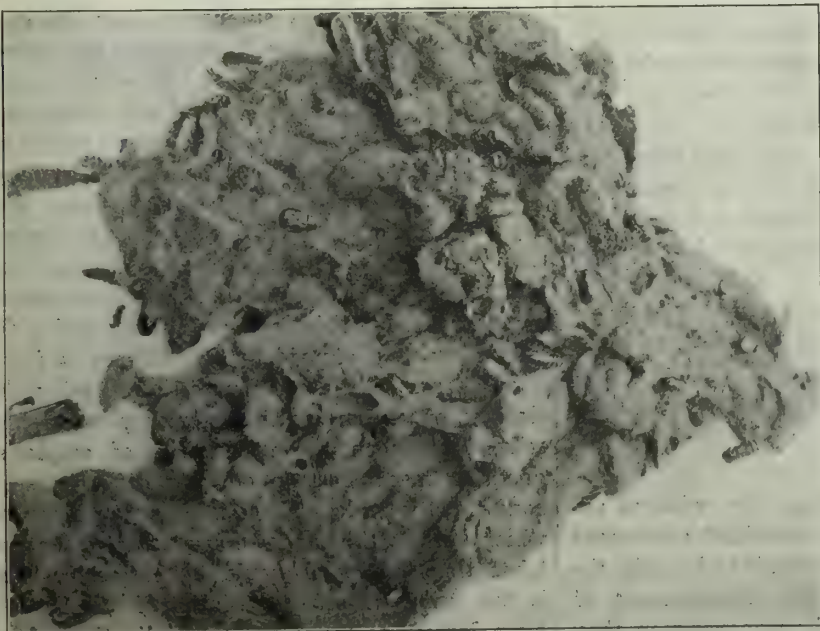
A special publication on this insect was made some time ago by the University Experiment Station. It was prepared by W. H. Volek, who is now County Entomologist of Santa Cruz and Monterey counties, and pursued the tussock moth study under the supervision of Prof. C. W. Woodworth. One who really comes into issue with the insect should have Mr. Volek's account. For popular information such reference as we here make



The Tussock-Moth Larva, or Horned Caterpillar. (Somewhat Enlarged.)



Tussock-Moth Cocoon Masses on the Trunks and Limbs.



Mass of Cocoons. Some Have Been Torn Open, Revealing Pupae.



Defoliation by Tussock-Moth Larvae, First the Tops and Then the Whole Tree.

may be acceptable. The insect multiplied in the Watsonville apple district until it became of some dignity as a pest. The insect takes naturally in that region to the live oak and yellow lupin. As it invades the orchards it seems to prefer the apple and cherry, but as it multiplies it is less particular, and attacks many plants, and keeps at them until all the leaves are destroyed, as shown by the large plate on this page. When thus abundant the insects spread their cocoons in masses upon the limbs and trunks of the trees. As Mr. Volek graphically states, "these masses may be plastered over the trunk several inches wide." One of the pictures shows these masses in reduced size and another a fragment of the cocoon blanket about two-thirds of the natural size. The female moth is wingless, and the distribution of the insect therefore depends largely upon the agility and wandering habit of the adult larvae. In fact, the female is so heavy that she moves very little and usually remains clinging to the mass of cocoons from which she has emerged, and soon deposits her eggs, usually attached in a mass to the old cocoons but sometimes cemented directly to the twig.

The tussock worm seems to be less easily poisoned by arsenicals than the codlin worm. Various ways of fighting are measurably effective. Col-

(Continued on Page 163.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

Some confusion has naturally arisen in the minds of fruit growers over the recently demonstrated necessity of spraying in the fall to arrest the ruinous work of the shothole fungus on the peach, or, as it is commonly called, the "peach blight." The impression is produced that as such work is essential with the peach blight it may also be essential in fighting the pear scab, curl leaf, etc.; in other words, that the whole line of spring spraying for fungus on fruit trees should be undertaken in the autumn. We have become aware of this state of the horticultural mind through a number of letters recently received, and those who do already fully understand the situation will bear with us if we give a little space to coaching those who have been careless about informing themselves as to why the plant pathologists enjoin this fall spraying.

As we understand it, the efficacy of fall or early winter spraying for the peach blight was demonstrated by some growers in the Suisun valley who had failed to check the disease by spring spraying and took to earlier spraying as about the only other thing they could think of. As soon as the attention of the plant pathologists was called to the excellent effect thus produced, they at once gave a rational explanation of it, viz.: that the shothole fungus worked on the bark of the new wood of the peach as soon as the rains or the autumn fogs produced a moist condition of the twigs which made active the fungus spores which had been resting there and waiting for their chance to get busy. The result was that the shothole disease injured the peach twigs in the late fall, even to girdling them and therefore rendering them incapable of sustaining the buds which started to grow, and the sap exuded from the wounds in the bark, dried into gum, and the whole growth of the tree was arrested except upon shoots which broke out from older bark which was not shot-holed. It is because early spraying kills the fungus spores before they can thus destroy the young bark that the use of the Bordeaux mixture for peach blight before or during the first week in December has been insisted upon.

Now it does not follow that early spraying is desirable for other kinds of fungi, nor does it necessarily follow that such early spraying is best even for the shothole fungus on trees where its attack may be different from its manner with the peach, although if a tree can be early cleaned of such spores and remain clean afterward, the early spraying ought to hold for all. That is where the difficulty comes in. The tree may be cleaned in the fall and other spores may come on later, for the air is presumably well supplied with them, or at least with some of them. For instance the curl-leaf fungus. This pest works primarily upon the young leaves, early in the spring while the air still has favoring moisture.

It is also true that the shothole fungus may take a spring whack at the bark of the twigs, which are then growing, or at the young fruit, notably the apricot. When this is the case the spraying done the previous fall manifestly cannot check it. It should therefore be clear that while it now appears the fall work may be indispensable to prevent peach blight, it may also be very necessary to undertake spring spraying for the curl leaf or for the spring shothole, and because one is advocated it does not by any means always imply that the other can be dispensed with. It may do this or it may not: therefore the trees must be watched and the Bordeaux outfit again brought into use if signs of renewed fungus activity are discerned. The same may be true with reference to spring spraying for certain bacterial blights. The obvious lesson is that these things, like so many other operations in advanced horticulture, cannot be settled by calendar prescription, but must always be brought to the bar of an enlightened judgment.

Speaking of tree diseases, it is interesting to note that the Sutter County Horticultural Commissioners have announced a vigorous spring campaign against the pear blight. After consulting the district attorney, they decided to strictly enforce the law requiring owners of infected orchards to eradicate pear blight. Inspection will at once be made of all orchards and where the blight is found notices will be served on the owners to remove the infection without delay. Where the owner refuses to act the county commissioners will cause the blight to be removed, the expense for the work being a lien on the property. This action proceeds upon a formal complaint which has been lodged with the county commissioners reciting that the grower desires to save his orchards and declaring that infected orchards in the vicinity are a menace to his orchard. The commission is bound to take notice of this complaint, and the action above outlined will now begin without delay. This statement may help other growers and other horticultural commissioners.

The sulphur situation seems to be clearing. It was telegraphed from Washington on March 9 that Congressman Needham had received from George B. McCabe, solicitor for the Department of Agriculture, a letter regarding the policy of the new referee board on food preservatives. He says that the board will hold its first meeting in Washington on March 18. The letter says: "I presented to the Secretary your representations that it is impossible to contract for the present crop of fruit as long as there is any probability of a finding being made before or during the harvesting of the season's crop. The Secretary believes that there is no probability of the finding being made until after the crop has been harvested, but he saw the force of your argument, and even if the board should reach a decision before that time it will not be announced or applied to the present year's crop." This is business. Now we hope the referee board will stay with the question until they know all about it and can demonstrate that they are right. It is almost criminal to unsettle industry in advance of demonstration.

It is now the time for those who wish to advance the first step toward the final settlement of our river questions—the restraint of floods, the reclamation of lands, and the improvement of navigation, to write to all the Congressmen they know in favor of House Bill 3892, introduced by

Congressman McKinlay, which has for its object the appropriation by the United States of \$400,000 to be used in conjunction with a similar sum to be appropriated by the State of California, to do such dredging, embanking and other necessary work to control the waters and protect the lands along the Sacramento and San Joaquin rivers. The River Improvement and Drainage Association of California has been working to bring about the passage of this bill, and is urging people in all parts of the United States to bring pressure to bear on Senators and Congressmen from all parts of the Union to have them vote for the bill. The association is anxious that every Californian who has the interests of the State at heart will join in this movement to the extent of writing or wiring to his Congressman and to the Senators at Washington, urging upon them the necessity for supporting the measure. The affair is so great that Uncle Sam should carry his part, and this is the way to start him at it.

The co-operative egg selling enterprise of Sonoma county producers, to which we recently alluded, is making fair headway. At a meeting last week it was announced that the co-operative trading would begin on March 16. The association has headquarters in San Francisco, and W. F. Schulz is manager. He has stated that he has had offers from several cities which desire to obtain the product of the association, and that he had an abundant market for all the eggs the members could supply.

And now majestic Lake Tahoe is to take its place as one of the reservoirs of the United States Reclamation Service, and its waters are to be held back and sent down the Truckee river to irrigate the Nevada plains as desired. Owners of lands on Lake Tahoe margin, and who held that to raise the water in the lake would submerge their holdings, have abandoned their protest, and the government engineers "will build a wall across the Truckee river's mouth." They mean, of course, a dam across the Truckee river's head. They forget that a river's mouth is no part of its head; in fact, it is as far from it as it can be. Analogies between rivers and animals will not work at all closely. To tell an animal to shut his head means to shut his mouth, but it is not that way in the engineering of rivers. They would have a hard time trying to hold water from winter snows in Lake Tahoe by damming the mouth of the Truckee river. This is a question for the C class in geography.

There is a new silk enterprise near Los Angeles which we are told will engage in the growing of mulberry trees, raising of silk worms, reeling of silk, and the manufacture of silk dress goods, both from the foreign and the native reeled silk. Los Angeles being a great tourist city, thousands of attractive souvenirs are manufactured which are bought for their beauty as well as their instructive and scientific value. Biological cards and special cards for schools and colleges are also manufactured. This is a good thing and a feasible thing to a certain extent. There is just as good reason why these things should sell to this class of purchasers as that ostrich plumes should sell. But when the production of staple silk goods is mentioned an entirely different set of conditions intrude. There is no cheap labor here which will do this, and we are not sure that such labor thus employed would be desirable. There is too much trouble emanating from Paterson, New Jersey, to make the multiplication of such centers of clear advantage.



## Queries and Replies.

### Black Knot Is Not Black Rot.

To the Editor: I should like to get some information about black knot on grape vines. It seems to be doing lots of damage to my vineyard. A local horticultural inspector tells me that the right name for it is "black rot" and that it is a contagious disease. Is this true? Can anything be done to check it, or eradicate it on the vines that are affected?—Reader, San Joaquin county.

Black rot is a well known disease of the grape in the East, and it affects the fruit. It, fortunately, does not occur in California. The black knot on the root or stump of the vine is an entirely different proposition. Whether it is contagious or not has not been determined—in fact, the very nature of the trouble has not yet been made clear; consequently, the best that we can do with it is to consider it contagious, to remove the knots from the vine and to treat the wound with the Bordeaux mixture. This, in most cases, prevents a reappearance of the trouble at the same place. Nothing satisfactory has been published on the subject.

### Bordeaux and Fruit Blossoms.

To the Editor: Kindly tell me how long bluestone and lime can be used in spring without injury to trees—peaches, prunes, and apricots?—Grower, Tehama county.

The bluestone and lime, or the Bordeaux mixture, as it is generally called, can be used up to the time the blossoms actually open, and can be used again as soon as the fruit has set. It is not wise to make the application while the blossoms are open and before the petals fall, because this may interfere with the setting of the fruit. Of course, if you have varieties which are disposed to set too much fruit, you can try an experiment in thinning the blossoms with the Bordeaux mixture, for probably only part of them would be affected anyway. So far as the foliage is concerned, the ordinary Bordeaux mixture does not injure it, and that is one great advantage of the use of the lime with the bluestone.

### Bluestone Not a Sheep Dip.

To the Editor: I am seeking for information on the subject of bluestone for spraying, its uses, how manufactured, quantities to be used, etc.; also sheep dip. I understand that all the sheep in the State must be dipped twice, by proclamation of Governor Gillett. I should like to know all you can tell me on these subjects.—Enquirer, Fresno.

Bluestone is a combination of sulphuric acid and copper. It is manufactured by submitting metallic copper to the action of the acid. It is used as a fungicide in the form of the Bordeaux mixture, of which we have frequently published the recipe. All this has nothing whatever to do with sheep dip. You can get full information about dipping sheep according to the new regulations by corresponding with Dr. Keane, State Veterinarian, Sacramento.

### No Nurse Crop for Alfalfa.

To the Editor: I have a farm near Princeton which I wish to sow in alfalfa. Would the alfalfa take root and do well if sowed with barley, providing the barley be cut and taken off the ground as soon as ripe? The land can be irrigated.—Owner, Ukiah, Oregon.

All California experience is against the undertaking to get a stand of alfalfa by sowing with grain as a nurse crop. The grain does it infinitely more harm by using up the moisture which the young alfalfa plants need than it does good by a fancied protection. The statement on this

subject prepared by the Arizona Experiment Station agrees exactly with California experience. It was published in the PACIFIC RURAL PRESS of September 21, 1907.

### Pear Blight on the Apple.

To the Editor: I send a part of a branch from an apple tree. Please tell me what is the matter with it.—Grower, San Luis Obispo county.

The apple branch is affected by the same organism which causes the pear blight. In the apple the blight does not always act in the same way as it does in the pear, but, coming in on the twig, sometimes stops at the base instead of proceeding down the limb, as it does on the pear, and often on the apple also, in this State. For this reason, your specimen looks like the apple blight which is found in the East, where it is not so destructive as when it runs down the branch in ordinary California fashion. When it stops at the base of the twig it becomes less destructive to the tree. When the blight behaves in this way on the apple tree it is often called "apple canker," though that term is also used to cover other troubles.

### California Brewing Barley.

To the Editor: Will you kindly let me know the best kind or variety of barley that is most desired by maltsters? I am asking you this question on account of your State being one of the leading barley States.—Reader, New York.

There are at least three kinds of barley grown in California for export, and locally used also, for brewing purposes. They are the common California barley, a variety which is unidentified and has been grown here from the earliest times; the Chevalier, which has been grown for a third of a century or more; and the Hanna, or Moravian, which has been introduced during the last decade and is constantly increasing its area. Practically the same barleys are grown for feed as for export and malting, samples for the latter purposes being the larger and plumper grain; and sometimes the same crop is graded by screens into two parts, the larger for brewing, the smaller for feed purposes.

### Little Chance for Zante Currants.

To the Editor: I am interested in the culture of currants and have a number under cultivation in my garden of about an acre in Marin county. I understand from enquiry among large dried-fruit handlers that the dried California currant is quite inferior to the imported article, and that with a weak market there is no incentive to grow them for the purpose of drying. As an authority on such things, I wish to ask you if there is any reason for this other than prejudice on the part of the general public, and a lack of interest on the part of the grower. Certainly California's climate is as well adapted to the drying of currants as of raisins, and I believe an industry is here lying dormant. I am tempted to plant several acres to currants in Sonoma county, and would do so if I felt that I could market the dried fruit to advantage.—Amateur, San Francisco.

Pardon the suspicion that you are laboring under the misapprehension that the dried currant of commerce is made from the garden currant. The currant of commerce is, of course, a raisin, and is made from the fruit of the grape vine. There are practically none produced in California, because the Sultana and the Sultanina, which are very small seedless raisins, are more productive and have taken the place of the imported Zante currant, which was introduced to California nearly half a century ago. All these small seedless raisins are also reduced in demand by the operation of seeding plants and by the placing upon the market of vast quantities of seeded raisins. This is accomplished by very effective machinery in

the Fresno district. One would not think of growing the Zante currant, or, as its proper name is, Corinth grapes, in Sonoma county, because climatic conditions are not suitable for drying. If we were to undertake the production of Zante currants in California, and the market encouraged it at all, they would be produced in the interior valleys, which constitute our raisin district.

### Pruning Almonds.

To the Editor: What can you tell us about the pruning of Almonds?—Enquirer, Sutter County.

Almond trees are usually pruned at first as peaches are, for the purpose of attaining general shape; after that they are allowed to grow much as they like. It might be desirable to prune almonds something as peaches are pruned continuously, but no one yet has had courage enough to undertake that way of growing the tree, being apprehensive about profit in the largely increased expense involved. Some day someone will work this out by pruning systematically a few trees to compare thrift and product with trees of the same variety grown in the usual way.

### Spraying for Curl-Leaf.

To the Editor: Does spraying peach trees just as the leaves are coming out, and after the fruit has set or is setting, injure the fruit? How strong may the mixture be used? I have supposed this would be a good time to spray for curl-leaf. I have not known of a thorough trial.—Subscriber, Fresno.

The Bordeaux will not injure young leaves or young fruit. As the fruit gets larger Bordeaux may spot it. The ordinary Bordeaux, 5 lb. bluestone and 5 lb. lime to 50 gallons of water, is safe. It is usually considered better to use the winter Bordeaux with a pound or two more of bluestone to the same lime and water and apply it just before the bloom buds open to kill the curl-leaf spores before they get busy. It is so much easier to spray a dormant tree that this is generally recommended.

### THE CALIFORNIA TUSSOCK MOTH.

(Continued from Page 161.)

lection of the egg-masses early in the winter is necessary, for the worms begin to hatch in February. These eggs are not destroyed, but removed several hundred yards from the orchard and covered with boards to keep them dry. In May the eggs can be taken back to the orchard, because the larvae have emerged and perished and the egg parasites will thus be returned to the orchard to do their good work. If the caterpillars have been allowed to hatch, they can best be dislodged from the tree by thrashing the branches and in badly infested orchards three or four beatings will be required to reduce the number of caterpillars below the danger point.

In order to prevent the caterpillars from re-ascending the trees a sticky band must be placed on the trunk. Pine tar, tanglefoot compound, or even crude oil will make such a band. The sticky preparation may be applied directly to the bark, or it may be painted on a paper band which has first been snugly fastened around the trunk. Still another method of application is to saturate a piece of baling rope in the sticky mixture and then tie it around the trunk. Any inequalities which hold the rope away from contact with the bark may be filled with some burlap or cotton waste dipped in the mixture.

The sticky rope band is perhaps the best of all the forms that have been devised, as it is easy of application and does not waste the material as much as some other methods.



## Agricultural Science.

### OPENING OF THE SOUTHERN CALIFORNIA PATHOLOGICAL LABORATORY.

As stated last week, the Southern California Pathological Laboratory of the University of California at Whittier, Los Angeles county, will be opened by a grand four-day Farmers' Institute. The following is the programme:

#### Vegetable Growers' Day.

Tuesday, March 17.

10:00 A. M.—Introductory addresses: Prof. E. J. Wickson, University of California; Dr. J. A. Osmon, Whittier. "The Vegetable Industry," E. A. Curtis, general manager California Vegetable Union. "Cabbage Growing," general discussion.

2:00 P. M.—"Tomato Growing," G. M. Lambert, Whittier. "Celery Growing," H. S. Hazeltine, Smeltzer. "Plant Lice," Prof. C. W. Woodworth, University of California.

7:30 P. M.—"Agricultural Experiment Stations," Col. J. J. Steadman, editor California Cultivator. "The Relation of the State to the Farmer," Hon. P. F. Cogswell, El Monte.

#### Walnut Growers' Day.

Wednesday, March 18.

10:00 A. M.—"The Walnut Industry," J. B. Neff, Anaheim; "Walnut Growing in France," A. H. Dunlap, Whittier; "Planting a Walnut Orchard: What to Plant and Why," George C. Roeding, president Fancher Creek Nursery Company, Fresno.

2:00 P. M.—"The Possibilities of Walnut Blight Control, by the Use of Immune Varieties," H. J. Ramsey, Pathological Laboratory, Whittier. "The Interest of the Walnut Grower in the Pathological Laboratory," C. C. Chapman, Fullerton. "The Conservation of Soil Fertility," James Mills, Riverside.

The session of Wednesday evening will be held in the Whittier College Auditorium.

7:30 P. M.—Address, President Thomas Newlin, Whittier College. "The College of Agriculture of the University of California," Prof. E. J. Wickson, University of California.

#### Laboratory Day.

Thursday, March 19.

Forenoon.—Inspection of Laboratory and excursions in the vicinity of Whittier.

2:00 P. M.—"Whittier," S. W. Barton, Whittier. "The Pathological Laboratory," R. E. Smith, University of California. Address, J. W. Jeffrey, State Commissioner of Horticulture. "The University of California," President Benjamin Ide Wheeler. Address, Governor J. N. Gillett, or representative.

Evening.—Banquet by the Whittier Board of Trade.

#### Citrus Growers' Day.

Friday, March 20.

10:00 A. M.—"Citrus Culture in the Sacramento Valley," Eben Boalt, Palermo. "Citrus Culture in the Tulare Region," A. G. Schulz, Porterville. "The Interest of the Fruit Shipper in the Pathological Laboratory," J. A. Reed, secretary Semi-Tropic Fruit Exchange, Los Angeles.

2:00 P. M.—"Handling and Transportation of Citrus Fruit," G. Harold Powell, U. S. D. A., Washington, D. C. "The Interest of the Citrus Fruit Grower in the Pathological Laboratory," C. C. Teague, Santa Paula. "Scientific Investigations Affecting the Citrus Industry," Dr. R. H. True, U. S. D. A., Washington, D. C. "How May the Results of Scientific Investigation Be Most Effectively Applied in Practice?" J. H. Reed, Riverside.

In connection with this meeting there will also be held an exhibit of citrus fruits and other products related to the subjects under discussion. In conjunction with the California Fruit Growers' Exchange and others, a large display is in preparation, of sample boxes of citrus fruit representing the various brands shipped from the State. A particularly fine exhibit of lemons is expected from the members of the "Lemon Men's Club," representing all the important lemon shipping houses of the State.

Mr. G. Harold Powell will prepare a display, representing some of the most striking results of his important investigations, while the work of the Pathological Laboratory will be represented by various exhibits.

Exhibits of any articles of interest to fruit growers are invited to this display, and should be sent, **prepaid**, to the Pathological Laboratory, Whittier, California, to arrive not later than Monday, March 16, or may be brought to the exhibition hall.

## The Field.

### A FEW SUGGESTIONS ON PLOWS AND PLOWING.

To the Editor: No question is of more vital significance to the farmer than that of plowing, and yet there are several phases of the subject which are not fully appreciated by many tillers of the soil. We must study such points as the nature of the soil, the time of plowing, the depth of plowing, the crop to be planted, the kind of implement to be used, and the previous treatment of the soil in the way of tillage and cropping.

Some soils are much easier to manage than others. This is particularly true of the more sandy types, which can be plowed and worked at almost any time without any serious injury to their tilth. On the other hand, with soils containing considerable clay, the case is different, and when soils begin to verge toward the adobe type the manipulation of the same may become a very difficult problem.

Again, soils containing a fair percentage of humus are much more friable than those lacking in humus. The incorporation of humus into the soil by either stable manure or green manuring is therefore an important factor in the improvement of the physical condition of the soil, as well as in directly increasing its fertility.

Of course it is on account of this variability in soils that so many different types of plows have been developed. As crop production is in a large measure dependent on tillage, it is of importance to choose such tillage implements as will leave any particular soil in the best tilth with the least expenditure of labor. As the plow is the leading tillage implement, its selection is of necessity of first importance. Through many years of experience manufacturers have gradually developed plows suitable for almost every type and condition of soil.

Plows vary in shape from the long narrow breaker to the short and abrupt stubble type. In material they vary from cast iron to the highest quality of soft-center steel. As almost any plow will do satisfactory work in sandy and gravelly soils, the cast and chilled types of plows are used in such soils on account of their cheaper first cost and the further economy of maintenance. In loamy soils steel plows with good scouring qualities are demanded. In such soils, if the percentage of clay is high or the humus content low and the moisture conditions variable, a general purpose plow would probably meet the conditions better than any other type. The general purpose plow is a sort of a compromise between a breaker and a stubble plow, having a broader and shorter moldboard than the former, but giving a much gentler turn to the furrow slice than the latter.

For old and mellow fields the stubble plow with its short moldboard and abrupt turn will do the best work, as it will cover the weeds well and will thoroughly pulverize the soil. This obviously leaves the ground in the best of condition for the efficient conservation of soil moisture.

In soils where plows scour with difficulty the moldboard should be made of the best soft-center steel. In those soils where even soft-center steel refuses to scour, the disc plow offers the best solution. In soils where a moldboard plow will work successfully it still holds the preference, but the disc plow will work on soils that are too sticky for the ordinary moldboard plow, and it will also work in soils which are too dry for a moldboard plow to penetrate.

Certain soils containing considerable clay or lacking in humus are difficult to plow without puddling them when they are wet. If it is absolutely necessary to plow before the soil becomes

dry enough to pulverize with an ordinary stubble plow, then it may be plowed with less injury to its tilth by plowing it rather shallow, using a general purpose plow having a very gentle turn to the moldboard. A thin furrow slice thus turned is less likely to pack and become lumpy and hard on drying than a thicker furrow given an abrupt turn.

Some soils of an adobe nature are extremely difficult to deal with, since there are only a few days each season when they can be plowed advantageously. The length of time during which such soils can be tilled will be materially increased if a soil-mulch or dust-blanket can be produced as soon as the surface begins to dry. Probably the disc harrow is the best implement to use for that purpose.

**Plowing Summer Fallow.**—There seems to be considerable misapprehension concerning the nature of summer-fallowing. Scientists and others who have given the subject considerable thought have gradually come to the conclusion that summer-fallowing is beneficial largely because it tends to conserve the moisture of two seasons for one season's crop. Of course a great many weeds are destroyed by summer-fallowing, but as most weeds are principally harmful from the fact that they rob the soil of the moisture which is essential to the growing crops, it again follows that the question is largely one of moisture conservation. With this fact in mind, it is very discouraging to note the slipshod way in which summer-fallowing is done in many places. The writer has seen field after field plowed too wet, and the clods left to bake in the sun. To be sure, there are times when it seems necessary to start in plowing while the ground is still too wet, but in that event the clods should be pulverized with an efficient harrow before they have had time to bake. It must be remembered that every hard clod exposed is in a sense a wick for the dissipation of valuable moisture. A smaller amount of summer-fallowing properly done would result in moisture conservation and in increased crops of grain of better quality and harvested at a smaller cost per sack. In summer-fallowing special attention should be given to the maintenance of an efficient dust blanket, which is the best means of conserving soil moisture.

**Plow Sole.**—The question of summer-fallowing suggests the question of plow-sole. Where there is a well developed plow-sole, plowing for summer-fallowing ought to be done deeply enough to break up the same. Of course this will leave the ground lumpy, and unless there is sufficient rain following to somewhat re-pack the loosened soil the immediately succeeding crop may not seem to repay the extra trouble, but the operation will certainly pay in the long run. In some sections it is customary to plow orchards and vineyards shallow for fear of disturbing the surface roots. In this way a plow-sole has frequently been formed. This plow-sole should always be broken up, even if it takes double the number of horses to do the plowing, and even though a large number of surface roots are thereby destroyed. These surface roots under semi-arid conditions do not permanently serve the tree, as they must of necessity be dried up and killed during the dry season. The aim should evidently be to force the trees to send their roots downward where they are protected from the seasonal droughts. The only thing to be guarded against is the injuring of the main roots near the trunk of the tree. Very few if any California orchards or vineyards would be injured by being plowed from five to ten inches deep, if that depth is necessary for the destruction of plow-sole. By plowing deeply the porosity of the soil is increased, and the annual rainfall soaks into the soil and permeates it, instead of being lost in the run-off. In that way the soil may become an efficient reservoir for the season's rainfall and thus be able to utilize the annual precipitation to the maximum extent for the growing and maturing of crops.

**Care of Plows.**—Very few implements on the farm suffer more from neglect than the plow—and the kind of care accorded farming implements is proverbial. On the other hand, few implements, with the exception of harrows and rollers, are easier to maintain and keep in running order than an ordinary plow. But even a plow needs intelligent adjusting and sometimes oiling! The mold-



board is usually the most neglected part, it being the vital part. How many plows have their mold-board red with rust! Why should this be permitted when so easily prevented by the mere application of axle grease? What a saving of sand-paper, time, labor, and temper might be effected by the timely application of a few "dabs" of axle grease or even by a few "squirts" from an oil can! Needless to say that the proper adjustments of draft, coulter, jointer, fin, share, or whatever equipment a plow may possess are important.

Wrought steel shares when used in sandy soil should be hardened and tempered, if a blacksmith can be found who has the facilities and knows how, as it means that the shares will last much longer and give better satisfaction. In stony ground, however, there is at times danger of fracturing or nicking a tempered share.

C. WESTERGAARD.

University of California, Berkeley, Cal.

## Sylviculture.

### THE EUCALYPTUS PROPHETICALLY.

To the Editor: Your answer to a question from a correspondent in Hanford published in PACIFIC RURAL PRESS on February 29 suggests the heading. But first we should not forget that the growing of eucalyptus timber commercially is in a similar condition to the fruit industry as it was thirty years ago. I remember at that time I had the temerity to order from the East a thousand cherry seedlings. A well known farmer and neighbor laughed at me. "Why, man," said he, "you couldn't sell a thousand cherry trees in the whole of California." At that time no fruit was shipped out of the State, the market being practically the local trade. In a few years afterward the nurseries were selling millions of trees annually. Demand caused fruit canneries and curing establishments to be constructed, as it also caused the railroads to increase their rolling stock to be able to carry the forty or fifty thousand carloads of fruit to the East every year.

The shortage in timber, especially hardwoods, is set forth in figures by the experts of the Department of Agriculture, and the demand for posts, poles, ties, piles, etc., is ever increasing, with advancing prices. All this, and more, we know. To ascertain prices of these articles one may enquire of lumber merchants, or if any quantity is for sale, contractors, builders and others connected with the steam or electric railroads would be glad to know of it.

In regard to your correspondent's questions, it would naturally occur to ask him how many red gum logs he has, and their size? When were they cut? Are they seasoned? He says splitting is a hard proposition and the wood is only worth \$4 per cord on the ranch. (Less than half what the consumer has to pay, by the way.) But rostrata is never recommended for fuel, and is one of the most durable and valuable timbers known. It also lasts well underground. The Chief Forester of New Zealand, in a recent government publication, recommended E. rostrata as one of the best for the growth of "timber generally and sleepers (ties), fence posts, etc."

If early planters of commercial orchards in California had looked only with prophetic eye on the fruit industry, where today would be the \$60,000,000 annual business which it now represents? A grower today may have a few trees of cling peaches and be discouraged because he can't sell them. If he had ten acres or more of the same fruit he would not experience that difficulty.

I would suggest that if the gentleman has more of this timber to cut he should not apply the saw or axe before November, and, prior to that, make enquiries of builders and contractors, that it may be cut and seasoned according to the requirements of the market.

Morganhill, March 2. LEONARD COATES.

All right; we wish to be convinced. Who has sold eucalyptus logs at a profit, where, and how many? Who will buy them, at what delivery and price? There are some things which the Californian was urged to plant thirty or more years ago which have not turned out as well as the fruit industry. Let us have all the facts.—Ed.

## Horticulture.

### THE TEXAS PROLIFIC ALMOND.

To the Editor: Will you kindly tell me about the almond known as "Texas Prolific"? Is it as good a bearer as its name would indicate? Does it hull freely? How does it compare in quality with the standard varieties: Languedoe, Nonpareil, I X L, and Ne Plus Ultra? How does it compare in price in the market with these varieties? It has been offered me as a "frost-proof almond." How about that feature? Would it be safe to plant it where apricots are frequently frosted? I have been told that the Texas Prolific and Drake's Seedling mixed in the orchard are "sure winners." Is this true, and how does the latter compare with the former as to bearing, quality, and hardness to resist frost?—Intending planter, Santa Clara.

Response by Mr. J. P. Dargitz.

To the Editor: As you ask for my conclusions up to date about the Texas Prolific almond, in answer to the letter of "Intending Planter," I will try to give them in this article, as briefly as possible.

In the old Hatch-Armstrong orchard east of Acampo there are 35 acres of the Texas Prolific and Drake's Seedling, planted in alternate rows, and fifteen to twenty years old. Also ten acres of Texas Prolific and Nonpareil planted in alternate rows, and about eighteen years old. There are also about 500 I X L trees nineteen years old scattered among their fellows, that were grafted to the Texas Prolifics six years ago, their fellows being grafted on Sugar and Giant prunes. We have also the Nonpareil and Ne Plus Ultra, the Nonpareil and I X L, and the I X L and Ne Plus Ultra, all alternating every two rows. I mention this to show that we have had a very good opportunity to note results and on a quite large scale.

My opinion will be understood when I say that for this locality I would not plant anything in the way of almonds except the Texas Prolific alternating with either Drake's Seedling or the Nonpareil. My preference would be with the Nonpareil as giving more time between the ripening of the two varieties and therefore more time in harvesting a large crop.

I should say that the Texas Prolific is all that its name indicates, in whatever way planted or in whatever way you alternate them. We have been for the last two years busy, in the season, grafting and budding all our I X L over to Texas Prolific, and in three or four years we expect to begin selling almonds that will make our present forty tons a year look small.

The nut hulls very freely, but if the trees get dry in August you may have as many as five per cent of stick-tights, but even these will be well filled. The shape of the nut being quite round, we consider it one of our easiest hullers. If the kernels differ in quality from any of the other standard nuts mentioned above, it is that they are superior. The nut is larger and softer shelled than the Languedoe, but a little smaller and a slightly harder shell than the Drake's Seedling. In fact, ours have for years sold for the same price as the Drake, and have been marketed by the jobbers as Drake's Seedling. Ever since these Texas Prolific trees were four years old they have borne a crop every year. They have proved to be frost-proof here, possibly due to the fact that they do not bloom for a month after the other varieties begin. For the last two years they have borne practically a ton to the acre for a crop which, at the price of 12½ cents a pound as last year, was quite satisfactory. In 1905 the yield of Drakes was slightly better than the Texas, but that is the only time, as far as I can learn, that any other variety ever approached the Texas Prolific in yield.

Our Ne Plus Ultra and I X L are now (Feb. 26) in full bloom, the Nonpareil are just beginning to open, the Drakes will be along in a few days, and the Texas will follow the Drake, being our latest bloomer. In point of ripening, they follow the same order, the Texas Prolific being the last to ripen, and following the Drake about ten days. The tree is an upright strong grower, and has a bright clean bark much like a cherry tree.

J. P. DARGITZ.

Acampo, Cal.

## The Range.

### MORE ABOUT BURNET.

To the Editor: My attention has been called to several articles in the RURAL PRESS regarding a grass which you had at first named "Potentilla" and later "Burnet."

As I have the pleasure of saying that, so far as I know, I was the first to discover this plant in California, as it appeared at Thorevilos, the country home of Mr. Rothwell Hyde at St. Helena, I have been requested to give my experience with it.

It was not the intention of Mr. Hyde, the owner, to bring this plant before the public until we could make an intelligent report upon it, but as the time of discovery was about eight or ten years ago, at which time I first called his attention to it, and as I have made careful observation of it ever since, perhaps a little history will not come amiss.

At that time Mr. Hyde requested me to try to get some of the seed that we might plant, take care of and observe the growth; but I found it impossible to gather any at that time, as the cattle were confined to this small piece of about five acres, and they gave the plant no chance to grow, much less to seed.

During one of Mr. Overacker's visits to Thorevilos, some four or five years later, I showed the plant to him; he asked for a few plants, that he might take care of them. So, with Mr. Hyde's consent, I gave Mr. Overacker about a dozen plants, and I took frequent notice of their growth, which proved very favorable.

I managed to gather a little seed now and then, in among the manzanita bushes where the cattle could not get at it. I planted the seed in small pieces of land from year to year, until now we have from 1½ to 2 acres planted. I have gathered 30 pounds of seed from a strip of land 6 feet wide by 100 feet long.

In sowing on open ground I would advise to cover with a harrow, as it gives better results. Do not sow too thickly, for it has a tendency to choke out all weeds, also itself, as it stools out very freely. It does not spread out from the roots, as Mr. McNeely thought, but is a self-seeder, and grows from the time of first rains in the fall through the winter. Frost does not kill it, nor do gophers eat or destroy the root or plant. I will not say that cattle will "leave all other grass in preference to this," but they will eat all they can get of it.

Regarding Mr. Overacker's article in which he said the chickens destroyed it, that is very true, because his chickens were confined on the grass patch, whereas at our place they do not bother it, because mine have a large range. This year I have sown oats with some of the seed near the barn; the chickens use it as a range, also range on land that was sown to it last year, the plants on which are now from 3 to 6 inches in diameter on the surface; but I cannot say that they have injured any of it so far.

I have sown the seed this year among the brush and trees in the hills. So far it is early for its complete appearance, but I find it coming as well as expected.

As to the life of this plant, I would say that on the five-acre piece it is the same today as when I first found it, not any more or less, and I am now satisfied that it has been here at least twenty years. The cattle are still pastured on this small piece of land, and the grass still holds its own.

I find that this seed has been distributed in a number of places throughout California, and the reports have been favorable, and that it is suited to nearly all kinds of land; and if it could be irrigated it would grow luxuriantly throughout the summer, as it continues to keep green on our dry soil.

CHAS. J. SUNKLER.

Thorevilos, St. Helena, California.

We are glad to have this statement. In his first reference to the plant in our columns, Mr. Overacker stated that it had first appeared on Mr. Hyde's place and that he saw it there and had been given plants for trial. Burnet seems really to be one of the plants we have been long looking for for dry ranges.—Ed.



# BEEF SCRAPS

# RAW BONE

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

## Orna- mental **TREES** FOR STREET AND TRACT PLANTING A SPECIALTY

### NURSERY STOCK OF ALL KINDS

125,000 BLUE GUMS    50,000 SUGAR GUMS    25,000 RED GUMS

### Orange County Nursery & Land Company

FULLERTON, CAL.

## Forestry.

### Advice From the State Forester.

To the Editor: Many of your readers own timber tracts and desire a profit which would leave their forests uninjured.

Many other readers would find their farmsteads greatly benefitted by windbreaks properly placed. Still others are wondering what trees should be planted on their waste lands.

These readers of your good paper can have the best of advice from our State Forester, Mr. G. B. Lull. In many cases Mr. Lull would probably solve their problems on the ground, as that is what he has done for us. I sent him a letter of questions, suggesting that my brother and I would highly appreciate a call. In reply Mr. Lull came here today to Spring Vale Farm, which is in the beautiful hills five miles north of Santa Cruz. This is the first time Mr. Lull has called officially to see private lands in Santa Cruz county, though he has made many such visits in the southern counties. Some trips in this State might take more time than Mr. Lull could spare. Not having intended to write up his visit, I did not interview him.

Mr. Lull is expected to be quite an encyclopedia. One person seemed gravely disappointed in him because he could not state off-hand in what part of South America the handsomest parrots are found!

FINETTE CAROLYN LOCKE.

Spring Vale Farm, Feb. 24.

You are right. Mr. Lull is doing

his best to be helpful, by his talks at Farmers' Institutes, by his publications, and by his visits. He certainly should be given every chance to do all the good he can.—Ed.

### Large Addition to California Forest.

The President has just signed a proclamation creating additions that amount to nearly 600,000 acres to the Modoc National Forest in northeastern California. With the exception of a small area in the northern part of Lassen county, all the lands put within the forest by this proclamation are situated in Modoc county. The exact area of the additions is 570,000 acres, which brings the total area of the forest up to 859,018 acres. The land proclaimed a part of the Modoc Forest will be put under administration at once, with Supervisor C. E. Rachford, whose headquarters is at Alturas, California, in charge. The additions to the forest have a stand of valuable yellow pine, which will amount to several million feet and will average 12,000 feet to the acre. There is little or no agricultural land in the addition.

## The Dairy.

### California Winter Dairying.

Mr. H. A. Craft, now a resident of Alameda county, has prepared for Hoard's Dairyman a sketch of winter dairying in California which involves such a tribute to both industry and climate that we desire to extend the perusal of it.

**YOU** never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs.

These standard

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

# PLACER NURSERIES

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.



## Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

It is midwinter, and here in California, where I have taken up my abode, I am ever and anon contrasting the California winter with the New England winter that I knew in my youth.

Here the fields are green and are becoming greener day by day under the influence of mild weather and frequent and copious showers. And this is not southern California either, but up here on San Francisco's breezy bay. We have some chilly days, of course, and an occasional frosty morning. But the frosts hurt nothing, save now and then a bed of tender vegetables planted in some exposed position.

The flowers are in bloom, but are not so plentiful as they are in the springtime and early summer. We have in our yard roses, carnations, violets, heliotrope, etc., and the violets are especially fragrant. The grass upon the vacant lots, fields and hillside now makes very fair grazing, and my neighbor's cows are picketed out daily and get grass enough to help out on the feed question to a considerable extent.

Still, milk and butter are as high as ever, in spite of the hard times. Producers say this is because of the high price of feed. Bran is \$30 per ton, and other feeds are proportionately high. Milk runs from 7 to 10 cents per quart, and first class creamery butter fluctuates between 40 and 45 cents per pound.

As I have explained, the fields are green and in some favored spots the grass is a foot high, and there is a rich odor of fresh grass, wet with the dews of the morning or the rains of last night, everywhere pervading the atmosphere. There is the pungent, gummy smell of the Eucalyptus and the perfume of the yellow-flowered acacia that blooms the year round. Then the birds are afield, too, and the meadow larks make the countryside melodious from morn till night. Up in the foothills are charming country places, and here and there a dairy ranch. The cows are grazing in the pasture lands and the sound of the tinkling cowbell mingles with the song of the lark.

On many of the hillsides the plows are still running, preparing the land for a crop of wheat or oats to be made into hay for the city market some time next summer. In many of these fields that were early sown the grain is up, imparting a tinge of green to the brown and yellow soil.

### Values of California Dairy Products.

The State Dairy Bureau of California through its secretary, W. H. Saylor, has completed its compilation of statistics of production for the season of 1907, and has there-

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

fore been able to place an estimated cash valuation on the same. We have already given its report of the production of butter and cheese in the State. Since then the Bureau has given out the figures showing the production of condensed milk. Although the output of this branch of the dairy industry is as yet comparatively small, it shows an increase over last year of almost 20 per cent.

The following table shows the production of this line each year since 1899, the figures being based on cases of 48 cans each:

Year.	Cases.
1899 .....	52,558
1900 .....	66,302
1901 .....	100,140
1902 .....	146,860
1903 .....	126,874
1904 .....	186,905
1905 .....	244,878
1906 .....	113,025
1907 .....	177,193

There are four factories in the State that reported the make given above for 1907, and 80 per cent of this was made in two of them.

In case of the quantity and valuation of the milk and cream that is consumed the Bureau does not pretend to give anything but an estimate upon it. However, if the United States census compilations are reliable a safe estimate can be based upon it. Taking the per capita consumption of milk and cream as determined by the census, the population of the State at 1,800,000 and the wholesale price of milk on the San Francisco market, which is 14 cents a gallon (beyond a doubt the lowest price realized by the producers for market milk in the State), and the valuation of the product consumed in this way would approximate conservatively \$7,460,000.

There are in the State approximately 450,000 cows used for dairy purposes, whose calves at birth are worth an average of \$4 per head. The skim-milk, whey and butter-milk produced as by-products in making 44,599,211 pounds of butter and 5,928,942 pounds of cheese, at the valuation placed upon it by the average dairy farmer for feeding purposes, amounts to \$1,444,000.

With the foregoing as the avenues through which the principal revenue comes to the dairy industry, the following summarized table is prepared, showing the valuation of the dairy output for the year ending September 30, 1907:

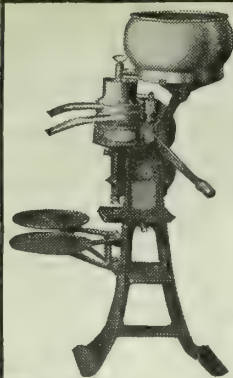
Value of 44,599,211 pounds of butter .....	\$12,710,778
Value of 5,928,942 pounds of cheese .....	830,051
Value of 177,193 cases condensed milk .....	653,615
Value of milk and cream condensed .....	7,460,000
Valuation of by-products .....	1,144,000
Value of calves from dairy cows .....	1,766,000
Total .....	\$24,564,441

## DEMING

Hand, Knapsack, Barrel and Power Sprayers



for the poultryman, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it's possible to build it. Working parts of brass to resist chemical action - is different styles. Write for Nineteen Eight Catalogue and "Expert Testimony" - free. Much in them you should know.  
THE DEMING COMPANY  
595 Depot St., Salem, Ohio  
CRANE CO., Pacific Coast Agents, Portland, Seattle, Spokane, Tacoma, San Francisco, Salt Lake City.



## SWEEPING THE FIELD

## THE 1908 IMPROVED DE LAVAL CREAM SEPARATORS

Sales to date more than double any previous year.

New 1908 Catalogue—as interesting and superior as the machines themselves—to be had for the asking.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide, and Disinfectant. Made of Coal Tar Creosote Oil. Great caution must be exercised in using Carbolic dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool, but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Creosote Oil containing 25% Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils which run about one-half the strength of imported oil. Permission was given by the U. S. Department of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For Sale by many Dealers. If yours does not keep it, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



## The Home Circle.

### The Happy Life.

How happy is he born and taught,  
That serveth not another's will;  
Whose armor is his honest thought,  
And simple truth his utmost skill.

Who envies none that chance doth raise,  
Nor vice: who never understood  
How deepest wounds are given by praise,  
For rules of state, but rules of good;

Who hath his life from rumors freed;  
Whose conscience is his strong retreat;  
Whose state can neither flatterers feed,  
Nor ruin make oppressors great;

Who God doth late and early pray  
More of His grace than gifts to lend;  
And entertains the harmless day  
With a religious book, or friend!

This man is freed from servile bands  
Of hope to rise, or fear to fall;  
Lord of himself, though not of lands,  
And having nothing, yet hath all.  
—Sir Henry Wotton.

### Back Home.

I am home tonight from the weary way  
Where feet of mine have wended  
For the stony path and the darksome way  
And stormy scenes have ended.

I can rest secure in the light of love  
With dear home beams around me,  
For peace that descends like a snow-  
winged dove  
With sweet content has bound me.

Let others who long for the restless wave  
Go sailing seas for glory  
For the din of pomp and the flash of  
stave  
And gleams of ancient story

Can never allure me again to roam  
Far from the tangled wildwood,  
And the dear true hearts and the lights of  
home  
And the hallowed scenes of childhood.  
—Charles Henry Chesley.

### HIS COWARDICE.

It was a little old pole cabin on the side of a Virginia mountain. It stood in a clearing of half an acre of sterile land, and on three sides of it were laurel and pine.

In days of smiling peace it was a lonely, poverty-stricken place; now that the war was upon the land, its loneliness was accentuated.

The bummers and the guerrillas passed it by on the rocky road now and then, but they did not call out or knock at the door. Of what use? There would be nothing to steal, and the food would be of the scantiest.

The inmates of the cabin consisted of mother and daughter, the former old and crippled, the latter about 20 years old, and carrying hate and murder in her heart for the men in blue, who were devastating the country as they marched here and there.

She knew nothing of why they were there, she only knew that they were there and that they were leaving wounds and death and poverty and bleeding hearts in their wake.

On the open side, twenty rods from the door of the cabin, there was a spring, and here a Federal picket was posted day and night. The growth of laurel almost reached the spring, and as the girl looked and looked a smile flickered over her face.

The picket had been there for a week. During the day, when she went to the spring for water, he had sometimes spoken to her. Once he had offered her bacon and hardtack from his haversack, saying that he knew there were but two women and he pitied their condition.

The girl had never looked into his face. The man was her enemy. She

wished him dead. She wished for the death of thousands more men in the hateful blue.

The post must be guarded at night as well. Perhaps there were two men at night. It would be easy for one to creep along down amidst the laurels, spring out and do the man to death. He might even dispose of two if he struck quickly. The picket had been there for a week, but she had never thought of the thicket until today.

Of what good to kill one or two men out of an army of millions, out of that great horde of marching, fighting men whose lines stretched for miles. The girl might have thought of this, but she didn't. She shut her teeth hard and went about the house with a strange look on her face.

"What is it, Tilda?" asked the old mother.

"Nothing. I'll tell Scott if he comes tonight."

Down at the spring the man in blue was heard whistling or singing at intervals, and at intervals the boom of distant cannon reached the women's ears. The day wore away and night came down. Then Tilda went to the spring for a pail of water and to use her eyes.

The day picket had been changed at noon, and now she saw that it had been changed again. The man rose up from the roots of the pine and spoke to her, but she dipped in her pail and made no answer. She had feared there would be two on post.

"What is it, Tilda?" asked the mother as the girl entered the cabin. "Nothing. Scott will be here in half an hour."

He came a little sooner than that. He was a young man of three and twenty, dressed in homespun. He came dodging and skulking. He came with a look of fear on his face and an old shotgun for a weapon.

He had been hiding out for months and months, living in a cave and thicket and coming thus two or three times a week. He feared the conscription of the one side and capture on the other. There was no bravery there—no patriotism—and yet the girl admired and loved him.

Even when he came to the wretched cabin, empty-handed, and helped to eat the little she had managed to place on the table, she loved him.

As the young man came skulking in, the mother nodded to him. The girl did more. She beckoned him across the room and they sat down on the floor side by side, and in a whisper she said:

"There's only one man down there by the spring tonight, Scott."

"Yes," he answered.

"He hain't lookin' for no trouble."

"No."

"You jest creep down among the laurels till you are only ten feet away, and then you jump and strike him with the butt of your gun. Make suah work of it, Scott—make suah work."

"You mean that I'm to kill he'un?"

"Of co'se. If one smash don't do, then smash twice."

"But what fur, Tilda—what fur?" asked the young man, as he drew away from her a little.

"Hain't they killin' we'uns every day? Hain't we haungry from maw-nin' till night? Hain't they to blame that you have to hide like a fox? Hain't they robbin' and stealin' and skeerin' the women folks nigh to death? Hain't it gwine to be the end of us if sunthin' hain' done?"

The young man was uneasy and he

trembled within him. If he was ever possessed of physical courage, the hiding out and starting at every alarm like a wild beast had robbed him of it.

He knew that there was a picket at the spring day and night. He had crept to within a few yards of the men in blue and had a good look at them. Two or three times he had even aimed his gun, but he had not pressed the trigger.

He reasoned better than the girl. It was no good to kill a man or two. Even if he could kill a thousand, the war would go on just the same.

"You want to go now," whispered Tilda. "I'll go part way with you. If one smash don't do, then you must smash twice. Got to do it. Scott—got to do it."

"But he'un may kill me. He'un will dare to shoot his gun, while I won't."

"You must jump out quick and smash as hard as you can."

Scott moved his feet and wiggled around uneasily. He also looked at the girl in a puzzled way. He had never known her to display such savageness. He felt that he was expected to say something, but it was a long minute before he observed:

"Tilda, if I kill he'un, they will hunt me down for a bushwhacker."

"If you don't do it, I'll call you a coward!" she hissed in his ear. "I'll call you a coward and never, never marry you."

Scott slowly got to his feet and, taking his gun from where it leaned against the wall, he slowly left the cabin without a look or word for anyone.

Twenty minutes later the man on post at the spring was startled by a noise in the thicket. He called out and fired a shot, and the corporal of the guard and two men came running from the guard relief.

"Some blamed bushwhacker sneaking around to assassinate me," reported the picket.

"Come on—we'll search the cabin up there," said the corporal.

Scott had entered a moment before them. Granny and the girl were on their feet looking at him, but had asked no questions. The girl knew that he had failed, and there was scorn on her face.

"Here he is—here is the bushwhacker!" exclaimed the corporal, as he seized the young man by the collar. "He'll dangle from a limb at sunrise!"

Scott denied. He wept. He groveled. He begged and prayed. He had simply been hiding out, and had never done harm to a man in blue.

The girl watched and heard and dug her nails into her palms. Finally she said to the corporal:

"He tells you the truth. He is but a poor, cowardly cur. It was me that was trying to bushwhack the picket. Take me and hang me. I hate you all. I'd like to kill the last one of you. Let him go and take me."

The men looked at her for a moment, and then the corporal moved to the door with his prisoner and gave him a kick, and watched him running for the cover of the pines. Then he turned to the defiant girl and raised his cap and said:

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

"We don't make war upon women. They have to suffer in war, but we pity them. Boys, empty your haversacks on the table. Good night."

And when they had departed, Tilda sank down on the floor and covered her face with her hands and wept like a child.

Granny came over and looked at the coffee and bacon and hardtack and onions and potatoes, and then whispered:

"Tilda, what is it?"

"Nothing, granny!" sobbed Tilda, as she wept the harder.

And lying in the pines far up the mountain side Scott shook and shivered and wondered how he had escaped death.—Brooklyn Times.

### The Why and When of Leap Year.

A subscriber to the Echo wants to know when and why leap year occurs, and the following explanation, based on the Century Dictionary and Webster, is given accordingly:

The ordinary calendar year contains 365 days, but the exact astronomical year lacks 11 minutes and 14 seconds of being 365¼ days long. If the astronomical year were exactly a quarter of a day longer than the calendar year the difference could be adjusted by adding a day to the calendar every fourth year. But on account of the 11 minutes and 14 seconds, if we added a day every fourth year we would be a whole day ahead at the end of 128 years. To get by these difficulties the men who arranged the Gregorian calendar added a day to the month of February in every year which can be divided by four without a remainder except the even centuries where the number of the year cannot be divided by 400.

For example, the years 1904, 1908, 1912, 1916, etc., are leap years, but the year 1900, although it has a multiple of four, was not a leap year. The year 2000 will be a leap year because it can be divided by 400, but we would not advise any young lady who may be intending to take advantage of her leap year privilege to pop the question to put it off until then.

## LIPPIA

The Drought-Resisting Lawn Plant.

Flourishes to perfection in our dry interior valleys. Makes a turf equal to that of blue grass. Never becomes a pest. For sale by

JOHN SWETT & SON, Martinez, California.

Descriptive Circular and Price List on application.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### Pith, Point, and Pathos.

Ancestors are beings people rake up to blame their failings on or to supply missing virtues.

When a man announces that he sympathizes, he probably isn't going to do anything to prove it.

It is strange how seldom the world asks a man for an excuse when he has a really good one.

If a woman has never had a proposal she affects to pity the woman who is about to be married.

Heaven is a place where a man dreams he is going to get what he thought he was buying in this world.

It is astonishing how great a friend the man who has something to sell tries to convince you you are to him.

The more certain a woman is that her husband is a genius, the more others are wondering why she married him.

You can convince almost any woman that any hat would be more becoming to her than the woman who happens to have it on.

### Costly Drugs.

A writer in Wissen fuer Alle throws some interesting light on rare and peculiar drugs. Saffron, he points out, would strike an ordinary observer as decidedly expensive at \$13 a pound (to change marks into our coinage until told that it is composed of the central small portions only of the flowers of the crocus, 70,000 of which it takes to make a pound. Attar of roses sells at \$112 odd per pound, and it takes 10,000 pounds, or nearly five tons of roses, to obtain one pound of the oil.

Aconitine, extracted from the root of monkshood, is said to be the very strongest poison extant, the dose being one six-hundredth of a grain. It is sold at the rate of \$108 per ounce.

Turning from the vegetable to the animal world in search of rare drugs the writer refers to the musk of the Asiatic deer, which at \$24 to \$30 an ounce must be a prize to the wily hunter. In some of the tropical seas a floating, sweet smelling mass of ambergris is met with worth at present \$30 per ounce, or \$480 per pound in the market. The ambergris is said to be the diseased biliary product of the whale.

Another peculiar product in use as a drug is a solution of the pure venom of the rattlesnake, given occasionally in malignant scarlet fever.

There must be an immense number of Austrians, Hungarians, and Russians who have settled up north, judging from a statement made by our United States Postmaster General, that \$72,000,000 in money orders were sent to the countries from which these people came during the last fiscal year.

### WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25 cents.

### Hints to Housekeepers.

By mixing two teaspoonfuls of glycerine with one tablespoonful of lime water and one teaspoonful of paregoric, you have an excellent gargle for a sore throat.

Here is something to do away with that dangerous paraffin can. Save all the orange peel you may have. Dry it in a cool oven and store away in paper bags. Then some morning when your fire won't burn, throw a bit of peel on and watch the effect.

To prevent blue spotting clothes, put some out on a piece of white cloth, gather up the corners and tie together. Dip this bag in the water, and squeeze it until the water is blue enough. In this way the clothes will never become spotted.

The theory now is that blankets must be washed instead of dry cleaned to be healthy. To have them soft as new, make a soapy suds in a half tub of warm water by using one-half cup of washing powder and soak a blanket in it for half an hour, then simply move it around and rub soiled spots; rinse in warm water of the same temperature and hang up in a warm place or sunshiny outdoor air.

He was not a very rapid wooer, and she was getting a bit anxious.

Again he called, and they sat together in the parlor, "just those two."

A loud rap at the front door. "Oh, bother!" she said; "who can be calling?"

"Say you're out," said the deliverer.

"Oh, no; that would be untrue," murmured the ingenious one.

"Then say you're engaged," he urged.

"Oh, may I, Charlie?" she cried, as she threw herself in his arms.

And the man kept on knocking at the front door.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

### BEST PILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail Write Dr. Rosanko Co., Philada., Pa. Sample Free. ONLY ONE FOR A DOSE

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN-DEK NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25. Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

### PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

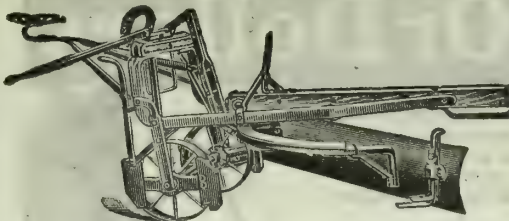
**DEWEY, STRONG & CO.**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

### Blake, Moffitt & Towne

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily.

One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

### 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

# San Francisco Two Years After Sunset Magazine

The rebuilding of San Francisco is shown by picture and story in the April number of

A magnificent 53-inch panorama is used for a frontispiece and gives an idea of how the city looks today. This is followed by 32 full page pictures in colors showing Banks, Business Blocks, Hotels, etc., already completed or in course of construction.

Also the first installment of the serial story

**LIN MCLEAN**

A stirring story of Western Life

**OWEN WISTER**

Author of "The Virginian."

Send it to your Eastern friends.

PRICE 15 CENTS

POSTAGE 4 CENTS

## MEXICO

### THE IDEAL SPOT

For Miner, Agriculturist, or Pleasure Seeker.

**Are You  
Interested in  
Mining?**

Then the MEXICAN CENTRAL is the line touching Zacatecas, Parral, Guanajuato and other famous mining districts, the latter destined soon to become one of the greatest mining centers in the world.

**Are You  
Interested in  
Agriculture?**

If so, the MEXICAN CENTRAL'S through daily train service will land you in safety and comfort where are located the most desirable lands in this Republic.

**Are You  
on Pleasure  
Bent?**

Then by all means the MEXICAN CENTRAL RAILWAY should be your choice, touching as it does nearly every interesting city and health resort of Mexico—Guadalajara, Lake Chapala, Cuernavaca, Tampico, and many more.

**Thru Daily  
Pullman "Broiler"  
Car Service**

Between El Paso and Mexico City; between St. Louis and Mexico City, via San Antonio, C. P. Diaz and Torreón; between Mexico City and Guadalajara, and San Luis Potosi.

For Detailed Information, Illustrated Booklets, Rates, etc., Write

**J. C. McDONALD,**  
General Passenger Agent  
Mexico City, D. F.

**H. J. SNYDER, G. A.**  
15 Flood Bldg.,  
San Francisco, Cal.



## Dimes Or Dollars

A hen does well or poorly according as her food supplies necessary nutriment in right proportions. Doubtless you give a nutritious ration, but does the *larger part of it digest*? If not, your profits will be in dimes rather than dollars.

It is easy to see why this is so. The domestic hen is a captive; she is denied the privilege of selecting food at times and in ways that Nature meant she should. Man attempts to coax and cajole her into laying many eggs under these unnatural conditions, and it is evident there can be little success until natural conditions are restored as far as possible.

If you make the hen derive from her food the same elements she would get when at liberty, your end is gained. This can be largely brought about by giving once a day a small portion of



## DR. HESS Poultry PAN-A-CE-A

It is the prescription of Dr. Hess (M.D., D.V.S.) and according to the testimony of expert medical men, contains the elements necessary to make the hen *digest perfectly* by far the greater portion of her food, and to *derive from it* increased power to produce bone, flesh, feathers and eggs. Poultry Pan-a-ce-a contains also iron for the blood and nitrates to expel poisonous matter. It makes young chicks grow fast and fits fowls for market in the shortest time. It is also a germicide and prevents roup and other poultry diseases. Endorsed by poultrymen in United States and Canada. Costs a penny a day for 30 hens.

Sold on a written guarantee.

1½ lbs. 35c; 5 lbs. 85c; 12 lbs. \$1.75  
25 lb. pail \$3.50

Send 2 cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK, ASHLAND, OHIO,  
Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR COMPANY  
Petaluma, Cal. Pacific Coast Distributors

## GRAFTED Franquette Walnut Trees

Walnut trees require 1600 to 3600 square feet per tree, according to the soil. A tree planted to fill that space cannot be too good. In other words, too much care cannot be taken to be absolutely sure that the variety being propagated is true to name and that the seedling trees used for grafting shall be only those of first-class strength and vigor, everything else being rigidly discarded.

Our stock is selected *only* from strong, vigorous seedlings of the best types of the California Black Walnut; and our grafts were taken from our own trees, and they were grafted from the best bearing trees in the famous Vrooman grafted Franquette orchard.

Write for circular and price list if you are interested in walnuts.

## IMPERIAL WALNUT NURSERY CO.,

F. A. LEIB, Manager,

SAN JOSE, - - - CAL.

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

## R. A. HOLCOMBE & CO.

50 Clay Street, San Francisco, Cal.

## AGRICULTURAL REVIEW.

GLENN.

State Veterinarian Keane will go to Glenn county to investigate a new disease that has appeared among the sheep in that section. He has received several requests from wool-growers asking him to investigate. The disease is not scab, but something new to this part of the country, and is killing the sheep off very quickly.

MERCED.

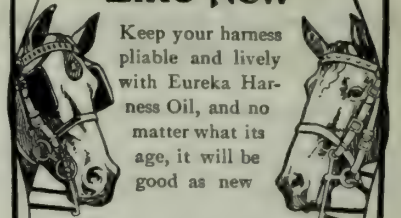
Sun: A number of peach growers are spraying their trees, and before many days, if the warm weather continues, they will all be at it. This is the first season that the growers have been spraying their trees, but the failure in crops of several varieties of peaches the past two years has taught them that it is as necessary to spray as it is to pick the fruit. Most of the growers of peaches and vines have finished pruning. Cultivation is next in order.

Modesto Herald: The Modesto Canning Co. gives information that will be of interest to prospective asparagus growers. A sub-irrigated soil is necessary, one that can be readily drained, or in other words, the water supply controlled at will. The plants are put out in rows something after the fashion of tomatoes. When received from the nurseryman the plants are one year old and well rooted, and three years from the time of planting will be bringing in a steady revenue each year. In fact, the older the plants the better the returns. The Conovers Colossal, the holder of first place with the canners for the white asparagus, is a very fine variety. However, it is more or less susceptible to rust, the asparagus disease. The Palmetto is the best all-round asparagus, and is an extremely hardy variety, being able to withstand the rust better than any other.

MONTEREY.

Pajaronian: The prospects for bountiful grain crops in the Salinas valley were never better than they are this year. Last season was a most favorable one, and if they have another this year they will certainly feel that fortune is smiling on them. The total acreage planted to grain—principally barley—in the Salinas

## Old Harness Like New



Keep your harness pliable and lively with Eureka Harness Oil, and no matter what its age, it will be good as new

## EUREKA Harness Oil

is a positive benefit to leather—Nothing injurious in it. Gives the fine dressy appearance every harness should have. Made by  
STANDARD OIL CO.  
(Incorporated)

valley this year is upward of 130,000 acres, which is considerably over twice the total area of the Pajaro valley—including its foothill section. In years to come most of this grain territory will be subject to irrigation as a result of a wise conservation of the winter rains at the headwaters of the Salinas river, and then this same section will be devoted principally to dairying. From the Index we take the following figures of the grain acreage in each of the townships named: Alisal, 17,900; Blanco, 3800; Chualar, 6100; King City, 16,600; San Lucas, 17,980; Soledad, 35,000; San Ardo, 15,460; Bradley, 7550; Pleyto, 3500; Jolon, 2000; miscellaneous, 4500.

NEVADA.

Farmers and cattlemen in the grazing country below Nevada City are considerably worried over the appearance of a new species of worm which lays the grass by the acre in a short time. Report reached here last night that these worms devour the grass and after they have passed their path looks as though it had been burned over, or rather, ashes had been scattered over it. The cattlemen are unable to cope with the pest, and see the destruction of a large acreage of fine feed unless the worms, which are said to resemble the codlin moth, can be exterminated or induced to change their route. Nothing like this has ever been reported in the county before.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

THE MOUNTAIN COPPER COMPANY, Ltd.  
150 Pine Street San Francisco

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines. We Guarantee all Stock True to Name and Free from Disease.

SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untried. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

## THE FRESNO NURSERY

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinions as to Patentability and Infringement. HANDBOOK FOR INVENTORS FREE. DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco



**DO YOU KNOW**  
THE WET WEATHER  
COMFORT AND  
PROTECTION  
afforded by a

**TOWER'S  
FISH BRAND  
SLICKER?**  
Clean - Light  
Durable  
Guaranteed  
Waterproof  
\$3.00  
Everywhere

600 A. J. TOWER CO. BOSTON, U.S.A.  
TOWER LONDON, CO. LIMITED, TORONTO, CAN.

## PLACER.

The first case of strawberries from Placer county was shipped by express to Salt Lake March 3. They were of the Dollar variety.

## SAN DIEGO.

Citrograph: Somewhere around 7000 acres in the Imperial valley is being planted to cantaloupes this season. Brawley leads, but El Centro, Imperial, Holtville, and Calexico are all in the swim. There are a good many patches already planted and the seeds are sprouting. The crop will go forward by the train-load in June. The Imperial valley—and the Coachella valley as well—produce the very earliest cantaloupes in the country, and there is no danger of overstocking the market in June and July. The value of the crop will reach around a million dollars.

## SUTTER.

The Horticultural Commissioners of Sutter county held a session at the courthouse and discussed the pear blight situation thoroughly. A formal complaint has been filed by one pear grower, and this compels the commission to take action against all infected limbs will be cut off close pelling the latter to do something to prevent further spread of the blight. All trees will be inspected, and any infected limbs will be cut off close to the trunk of the tree, which is a departure from past methods. Comparatively few growers took advantage of the assistance offered them in caring for their trees and checking the disease, so radical steps will now be taken.

A. E. Davis of Live Oak has recently finished marketing his olive crop. From one acre he gathered and pickled 1000 gallons of prime olives, which he sold in Marysville at 55 cents per gallon, making over \$500 on the same.

## TEHAMA.

Word comes from the southern part of the county that a worm has made its appearance in that section which destroys grain and grass. Considerable alarm is felt. The worms apparently breed by thousands in the ground and destroy the roots of vegetation, leaving a barren country. It is reported that in the foothills west of Kirkwood a considerable territory of grass lands has been ruined.

Word comes from Lyonsville that the Diamond Match Company has issued orders from the head offices that no more goats or sheep shall be allowed to range on any of the timber lands of the corporation. The reason for this action is claimed to

be that this kind of stock browsing on the young trees and undergrowth leaves the country more susceptible to damage by fire. It is claimed that 45,000 acres of timber land between Battle creek on the north and Mill creek on the south will be let to the cattlemen of the surrounding territory, each paying a reasonable price per year for the cattle run on the lands.

## VENTURA.

Oxnard Courier: For the last two weeks a crew of six Chinamen has been actively at work on the Maulhardt ginseng farm northeast of Oxnard. The garden consists of two and one-half acres, well protected from the sun by a lattice covering of lath. Under this cover are long rows of ginseng beds where the roots of one, two and three years ago are now being dug up for the first time since their planting, to be graded and replanted according to their size and age. These roots are many of them beautiful specimens, and those in charge of the garden are enthusiastic over their possibilities for future development. It is thought that with next year's growth they will be able to put forth sufficient seed to put it on the market, and will be of sufficient size to dry and be sold themselves.

Free Press: For many weeks Earle Carr of Oxnard has had a force of men and women at work picking over all the beans stored there by him. Mr. Carr had, with others, a total of 10,000 sacks of limas out in the field when the rains came last October. These were all wet and more or less injured. As soon as they were dry they were taken to the warehouse and the work of hand-picking began. It was a tedious and laborious process. About thirty men and women and Japs have been employed, at wages of from \$1 to \$2 per day. The good beans picked out are run through a patent sand cleaner arrangement which cleans them and polishes them so that they appear as new. The damaged and discolored beans are sold for hog feed. About 25 per cent of the total amount stored in the warehouse was found to be damaged and unsalable.

## How to Grow Seedless Squash.

To the Editor: Having noted the item in the PRESS in regard to the seedless squash raised by Mr. Williams, I wish to say that I solved that freak twenty years since. I will give the recipe: Plant the squash and let the vine run on ground that is kept moist. When it joints, cover the joint with earth. It will take root on the end of the vine and will grow seedless squashes. That is all the secret.

MRS. E. M. CURRY.

Lodi.

**Eureka Lemon  
Valencia and Navel Oranges  
Eucalyptus Trees**

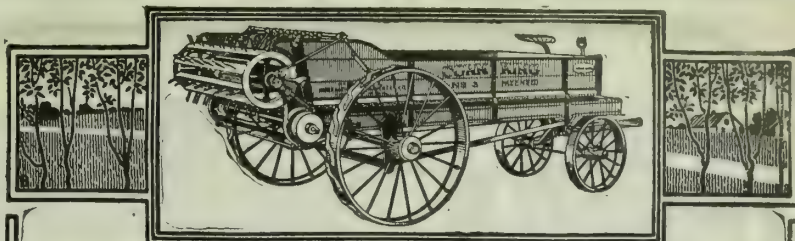
Globulus, Rostrata,  
Rudis, and Tereticornis

**Phoenix Canariensis,  
Chamaerops Excelsa  
Loquats, Roses, Etc.**

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,  
Covina, Cal.**



*Make the manure bring you  
\$4 a ton*

**Thousands of Successful Farmers Are Doing It**

There is no charm or secret about it. You simply spread it with a machine, and thus make it go twice as far, get twice as much good from it on the first crop, do your land more permanent good, and save half the time and labor of handling.

Manure is generally estimated to be worth \$2.00 a ton handled the old way. There is no doubt that it is worth twice as much to the farmer who spreads with a machine.

Three of the most practical and valuable machines manufactured for farm use today are the **Corn King, Cloverleaf, and Kemp 20th Century manure spreaders.** They are each made in a number of sizes.

These machines differ somewhat in construction and operation, but all three are right working and of great durability.

They are proven machines. They embody the best mechanical ideas, the materials used in construction are the best for the purpose, they are made as simple as possible, and they handle manure in all

conditions to the perfect satisfaction of users. Proof of all this is to be found in the record each machine has made in the field.

Is it not to your interest to own and use one of these spreaders on your farm?

Figure out for yourself and you must agree that it will be a paying investment, even if you do not have over twenty-five loads of manure to spread in a year.

You can't help but be pleased with the work, the easy handling, the light draft and the substantial making which saves you the annoyance of breakage and repairs.

Call and see these spreaders with the local International agent. He will gladly point out to you the superior features of these machines, as well as supply you with catalog, colored hanger or other information.

If you cannot do this, write nearest branch office for catalog.

**WESTERN GENERAL AGENCIES:** Denver, Colo., Portland, Ore., Salt Lake City, Utah,  
Helena, Mont., Spokane, Wash., San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA**

(Incorporated)

Chicago, U. S. A.

**MORSE SEEDS SPROUT—YOU AND NATURE DO THE REST**  
**PACIFIC COAST HEADQUARTERS for BEST SEEDS**

**SEEDS** We Grow Them—YOU SOW THEM  
If interested in a quick growing valuable tree you can plant on unused ground read the following about

**ACACIA MELANOXYLON**

Baron Von Mueller, in his "Select Extra-Tropical Plants," writes of this tree:

"This well-known Blackwood of our river flats and moist forest valleys. In irrigated glens of deep soil, the tree will attain a height of 80 feet, with a stem several feet in diameter. The wood is most valuable for furniture, railway and other carriages, boat-building (stem and stern posts, ribs, rudder), for tool handles, crutches, some portions of the work of organ builders, casks, billiard tables, pianofortes (for sound boards and actions), and numerous other purposes. The fine grained wood is cut into veneers. It takes a polish, and is almost equal to walnut. Our best wood for bending under steam; it does not warp or twist."

The great billiard-table firm of Alcock & Co., in Sidney and Melbourne, have been making tables from it for the last eight years, and at the exhibition of 1888, there was a piano cased with it which was as handsome a piece of parlor furniture as one could wish to own. The Martini-Henry Rifle Co. have been using it for gun stocks for the last fifteen years, because they could get it much cheaper than the French walnut hitherto used by them.

We have a fine lot of these trees, which you will find priced on page 73 of our 1908 catalogue, mailed free, on request.

**C. C. MORSE & CO.** Successors  
COX SEED CO.

**PLANTS SEEDS TREES**

Retail Store: 125 Market St., San Francisco  
Nurseries: Glen Avenue, Oakland

41 Jackson St., San Francisco



**"Old Trusty"  
Incubators**

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

**E. E. McCLANAHAN**

711 So. Main Street

Los Angeles.

**THE BEST SEEDS THAT GROW**

**FLOWERS, VEGETABLES, FARM.**

**SHRUBS, TREES AND BERRY PLANTS.**

Write TODAY (a postal card will do) and you will receive **Free** our 1908 Seed and Plant Annual.

**TRUMBULL SEED COMPANY,**

Successors to Trumbull & Beebe.

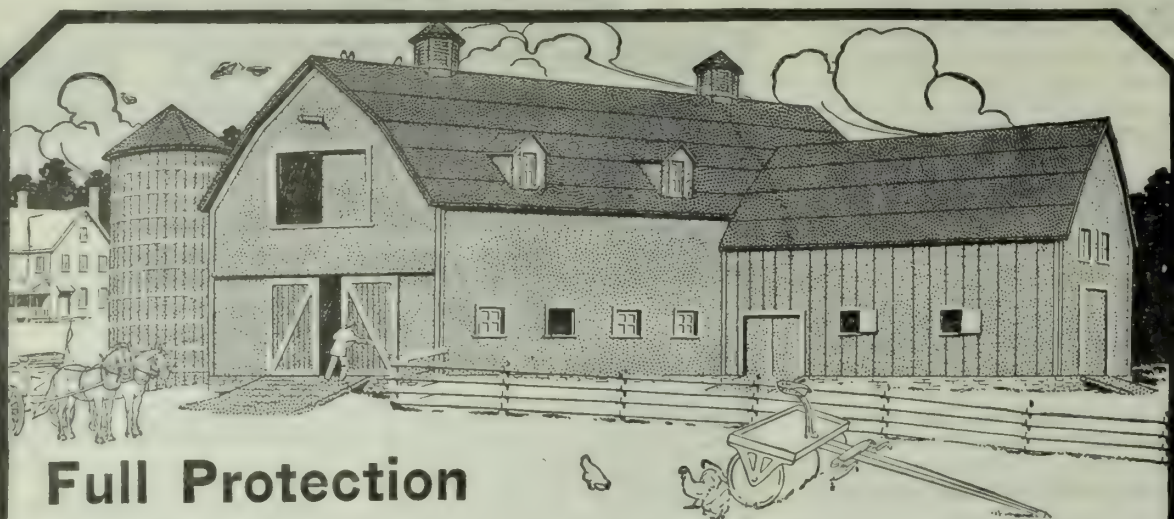
545 Sansome Street,

San Francisco

## Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c





## Full Protection

The purpose of a roof is of course protection—but there's a great difference between *some* protection and *full* protection. Shingles, tin and common prepared roofings give some protection for some time, but

# REX FLINTKOTE ROOFING

is the only roofing that gives *full, lasting* protection. REX not only protects against rains and snows, but against heat, cold and damp, and against the danger of fire communication by falling sparks and firebrands. REX Flintkote ROOFING is not only absolutely water-proof, but is fire-resisting, a non-conductor of heat and cold, and an impervious barrier to dampness. REX Flintkote ROOFING is made to last; its virtue is not merely in its surface-coating, but in its body. That is why imitations coated to *look like* REX do *not* give REX service. To get a roof that will give the all-around protection required by farm buildings, look for the boy trade-mark and get the genuine REX Flintkote ROOFING.

### We Will Send You Samples to Test

together with our valuable roofing booklet, on receipt of postal request. Our complete book, "Making Poultry Pay," will be sent for 4c. in stamps for postage and packing—very useful to the poultry raiser.

**J. A. & W. BIRD & CO., 91 India Street, BOSTON, MASS.**  
Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.



## DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mfrs., Meagher and 16th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.



## California Fruit Exchange

(INCORPORATED.)

Head Office:  
**SACRAMENTO, CALIFORNIA**

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't Rot. Metal in Bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe.

Machine Banded Stave Pipe.

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

268 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

**Red Gum** for  
**Sugar Gum** timber,  
**Gray Gum** posts, piles,  
**Desert Gum** poles, etc.

Best Four. Get Our Prices.

Cling and Free Peaches, Apricots, Almonds, Cherrels, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and Monterey Cypress, Pine, Cedar, etc.

**Leonard Coates Nursery Co., Inc.**  
Morganhill, Santa Clara Co., Cal.

### ORANGE SEED BED STOCK

We have a fine lot of stock grown from seed of the California sweet seedling or Tahite, and from the Florida Sour orange, the latter being resistant to gum disease.

Get your order in early, before we are sold out. Planting may begin now.

**SOUTHLAND NURSERIES,**  
F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.  
Largest Citrus seedling nurseries in the State.

### Eucalyptus

**Red Gum Sugar Gum**

6 to 12 inches.

In Flats F. O. B. \$15 to \$18 per 1000  
Packed and Prepaid to you by Express,  
\$2.50 per 100—\$23 per 1000

**HENRY SHAW,**

320 River St. Santa Cruz, Cal.

## Entomological.

### The Melon Aphis.

The melon aphis or louse is a great pest of the canteloupe growers everywhere and arrived early after the establishment of the export canteloupe business in the new districts afar the so-called Colorado desert of southeastern California. Prof. C. W. Woodworth of the entomological department of the University of California has taken up the study of this pest in connection with the insect work which will be done under his supervision will the Southern California Pathological Laboratory at Whittier as a base. He has issued the following preliminary statement:

Every year there is more or less loss experienced by canteloupe growers due to the work of the melon aphis. This plant louse is now present all over the valley, particularly common on pepper-grass and more rarely on alfalfa, and as soon as the canteloupes are out of the ground they will be in danger of becoming infested.

Every grower of canteloupes should therefore take immediate measures for the destruction of all such weeds as pepper-grass along ditch banks and roads for a quarter of a mile at least from the field he is planting to this crop, particularly toward the direction of the prevailing winds. Alfalfa fields should also be very closely pastured for the next few weeks so as to remove all rank growth which serves as food for these insects.

The melon aphis is a very widespread pest, being found all over the United States, and attacking a larger number of kinds of plants than any other species of aphis. It was first described as a pest on cotton, and is the common black aphis of citrus trees, and attacks a large list of weeds, including pepper-grass, pig-weed and dock.

The full-grown aphis are of two kinds—a very prolific, wingless form and a wandering winged form. The wingless lice are produced when the conditions are most favorable for growth. Their rate of reproduction is inconceivably rapid. A single aphid could easily have many hundred million descendants in a month. The winged form, while very much less prolific than the other, is quite as important to the grower, since it is the means by which the species distributes itself. When a winged louse finds a favorable spot it settles down, and is soon surrounded by a prosperous family of the wingless kind.

All the individuals in the case of this species are females; males have never been seen, and all bring forth living young as far as observations have gone, except that once in Illinois what appears to be the same insect was discovered depositing eggs on strawberry plants late one fall. It is probable, therefore, that in regions where there is a long winter an egg-laying form is developed. Aere in California the insect is active all winter, and eggs may never be produced.

The idea is quite prevalent that the ants that attend them and feed on their excretions in the summer take care of them over winter. One species of ant has been proven to do just this thing in the case of another species of aphid attacking the roots of corn. There does not seem to be any evidence, however, that anything of the kind occurs here. Small colonies are not usually accompanied by ants. The honey-like secretion of the lice is so attractive to ants, however, that before a colony of lice becomes very large the ants will usually have discovered it and then remain in constant attendance.

No other species of plant lice presents in a more striking form the phenomenon of the complete disappearance of apparently prosperous colonies. One may see today a thriving colony where everything seems favorable for their growth and continued development, and the next time one looks for it only a few cast-off skins, and perhaps a few mummies of parasitized or fungus-infested



individuals remain to mark where before there were hundreds or thousands of living creatures.

If there are a few ladybirds present they are usually credited with having eaten them up, but I have never seen ladybirds abundant enough to eat more than a very small fraction of the number present, and the disappearance is equally as sudden and complete where no ladybird or other predaceous or parasitic insect is present.

These disappearances are probably due to some general condition, since a whole orange grove, for instance will become suddenly free from this aphid. In the melon field one may be badly injured, and the next one scarcely at all, though both may have been apparently nearly equally infested. In one case the colonies thrived, and the succumbed. One of the lines of study the writer proposes to take up this season is to determine if it is possible to so control the conditions of a field that the plant lice cannot thrive.

The measures usually recommended for this insect are spraying with kerosene emulsion or with tobacco decoction, or fumigation with carbon bisulfide, nicotine or cyanide. We may experiment along all of these lines this season. Melon vines are very difficult to spray, but could be handled at an expense of somewhere between \$5 and \$10 an acre. Fumigation, while proven to be very effective on a small scale, has never been developed into a practical method for large scale work for field crops. After it is put on a practical basis, and one has gone to the expense of suitable covers or tents, the actual cost of treatment would probably not be very much greater than for spraying. It is doubtful, however, if either of these will be practical under our conditions.

At the present time the measures we recommend as follows:

First—Look after the weeds as suggested at the beginning of this article. The lice flying from weeds or from alfalfa fields, as far as we know, are the sole source of the infestation of a field, and pepper-grass is by far the most important source. Especially should one look out for weeds to the windward, since the direction of their flight is largely determined by the wind. This preventative measure is of prime importance.

Second—Keep watch of the fields and annihilate every colony as soon as found. Each insect flying into a field and establishing itself upon a plant will usually then cease its wanderings, and thus infest only a single plant, and may be discovered before it has infested more than a single leaf or the growing tips of a vine. This work of inspecting should be kept up until the infestation begins to become too general to cope with, and by that time perhaps the worst damage from insects will have passed.

#### An Unmerciful Man.

To the Editor: When I saw a lazy barbarian riding one of the horses that was walking over soft plowed ground hitched to a harrow, it occurred to me that some men have no feeling for their fellow brutes. Any one failing to get civilized by the gospel would do himself and all animal creation a favor if he would read evolution. Or anyone, for that matter, who loves kindness and wants to be more merciful, should read everything on evolution he can get hold of.

H. E. DYE.

Visalia.

Probably neither the gospel nor evolution, nor an angel from heaven will help some men. Nothing but the hind leg of the abused beast would move them, and the beast does not know it.

#### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts., San Francisco.



**R**IPE grain waits for no man.

The loss of golden hours in the field means the loss of golden grain and the loss of golden profits.

So the profits that you make from your grain depend upon your harvesting machines.

Trouble and tinkering, breakdowns and delays through unreliable machines would mean the loss of time and money—would mean needless expense and worry.

You cannot afford to risk your profits on doubtful harvesting machines.

And there is no reason why you should.

Because you know the machines you can always depend upon.

Since the click of the first reaper—more than two hundred concerns have offered harvesting machines to the farmers.

Out of these two hundred and odd, over one hundred and ninety, up to the present time, have disappeared because their machines were not right.

This means that thousands of farmers tried such machines, lost money through them and condemned them.

Through these years of "testing" the farmers found the best and placed their greatest confidence in six machines.

You know the machines that have earned first place through this test of time.

And you know that the

**Champion, McCormick, Osborne,  
Deering, Milwaukee, Plano,  
Harvesting Machines**

hold their undisputedly supreme position today—

—Because they are right—

—Because they have always done the best work—

—Because they have always satisfied their users—

Because they have proved by many years of use that they can always be depended upon.

That is the reason (there can be no other) they have earned the approval of the farmers.

This means that they have withstood all the tests of all conditions of harvest fields everywhere.

It means that they are built on the right principles.

It means that, of the numberless types of harvesting machines put out in the years past, these embody the ideas that have been most successful in actual work.

It means that they are the net result of all the good that has been developed in a half century's experience and experiment and that there is no feature about them that is untried or experimental.

**WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.**

### INTERNATIONAL HARVESTER COMPANY OF AMERICA

(INCORPORATED)

Chicago,

U. S. A.

**International Line:—Binders, Reapers, Headers, Header-Binders, Corn Binders, Corn Shocks, Corn Pickers, Huskers and Shredders, Corn Shellers, Mowers, Hay Tedders, Hay Rakes, Sweep Rakes, Hay Loaders, Hay Stackers, Hay Balers, Feed Grinders, Knife Grinders, Cream Separators, Gasoline Engines, Pumping Jacks, Manure Spreaders, Weber Wagons, Columbus Wagons, New Bettendorf Wagons and Steel King Wagons, and Binder Twine.**



## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.

## TAKE ADVANTAGE of the opportunity

THE ALL-AROUND TILTON APRICOT  
Is offered at special rates by the introducer.

### HANFORD NURSERY

Hanford, Kings County, California.



## THE MARKETS.

San Francisco, March 10.

## WHEAT.

For several days past the wheat market has shown signs of improvement, with more inquiry all round, and more trading than has been done for some time. Prices accordingly have been more or less changed, with a general tendency to advance. California club and milling grades are held for higher figures, and northern red and club are also a little higher. California white Australian, on the other hand, is lower at the inside price, and there has been some decline in lower grades and northern bluestem. As there has been no improvement in the flour market, little buying is being done for the mills. At present, the market is quiet, and easier than for the last few days, in sympathy with a weaker feeling in the east. Future business is dull, with little change in prices.

California White Australian..	1.65 @ 1.70
California Club.....	1.60 @ 1.65
California Milling.....	1.65 @ 1.70
California lower grades.....	1.30 @ 1.50
Northern Club.....	1.57 1/2 @ 1.62 1/2
Northern Bluestem.....	1.62 1/2 @ 1.65
Northern Red.....	1.57 1/2 @ 1.62 1/2

## BARLEY.

Receipts of barley are ample, and the market has been very dull most of the week. There is still no movement in either brewing or Chevalier, and the shipping business is very light compared with former years. The speculative market is easier than last week. Feed grades, however, are firm, and sellers have been asking as high as \$1.37 1/2 for choice grain. Little is selling at present under \$1.35. Shipping grain is weaker.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.32 1/2 @ 1.35
Common to Fair.....	1.25 @ 1.30
Shipping.....	1.35 @ 1.40

## OATS.

There are several changes in prices of oats, several varieties showing a decline. No large lines are being brought in from any quarter, but buyers show very little interest in the little that is offered, and will take only what is immediately needed. Quotations are still given for seed red, as there have been occasional sales, but the movement is practically over. Red feed is a little weaker, and both gray and white show considerable decline.

Choice Red, per ctl.....	\$1.40 @ 1.55
Gray.....	1.42 1/2 @ 1.50
White.....	1.42 1/2 @ 1.60
Choice Red, for seed.....	1.65 @ 1.75

## CORN.

There is considerably more corn in the warehouses than a month ago, but supplies are still very light. Shipments from the western States have again fallen off, no arrivals of any moment being reported for the week. A large lot of Egyptian has arrived, but had no effect on the market. The movement remains small, with no change in prices except a slight advance in western white and mixed.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.65 @
White.....	Nominal
Western State sacked Yellow, new.....	1.60 @ 1.65
White, in bulk.....	1.54 @
Mixed, in bulk.....	1.52 @
Brown Egyptian.....	1.37 1/2 @ 1.42 1/2
White Egyptian.....	1.60 @ 1.70

## RYE.

Some rye has come in from California points, but arrivals are small, and little interest is taken in them. There are occasional sales at quoted prices, but the market shows little feature at present.

California.....	\$1.47 1/2 @ 1.52 1/2
-----------------	-----------------------

## BEANS.

On account of the general shortage of crops in this country, Boston dealers have ordered a cargo of beans from France, which is now due. The shipping movement seems to be falling off just at present. Stocks held here are lighter than for several years at this season. There are a good many damaged limas offering on this market, and as they are not in much demand, some have been secured

as low as \$4.40. Prices in general hold about steady, garvanzos being higher, and blackeyes a little lower.

Bayos, per ctl.....	\$3.00 @ 3.15
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @
Cranberry Beans.....	2.90 @ 3.25
Garvanzos.....	3.50 @ 4.00
Horse Beans.....	2.25 @ 2.75
Small White.....	3.40 @ 3.60
Large White.....	3.30 @ 3.50
Limas.....	4.50 @ 4.70
Pea.....	3.50 @ 3.75
Pink.....	3.10 @ 3.25
Red.....	3.50 @
Red Kidneys.....	3.25 @

## SEEDS.

The urgent demand for seeds has fallen off a little during the last few weeks, and the market is described as quiet. There is still some buying, however, and a firm tone prevails on most lines. Canary is higher. Yellow mustard is normal, but flaxseed is now offering at 3 cents in carload lots.

Utah Alfalfa.....	18 @ 19 c
Turkestan alfalfa.....	18 @ 19 c
Alfalfa.....	17 1/2 @ 18 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3 1/2 c
Canary.....	4 @ 4 1/2 c
Flaxseed.....	3 @
Hemp.....	4 @ 4 1/2 c
Millet.....	23 @ 3 1/2 c
Timothy.....	7 @ 7 1/2 c
Yellow Mustard.....	Nominal.

## FLOUR.

No further change in price is noted on any grade. The market is very quiet, business being confined almost entirely to the local demand, and few of the mills are running full time.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.75 @ 5.25

## HAY.

Market conditions seem on the whole to be better than for some weeks past, though there has been no particular change in prices. Receipts have increased slightly, but not sufficiently to overload the market. Reports from the interior are favorable. Most of the hay centers have been sending out considerable quantities to other points in the interior and now have only moderate quantities on hand. If this continues it will serve to steady the market here and prevent any overloading for the time being. Crop conditions are still good, and if the present outlook and present grain prices continue, not any too much of the growing crop will be cut for hay.

Choice Wheat, per ton.....	\$15.50 @ 16.50
Other Grades Wheat.....	10.00 @ 15.00
Wheat and Oat.....	10.00 @ 15.00
Tame Oat.....	10.00 @ 14.50
Wild Oat.....	9.00 @ 12.50
Alfalfa.....	9.00 @ 13.50
Stock.....	7.50 @ 9.50
Straw, per bale.....	50 @ 90 c

## MILLSTUFFS.

The situation in regard to bran and shorts is becoming considerably easier, as the demand is falling off with the increase in green feed. The northern mills, also, are sending in quotations again, and with increased arrivals, stocks are sufficient for present needs. Prices, however, remain as for the last few weeks, though they are unusually high, and a decline is expected. Other feedstuffs show no feature.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing.....	23.00 @
Bran, ton.....	30.00 @ 31.50
Broom Corn Feed, per ctl.....	90 c @ 1.00
Cocoonut Cake or Meal at Mills (in 10-ton lots).....	27.00 @
Jobbing.....	28.00 @
Corn Meal.....	34.00 @
Cracked Corn.....	35.00 @
Mealalfa.....	22.00 @
Jobbing.....	23.00 @
Middlings.....	33.00 @ 35.00
Mixed Feeds.....	26.00 @ 27.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Roller Barley.....	28.50 @ 30.00
Shorts.....	31.00 @ 32.50

## POULTRY.

This week's market opened very firm, with nothing left over, and higher prices asked on several lines. Two cars of large eastern hens have come in, and sold off rapidly at about \$8.50. Receipts of

California stock have continued very light, and all descriptions move rapidly at firm figures. Broilers and fryers are in good demand, selling about 50 cents higher. Occasional shipments of turkeys have come in, and sold without difficulty at a wide range of prices. Ducks and geese are firm, with limited supplies, but squabs are lower.

Broilers.....	\$5.50 @ 6.50
Small Broilers.....	4.50 @ 5.50
Ducks.....	4.10 @ 7.00
Fryers.....	6.50 @ 7.50
Geese.....	2.00 @ 2.50
Hens, extra.....	7.00 @ 9.00
Hens, per doz.....	6.00 @ 7.00
Small Hens.....	5.00 @ 5.50
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	6.50 @ 8.50
Pigeons.....	1.00 @ 1.25
Squabs.....	2.50 @ 3.00

## BUTTER.

Butter continues to decline, with liberal arrivals coming in all the time from all producing districts on the Coast. San Joaquin valley stock is arriving from as far south as Fresno. The demand here and in the bay towns is only of moderate proportions, and it is hoped that the lower range of prices will bring more orders from the north, which has not taken much for several days. Quotations are no longer given on storage grades, as they are entirely out of the market, but No. 1 fresh packing stock is offered at 18 1/2 cents.

Cal. (extras) per lb.....	24 c
Firsts.....	23 c
Seconds.....	21 1/2 c
Thirds.....	
Fresh Packing Stock, No. 1.....	18 1/2 c

## EGGS.

Eggs have fallen off another cent, as supplies have continued to accumulate. Some large orders for shipment were filled a few days ago, but there is no outside demand of any consequence at present, and arrivals are far ahead of the local demand. It was said recently that there would be no early storing this year, but some of the large receivers have begun to put their surplus into the ice-houses, as there is no other way to dispose of it.

California (extra) per doz.....	16 c
Firsts.....	15 1/2 c
Seconds.....	15 c
Thirds.....	14 c

## CHEESE.

Cheese is again rather quiet, and the market is unsettled, with considerable fluctuation of prices. Arrivals, however, are hardly as large as they have been, and the market is about steady. The advance in California flats did not remain long, and they are again quoted at 11 1/2 cents. Other grades are about as last quoted.

Fancy California Flats, per lb.....	11 1/2 c
Firsts.....	11 c
New Young Americas, Fancy.....	13 c
Storage, do.....	
Eastern, New.....	Nominal
Eastern, Storage.....	17 1/2 c
Cal. Storage, Fancy flats.....	
Oregon, Fancy.....	12 1/2 c

## POTATOES.

The potato market is more favorable to sellers than it has been for some time. There is a very good demand for choice stock at present, with prices as before, and good lots are disposed of with little difficulty. Receipts of river goods are still large, and as they are mostly inferior, lower prices are quoted on them. Small lots of new potatoes from the Bay district are bringing 5 or 6 cents a pound.

Oregon Burbanks.....	75 @ 1.00
Burbanks, Salinas, ctl.....	75 @ 1.10
Lompoc Burbanks.....	1.00 @ 1.25
Burbanks, River, bag.....	40 @ 85
Early Rose, ctl.....	1.25 @ 1.35
Seed Potatoes.....	75 @ 90
Sweet Potatoes, per ctl.....	3.00 @ 3.50
New Potatoes, lb.....	5 @ 6

## VEGETABLES.

Eastern and Japanese onions are still quoted, but are almost out of the market. Oregon stock has been closely cleaned up, and a car arriving early this week was quickly closed out. Garlic is becoming scarce, and has again advanced. Asparagus is still plentiful, prices remaining steady. Choice Bay peas now bring up to 15 cents. Rhubarb is lower, with a large increase in arrivals. Other lines are generally firm.

Garlic, per lb.....	5 @ 15 c
Green Peas, per lb.....	12 1/2 @ 15 c
Chile Peppers, per lb.....	3 @ 8 c
Bell Peppers.....	10 @ 15 c
Cabbage, per ctl.....	50 @ 60 c

## Onions—

Oregon Yellow, per ctl.....	3.15 @ 3.25
Eastern Yellow.....	2.75 @ 3.00
Japanese.....	3.25 @
String beans, per lb.....	20 @
Tomatoes, box.....	1.50 @ 2.50
Marrowfat Squash, per ton.....	10.00 @ 15.00
Carrots, sack.....	75 @
Hubbard Squash, ton.....	10.00 @ 15.00
Celery, crate, small.....	1.00 @ 1.25
Egg Plant, lb.....	20 @
Rhubarb, lb.....	5 @ 7 c
Mushrooms, box.....	75 @ 1.50
Asparagus, lb.....	10 @ 20 c

## FRESH FRUITS.

There is little movement of apples, and with plentiful stocks prices are inclined to drag. A good many strawberries are coming in, but are mostly green and unattractive, and sell slowly at the high prices asked.

Apples, fancy.....	1.00 @ 1.75
Apples, common to choice.....	60 @ 1.00
Strawberries, crate.....	1.50 @ 2.00

## CITRUS FRUITS.

On account of the advance in prices at the growing centers, local dealers ordered large shipments of oranges several days ago. These have just arrived, on top of considerable stock left over, and while there is a fair demand, the market still remains weak. Lemons are in more demand, and repacked limes are again higher.

Choice Lemons.....	\$1.50 @ 2.00
Fancy Lemons.....	2.00 @ 2.50
Standard.....	75 @ 1.25
Limes, repacked.....	7.00 @ 8.00
Oranges—	
Fancy.....	1.75 @ 2.00
Standard.....	1.25 @ 1.60
Tangerines, large box.....	1.00 @ 1.25
Grape Fruit.....	2.50 @ 3.00

## DRIED FRUITS.

Prices on all fruits except prunes, which are a little lower, remain as formerly quoted. Some lines of raisins no longer bring top quotations. Seeded are lower. All descriptions are quiet, but holders here expect to effect a good clearance. There is said to be considerable loss of raisins in growing sections from the dampness of the last few weeks. Peaches are unsettled in the east, as large quantities have been sold at low prices.

Evaporated Apples.....	6 1/2 @ 8 1/2 c
Figs, black.....	2 1/2 @ 3 c
do white.....	3 @ 3 1/2 c
Apricots, per lb.....	16 @ 20 c
Peaches.....	9 @ 10 1/2 c
Prunes, 4-size basis, 1907 crop.....	3 1/2 @ 3 3/4 c
Pears.....	8 1/2 @ 11 c

## RAISINS.

2 Crown.....	4 1/2 @
3 Crown.....	4 1/2 @
4 Crown.....	4 1/2 @
Seeded, per lb.....	5 1/2 @ 6 1/2 c
Seedless Sultanias.....	4 1/2 @ 4 1/2 c
London Layers, per box.....	\$1.20 @ 1.30
London Layers, cluster.....	1.50 @ 2.00

## NUTS.

No change in the prices of nuts has so far taken place, though some dealers are looking for an advance in walnuts. The market is still quiet. It is said that some damage has been done to this year's almond crop by frost.

Almonds, Nonpareils.....	15 c
IX L.....	14 1/2 c
Ne Plus Ultra.....	14 c
Drakes.....	13 c
Languedoc.....	12 c
Hardshell.....	8 c
Walnuts, Softshell No. 1.....	14 1/2 c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @ 12 1/2 c

## HONEY.

Honey remains quite firm at prices that have prevailed for some time. There is none of much consequence coming in at present, and with a limited demand the market shows no great activity.

Water White, Comb.....	16 @ 17 c
White.....	15 @
Water-white, extracted.....	8 @ 8 1/2 c
Light Amber, extracted.....	7 @ 7 1/2 c
Dark Amber and candied.....	6 1/2 @ 5 1/2 c

## WOOL.

The spring clip of Oregon mohair will soon be on the market. California wools are persistently neglected, as there is little activity at the eastern mills, and prices show no improvement.



Spring-clip, Humboldt and Mendocino, year's staple.....	20 @ 22 c
Fall clip: Northern free, mountain.....	7 @ 10 c
do. defective.....	6 @ 7 1/2 c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @ 10 c
Fall Lambs, Southern.....	6 @ 8 c
Nevada.....	12 @ 15 c

## HOPS.

The spot market for hops remains unchanged, with little trading, and the outlook shows no material improvement. Sales are reported in Oregon at 5 1/2 cents, and some are being shipped to England.

1906 crop.....	11 @ 2 1/2 c
1907 crop.....	4 1/2 @ 6 1/2 c
1908 (contracts).....	9 @ 10 c
3 to 5 year contracts.....	10 @ 11 c

## MEAT.

Packers are buying a few hogs, but the movement is light. Small veal is lower and weak. Spring lamb also shows an easier tone. Otherwise the market shows no notable change.

Beef: Steers, per lb.....	7 1/2 @ 8 c
Cows.....	6 1/2 @ 7 1/2 c
Heifers.....	6 1/2 @ 7 1/2 c
Veal: Large.....	7 @ 8 1/2 c
Small.....	7 1/2 @ 9 c
Mutton: Wethers.....	11 @ 12 c
Ewes.....	10 1/2 @ 11 c
Lamb.....	12 1/2 @ 13 1/2 c
Spring lamb.....	14 @ 15 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 1/2 @ 10 c

## LIVESTOCK

Steers, No. 1.....	8 1/2 @ 9 c
No. 2.....	7 1/2 @ 8 c
No. 3.....	6 1/2 @ 7 c
Cows and Heifers, No. 1.....	6 1/2 @ 7 c
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	3 1/2 @ 4 c

# TREES

Best Stock on the Coast  
Every Tree True to Name

## CITRUS

Any quantity in all of the leading Standard Varieties. All grown at Exeter, where they develop perfectly.

## DECIDUOUS

The best of everything in all sorts, strong and healthy, well developed roots. Properly packed and shipped promptly or when desired. Place your orders now.

# BURBANKS NEW CREATIONS

We are sole propagators and disseminators

**Santa Rosa Plum**  
**Rutland Plumcot, Gaviota Plum**  
**Formosa Plum, Vesuvius Plum**  
**Royal and Paradox Walnuts**

Send 10c. for our valuable booklet, beautifully illustrated in colors, which tells all about these wonderful new creations.

## GRAPEVINES

On their own roots and grafted on Phylloxera Resistant Roots.

**Callmyrna Figs, Ornamental Trees, Roses, Palms, Plants.**

Our large new catalogue sent free.

PAID-UP CAPITAL \$200,000.00

# FANCHER CREEK NURSERIES

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

Calves, Light.....	5 @ 5 1/2 c
Medium.....	4 1/2 @ 5 c
Heavy.....	4 @ 4 1/2 c
Sheep, Wethers.....	5 1/2 @ 6 c
Ewes.....	5 @ 5 1/2 c
Lambs, yearlings.....	6 @ 7 c
Hogs, 100 to 200 lbs.....	5 1/2 @ 6 c
200 to 300 lbs.....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.,** Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH,** breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE—Shorthorned Durhams.** Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## POULTRY.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

**GEO. C. ROEDING,** Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, Duroc HOGS.** Choice, thoroughbred Poultry. **William Niles & Co.,** Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

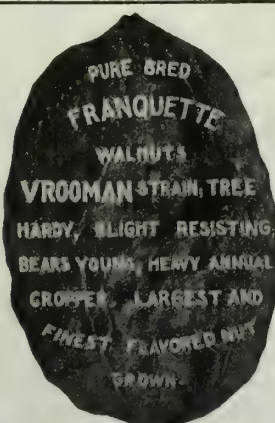
17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

**POULTRY SUPPLIES**  
of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 51, 361 McAllister St., S. F.



Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.  
Salesmen Wanted.

**CONOVER'S COLOSSAL ASPARAGUS PLANTS.**

Plants exceptionally strong and true to name. Price given on application. Address  
**W. A. Stewart,**  
Rio Vista, Cal.

**For Sale: Jerusalem Artichokes**  
THE GREAT WINTER HOG FEED  
Address  
**Fancher Creek Nurseries, Fresno, California.**

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**

Importer and Breeder of

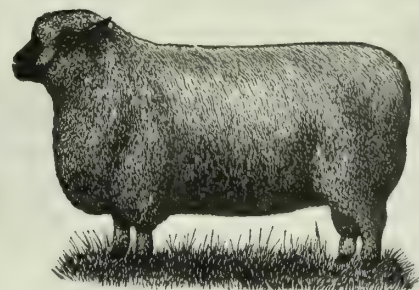
## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.  
Address all communications PETALUMA, SO-NOMA CO., CAL.



**FRANK A. MECHAM**

Importer and Breeder of Shropshire Sheep  
They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

**W. SULLIVAN,**

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges  
Capacity 500 Boxes a Day  
Runs Easily by Foot Power  
Cannot Damage the Fruit  
Price \$50.00

**WRIGHT BROTHERS,**  
Riverside, Cal.

2000 Phillip Cling Peaches 2-3 ft.	10c Each
2000 Early Crawford " " " "	" " " "
1000 Elberta " " " "	" " " "
1000 Kelsey Plums " " " "	" " " "
1000 Diamond " " " "	" " " "
1000 Grand Duke Plums " " " "	" " " "
5000 Bartlett Pears 3-4 " "	" " " "

All healthy and fine rooted trees

**GOLDEN RULE NURSERY**

Loomis, Placer County, California.

## INDEX TO ADVERTISERS

## Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	169
Beckman, Geo. V.....	175
Bird & Co., J. A. & W.....	172
Blake, Moffitt & Towne.....	169
Bosanko Medicine Co., Dr.....	169
Breeders' Directory.....	175
California Fruit Exchange.....	172
Coates Nursery Co., Leonard.....	172
Covina Nurseries.....	171
Croley, George H.....	175
Cutter Laboratory, The.....	172
De Laval Dairy Supply Co.....	167
Deming Co., The.....	167
Dewey, Strong & Co.....	169, 170
Dietz Company, R. E.....	169
Disbrow, F. H.....	172
Driver, E. S.....	175
Fancher Creek Nurseries.....	175
Fresno Agricultural Works.....	170
Fresno Nursery.....	170
German Kall Works.....	175
Golden Rule Nursery.....	175
Hanford Nursery.....	173
Hamlin School, The.....	168
Hart, Ed.....	175
Hess & Clark, Dr.....	170
Holcombe & Co., R. A.....	170
Howard Cattle Co.....	175
Hoyt's Tree Support Co.....	170
Imperial Walnut Nursery Co.....	170
International Harvester Co.....	171, 173
Jackson & Co., T. W.....	172
Lawrence-Williams Co.....	167
Lister, Henry B.....	173
Lynch, John.....	175
McClanahan, E. E.....	171
Meacham, Frank A.....	175
Mexican Central Railway.....	169
Morse & Co., C. C.....	171
Mountain Copper Co.....	170
National Wood Pipe Co.....	172
Niles & Co., Wm.....	175
Oakland Poultry Yards.....	175
Orange County Nursery & Land Co.....	166
Oregon Nursery Co.....	175
Pacific Coast Business College.....	169
Pear Blight Remedy Co.....	167
Roeding, Geo. C.....	175
Seulberger, J.....	175
Shaw, Henry.....	172
Sharples Separator Co.....	176
Silva & Bergholdt Co.....	166
Simmons Hardware Co.....	170
Smith, Francis.....	170
Standard Oil Co.....	170
Stewart, W. A.....	175
Stowe, C. A.....	175
Sullivan, W.....	175
Sunset Magazine.....	169
Sure Hatch Incubator Co.....	175
Teague, R. M.....	172
Temple Pump Co.....	172
Tower Co., A. J.....	171
Trumbull Seed Co.....	171
Tuttle's Elixir Co.....	175
Van Der Naillen, A.....	169
Vermont Farm Machine Co.....	175
Wagner, J. B.....	175
Waite, Thos.....	167
West Coast Cresol Dip.....	167
Western Meat Co.....	166
Wright Brothers.....	175

High In Quality Low In Price

## OUR SEEDS GROW

**Vegetable, Flower and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$80 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.



# Back of the Bank Book

## Is the "Tubular" Cream Separator



EVERY dollar of the farmers' and dairymen's money in the banks of this country represents hard labor and wise economy. It represents head work as well as hand work. But it is a fact that the farmers and dairymen whose balances in the bank are the biggest are not always the men who work the hardest with their hands—nor even the ones who farm the most acres or milk the most cows. They are mostly the men who make every movement count by employing the latest appliances and the most economical methods in their work. They are the men who make mind master over muscle. Much of their wealth is therefore the

result of economy—the saving of what others waste. This means that they are always figuring on how to increase profits without increasing expenses. The first question with such men, when considering the purchase of a new machine is, not how much will it cost, but, **what will it do?** Will it save anything which now goes to waste? Will it do this profitably? That's the test we ask you to apply to the "Tubular."



### Saved Price in One Season.

CHERRYVALE, KAN.  
June 13, 1907.  
I can sell my butter to customers where I never could sell it before getting the separator. We milk six cows and it will make more than enough butter extra to pay for the machine in this one season.  
LAURA I. TURNER

### Twice as Much Cream.

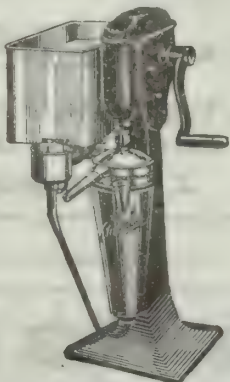
PINE BLUFFS, WYO.  
May 14, 1907.  
We get twice as much cream as we did skimming by hand. Tubulars soon pay for themselves.  
MRS. G. W. RUSSELL.

### Twice as Much Butter.

KAW, OKLAHOMA.  
April 24, 1907.  
Make about twice as much butter from seven cows, and of a better quality, than we did without it.  
MRS. MARELLA.

### Saved Cost in Six Months.

ALTAMONT, MO.  
April 24, 1907.  
We have a Sharples Tubular Separator No. 4, which we have run three seasons, and which paid for itself in the first six months it was run.  
ROSS DeFORD.



We ask you to apply this test because it will be to your interest to do so. If the "Tubular" will increase your profits without increasing your expenses you ought to have it. It will. It will make every cow you milk earn more money. That's why we want to put a "Tubular" back of your bank book. Thousands of farmers and dairymen testify to the merits of our machines. They say the "Tubular" pays for itself in a short time. When it has paid for itself all that it saves is clear profit for there's no expense—it won't cost you a dollar a year for repairs. We've built it so that it can't.

If you are economically inclined; if you want to save money and increase your bank account here's your chance. Our valuable book, "Business Dairying" will show you how, and our latest catalog tells all about the "Tubular." We'll send them both **free** if you will write today, ask for book No. 131.

## The Sharples Separator Co.,

WEST CHESTER, PA.

Toronto, Canada

San Francisco, Calif.

Chicago, Illinois

**The Best by Every Test**



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 12.

SAN FRANCISCO, SATURDAY, MARCH 21, 1908.

Thirty-eighth Year.

## MULES AND MOUNTAINS.

The almost summery temperature of the last two weeks, which is quite characteristic of March in the California valleys, reminds one that the season is advancing fast and that it will not be long before the thought of men will turn to the mountains for another season of elevated amusement or enterprise. In either case there is something else which is closely associated with mountains in this western country, and that is mules, or their half-parents, the donkeys. We have a weakness for these ill-born animals akin to admiration, involving appreciation of their picturesque, endurance and knowledge of their own business. It is difficult to see how the world would get along without them. In fact, the world has no notion of trying, and people are continually planning how to get more and better ones, even to introducing a new parentage, the result of which is the zebroid. How this progeny of the zebra and the mare will compare with the mule is still to be determined, while the mule is already determined to be about the best four-footed thing in the world for many purposes. Our pictures this week are suggestive of the relation between mules and mountains.

In his "Journeys of Observation," which treats of journeys in the mountains of the United States, as well as of Mexican journeys, to which we have thus far chiefly referred in the excerpts we have made, Mr. Rickard has a paragraph about mountain packing animals which is very interesting. He writes: "Members of our party who were unused to the mountain horse marveled at his sure-footedness as we scrambled down talus slopes and threaded our way among loose blocks of fallen rock. It is my experience that a good 'trail horse' will go almost anywhere that a man can go without using his hands, while the patient

burro (donkey) will walk safely over ledges that bring a tremor to the hearts of those who are not mountaineers. All the exploratory work of the Rocky Mountain regions was done by packing—that is, by the transport of supplies and machinery on the backs of animals. Both mules and donkeys are used in this service. When the former are employed they are strung out in a line and connected by rope. A man rides the leading mule and guides the whole cavalcade. Another man usually walks or rides in the rear. When burros

(the word 'donkey' being rarely heard in the western mountains) are engaged in packing they are not tied together, but each goes loose, and the owner drives them like a flock of sheep, though differing from the latter in that they have learned, from the narrowness of the trails, to walk in single file when that is required for safety. A mule will carry 250 pounds up-grade and 350 pounds down, while a burro can manage to carry an average of 200 pounds. The mule requires to be fed, but the burro can eke out a precarious existence on the scant grass of the mountain slopes, and for this reason he has been most serviceable to the pioneer and the prospector; if the camel be named 'the ship of the desert,' the patient long-eared friend of the mountaineer may well be christened 'the porter of the hills.' "

Of course, one who thinks only of the mule in the mountains does rank injustice to the animal. He is a prime motive power in all sorts of lowland industry also, and he goes also contentedly and effectively into the very bowels of the earth in the service of mankind. In peace and in war, in exploration and in development, in the everyday toil of old-settled industry, the mule is a large figure, and one which is constantly enlarging. A writer in the *Breeders' Gazette* recently gave three reasons for the present high commercial value of the mule in the United States: Several causes have operated to make the present mule trade active and very strong at the best recorded prices. First, there was the elimination of the smaller sizes, which went to be killed in the Boer rebellion in South Africa. This exodus of diminutive mules from the United States made for an increase in price of those that were left, for the most of the available supply at the time left their country for their country's good.



Pack Train Unloading at Mountain Destination.



Packing Lumber Into Places Beyond Reach of Vehicles.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

There is naturally a keen desire in the hearts of the Riverside people, and of all others who expect to attend the Fruit Growers' Convention which will be held in Riverside at the month-end of April, that Mr. Luther Burbank of Santa Rosa shall personally participate in the proceedings of that notable four-days' meeting. We have a letter from the local committee of arrangements for that meeting, that we use our "utmost influence with Mr. Burbank to bring him to the convention." In the old days we should have packed our grip and departed at once for Santa Rosa and have laid fast hold upon one of Mr. Burbank's lower extremities and have pulled upon it until he consented to go to Riverside. These newer days have a newer way. President Roosevelt has declared, and shown by his practice, that the way to accomplish great things is no longer by connubiation and pull, but by the whitest-lighted publicity to create an irresistible public sentiment which those who are desired to do good things cannot escape from. Therefore we give notice to Mr. Burbank that he must be in Riverside from April 28 to May 1, and we call upon all other "moulders of public opinion" to get after Mr. Burbank in the same line!

A very interesting declaration is informally made by the Northwest Horticulturist that Dr. George G. Hedgecock, assistant in pathology, U. S. Department of Agriculture, has been investigating, among other diseases, the apple crown-gall in the nurseries and orchards, both on the Pacific Coast and also in the Mississippi Valley, and has come to the conclusion that apple crown-gall is not infectious. Therefore he would not call it a disease. It is akin in plants to warts on animals. Wherever trees are planted there are so-called crown-galls more or less, and while it is not advisable to plant apple trees with prominent crown-galls, the trees which are planted so that roots form above the enlargement are growing and bearing as well as those on which the gall does not appear. Several instances of this kind have been noted. A bulletin has been prepared by Dr. Hedgecock, now in press, which gives the report of his investigations. This crown-gall is supposed to be what is generally called root-knot in this State. It remains to be determined whether this excrescence on the apple root is identical with that on the almond, peach, and apricot roots, and whether they, too, must be freed from the charge of infectiousness which was placed upon them by the Arizona investigations a few years ago. If they are all thus liberated, it will make a great deal of difference with the quarantine practice of county horticultural commissioners and inspectors. It does not, however, make it desirable to plant trees with such abnormal growths upon them. They are certainly undesirable individually, even if they do not have the power of transmission.

There is progressive demonstration that the

prevalence of automobiles and other road motors is not reducing the value of horses, and this is true in the face of a constantly increased production of horses and mules. These facts are worth the widest publicity, because they warrant greater attention to horse and mule breeding. Statistics from Government sources show that the average prices of horses in Chicago in 1907, as compared with 1902, shows an increased value as follows: Draft horse, \$28; carriage pairs, \$32; driver, \$20; general use, each, \$20. The Agricultural Department statistics show an increase in 1907 over 1906 of 297,725 horses and mules in the United States. There are 8,237,449 more harness-using animals in the country now than there were eight years ago. There was a considerable decline in export demand owing to high prices in 1907, the total being \$3,608,119, as compared with \$4,914,999 in 1906. In December 1180 horses were exported, as compared with 1736 the corresponding month of 1906. This is significant because it shows that in spite of stringent times we have too much local use for horses to make them cheap enough for export. What will happen, then, when we feel the full swing of increased industrial activity in construction and development which now seems to be starting in? There is a wealth of suggestion in these facts for those who have capital to put into breeding farms and the best types of breeding animals. Probably the reward will be for the best alone.

What strange things the world wants to buy! This must be the exclamation of anyone who reads the consular reports which are now so zealously promotive of trade in anything produced on our soil which the world has any money for. For example, the value of gallstone as an article of commerce in Japan. Gallstone is, of course, the hard concretion which is found in the gall bladders of beef animals. We are assured that these gallstones can be sold in Japan, in quantity, all that can be secured, at high and profitable prices, varying somewhat according to quality. A Chicago slaughter-house firm, not knowing the value of it, sold their output to a Japanese importer at about \$15 per pound, upon which the importer realized \$100 per pound. In course of time the Chicago firm, by way of discovering the value of the stone, gradually increased their price; the quantity at the same time greatly increased, so that the house is yet exporting to Japan hundreds of dollars' worth monthly. Anyone interesting himself in the matter should have the livers of all animals slaughtered at abattoirs examined. The value of the article varies according to quality, the chief points being size, color, and texture of solidity. Samples should be mailed in tin boxes, each piece wrapped separately in soft cotton, not pressed hard, and not loose enough to shake about. Probably anyone interested can get information of buyers in Japan by corresponding with the United States Consul at Yokohama.

We believe there is no way that an originator of a new plant-variety can secure a patent thereon, although there has been much agitation of the desirability of such protection to originators. The curious announcement comes from Massachusetts that an originator hopes to protect himself by securing a patent upon the way he will graft the stock for sale. The statement is that a patent has been granted for the following graft:

"The herein described method of grafting, consisting of providing a scion, having buds thereon, then tapering one end of the scion longitudinally and laterally, one face of the tapered portion intersecting one of the buds on the scion, then entering the tapered end of the scion in an incision in

the end of the stock, the severed face of the bud being in line with the severed bark at one edge of the incision."

We have read this over several times and are not sure that we quite understand it, but must conclude that the good points we find in such a graft are not new, and what may be new is not of any importance. But suppose it is new, and no one can make such a graft without paying a royalty, what does it amount to? In order to make any such recourse effective the originator must produce a variety which can be grafted in that way and in no other way. This would surely be a novelty, and the originator would deserve all the protection he can get. Such a plant would be so peculiar a horticultural creation that it ought to be kept in a museum. If the plant can be worked in different ways, as all plants known to us can be, of what protection would a certain method of propagation be, whether it be either old or new? The claim is too deep for our top-knot.

And now cotton is to be systematically exploited in the wonderful Imperial Valley region of southeastern California. The report is that a group of Texans propose to secure 320 acres each, plant 1000 acres in cotton next year, and put up a gin. They have the capital and the experience, and they ask no assistance, organize no stock company, and need no encouragement other than what they derive from their study of conditions and their confidence that they can make the business more profitable here than elsewhere. Cotton has been grown experimentally, and the calculations based upon the product of a few plants make an acre yield several times as great as is realized in the Southern States. All this is possible. We are particularly interested in the way these projectors propose to handle the labor question. It is in this way: "In Texas we arrange with Mexicans to grow cotton on shares. The owner puts in the land and the team, the Mexican and his family cultivate and pick the crop, and he gets half the cotton. So the planter gets on an average about \$8 from an acre of land, which is hoped to be largely increased in California. It is the purpose of the Texans to bring with them Mexicans who understand cotton growing, and locate a family on every 40 acres. These people will attract others from below the line and teach them how to cultivate and pick cotton, and a resident class of cotton farmers will be established." All this is very interesting and will do to watch.

## Queries and Replies.

### The Difference in Clovers.

To the Editor: I want to ascertain if I can grow alfalfa on a given piece of land by knowing what natural growths on that land indicate that it will produce alfalfa. I have heard that alfalfa will grow wherever the clovers grow naturally. If this be so, that's an easy matter to determine. —Suburban, Petaluma.

The growth of clovers would be an indication of suitability of land for alfalfa, except in this respect, viz: many of our clovers are shallow-rooting and are supplied with fibrous roots which enable them to sustain themselves during the rainy season on land which may be too shallow, from the occurrence of hard-pan, or too full of standing water, to give good results with alfalfa. Alfalfa, as you know, has a deep, fleshy tap-root, and does not become long lived until it can send such a root to a considerable depth without encountering standing water. If, then, you can ascertain by digging that your soil has several feet of depth, free from water or clay, hardpan, etc., you



will have no trouble in getting a good stand of alfalfa. The amount of growth and the number of cuttings will depend entirely upon how many irrigations you have for it during the dry season, except that you will get fewer cuttings than they do in the interior valleys because you have less water.

#### Fertilizers for Citrus Fruits.

To the Editor: I have a bearing orchard of lemons and oranges, twelve years old, some more, some less. The lemons seem to be bearing very well, but the oranges are not. Most of the trees look healthy and a good color, and some have a pretty good supply of fruit, but many of them have very little. The land is in the Sespe canyon, level and rolling, of a reddish loam, and is naturally fertile. The orchard is not producing half what it should. It has never been fertilized much, and I think has not had especial care. There is plenty of water for irrigation. I am advised to use an artificial fertilizer at once—one that is immediately available for the trees. Now, the question I am unable to decide is, should I do that or wait for an analysis to show the needs of the soil. Judging from the quotations I have on the price of fertilizers, it will cost \$25 to \$35 an acre to put that on. All I know about the matter is, those trees need something to put fruit on them. The orange crop is not yet all picked. If you should advise the immediate application of fertilizer, what should I use, and where can I get it.—Owner, Ventura.

Make sure first that the trees are properly cared for, that cultivation is well done, and that the "plenty of water for irrigation" really gets to the roots of the trees. The need is not plenty for, but plenty in, in irrigation. Being sure that this is all well done, we should make an application of stable manure, which is a complete fertilizer and also contains plant food immediately available. If you have not that, a complete fertilizer, containing nitrogen, phosphoric acid, and potash, would be the next best thing. Correspond with those advertising fertilizers in our columns as to what they can furnish and the prices delivered at your railroad station.

#### Pruning Peaches and Lemons.

To the Editor: I have some lemon and peach trees which need cutting back, and not knowing how to do same, I write you for the information. The trees have so many branches shooting out that it seems that they should be cut back.—Suburban, Los Angeles.

It is a perfectly rational proposition to cut back both your lemon and peach trees, and you are right in thinking that such treatment is desirable. Possibly, also, there may be so many branches that some of them should be removed entirely in order to promote better interior growth. At the same time, you should guard against opening the tree too much, which may cause sun-burning. You would be safe at least in cutting back one-half of the growth of the last season and thinning out some of the twigs if there seem to be too many.

The lemon should be handled very much as the peach is, because both lemons and peaches bear fruit on the wood which is grown the year before; consequently it is desirable to always have a sufficient amount of new wood in the tree. The growth of new wood on deciduous trees is, of course, promoted by winter pruning.

#### You Must Tell by Trying.

To the Editor: Kindly inform me if water heavily charged with iron and sulphur is fit to irrigate small fruit, vegetables and fruit trees with? People in this neighborhood tell me that it is very hard to get things started anywhere here, no matter how pure the water, without first putting on plenty of manure, owing to the soil being so full of mineral. If that is the case, my chances for a garden are very slim, for the water

that I plan to irrigate with carries so much sulphur that I can smell it 300 feet away. The spring is known as a deer-lick, and both cattle and deer come there frequently.—Beginner, Carrville.

One cannot give a theoretical opinion concerning your conditions which would be of any value. The way to demonstrate whether you can have a garden is to try to make one. The probability is that the people in the vicinity are correct in their impression, but you should test it for yourself. The addition of manure may be for the purpose of plant food; it may be to open up the soil, that the fresh water may more easily wash out and carry away the excessive mineral matter present. The effort, then, to make a garden would enable you to study that question also, and, in fact, nothing but local experimentation would be of any value.

#### Low Land Vineyards.

To the Editor: I have a few acres of low land (bottom land) that is quite moist, and I would like to know the best variety of grape to plant there. You must consider the moisture, frost, etc.—A Subscriber, Stanislaus county.

We must ask you to consider these things yourself and try to ascertain by observation of what others have done in your vicinity, whether the place you have in mind is suitable for grapes at all. The answer would depend upon how much frost and when, how much water and when, because both are innocent in the dormant season of the vine and destructive when it is in active growth. Your land may be fine for grapes or it may be very dangerous. This depends upon local conditions, which must be learned by local observation and study. So far as we know, there is no difference in the starting time of different vines which carries any of them beyond the reach of spring frosts in places where such frosts are late and sharp.

#### Planting Cuttings.

To the Editor: I expect to plant about ten acres to vineyard this year. The land is rich bottom land, rather wet in winter. I saw an article in your paper on planting out cuttings with a dibble. What is a dibble? Is it made like a crowbar? My neighbors told me that not more than one-tenth of the cuttings planted with a crowbar would grow, as they had tried it. If my vineyard could be planted with a crowbar it would lessen the expense of putting out the vines about two-thirds. Is it best to put a cutting into the ground sloping or straight, and about at what angle, if any?—A Reader, Napa county.

Your neighbors are in all probability quite right. A "dibble" for vines is practically a crowbar—that is, it acts in about the same way. It should be only thought of for planting cuttings in a light deep valley loam which is "the same all the way down." It should not be even dreamed of for a heavy soil nor a shallow soil nor in a deeper soil which has hardpan or other indurated streaks. Plant your cuttings about straight. With a very light soil and a very long cutting, a slope is sometimes given to bring the lower part of the cutting nearer to the surface. There is not much in that.

#### Kansas Poison Not Like Ours.

To the Editor: Your comment on Professor Scheffer's bulletin on destroying pocket gophers (PACIFIC RURAL PRESS for January 11, 1908) seems to imply that the formula used in Kansas is identical with the one used in California and given in your comment. It is more probable that the California formula is an imitation of the original one patented by Mr. David W. Staples of Craft, Oklahoma, in 1891. However, the imitation is not very close. Kansas bought the right to use the poison from Mr. Staples, for use in destroying prairie dogs, and the investment was a

good one. Had it cost twenty times as much as it did, it would still have been an economical investment. About 2,000,000 acres of land occupied by prairie dogs were cleared of the pests at a cost, including labor, of less than 5 cents per acre. It has proved equally effective against the pocket gopher when properly used.—D. E. Lantz, U. S. Dept. Agr., Washington, D. C.

We are glad to have Mr. Lantz' statement on this subject. We had supposed that the combination of cyanide of potassium and strychnine with attractive lures was the essential feature of the patented preparation sold in the Central West and believe that the use of such combination in California antedates the patent mentioned by Mr. Lantz. We accept Mr. Lantz' assurance that they are not alike. When it is a question of rodents, Mr. Lantz knows what he is writing about.

#### Grafting on Pecan.

To the Editor: I have about a dozen pecan trees which have never borne any nuts. The trees are about twenty years old and are very strong and vigorous growers. Now, the question is, can they be grafted over to some other nut, such as Franquette or other English walnut?—Grower, Gilroy.

Other members of the hickory family will take, we believe, but not the English walnut. You had better consult Mr. Leonard Coates of Morgan Hill about getting pecan scions from trees known to bear, and graft over with them.

#### The Logan Berry.

To the Editor: Would you please state who created the Logan berry?—An Old Subscriber, Haywards.

Judge J. H. Logan of Santa Cruz was the originator.

#### Pure Burbanks.

To the Editor: Can you advise me where to get Burbank seed potatoes that are absolutely pure? So much of the Burbank stock is a mixture.—A. C. Auldon, Zilla, Wash.

We do not know. Sub-varieties of the Burbank, with claims of extra-valuable growth habit, productiveness, etc., are attaining some fame in different parts of California, but we have no authoritative knowledge of them. Whoever is doing something valuable in the way of selecting and establishing desirable types ought to be advertising it.

#### Budding Into Orange Stock.

To the Editor: Will you kindly inform me of the best month to bud some old seedling orange trees to lemons, limes, and pomelos. I have some old trees I cut back last year, and have a splendid new growth of wood admirably adapted to budding, but am in some doubt as to the best time to do the work.—Grower, Stanislaus county.

There is no calendar month for it, because it depends upon the tree and not upon the almanac. Take the first indication of sap flow by the start of new growth. The whole situation is rationally stated in the articles by Mr. E. L. Koethen in our issues of February 29 and March 7.

#### What Will Go Well on Sugar Prune?

To the Editor: Your answers to questions in issues of February 1 and 8 give me part of the information I want, but not all. I have 170 sugar prune trees which I wish to bud to peaches, or if better, to plums. I am sure they are on almond roots. Do you know if the peach has been tried on sugar prune wood, and if it does well? I have read of dissatisfaction with the sugar prune and thought probably this plan had been tried.—Subscriber, Fresno.

We do not know. Will some reader give experience with these buds or grafts?



## Horticulture.

### THE OLIVE IN THE SAN JOAQUIN.

In the course of his writing for the Fresno Republican, Mr. W. R. McIntosh makes the following references to the olive tree in his district:

According to the prices for last year's crop, scarcely anything grown in this valley equaled the value of the large Manzanillo and Mission olives.

Only a very few growers know that some choice large olives sold last fall at \$90 a ton, and, had it not been for the financial flurry, which came in the midst of the purchasing season, good olives would have averaged \$80 per ton. These figures should make growers sit up and take notice of this hardy and easily cultivated fruit.

The season opened with a short supply of pickled olives, and this stimulated the market greatly at the beginning. Moreover, San Joaquin valley olives are beginning to assert their superiority; for it is an undoubted fact that this valley is well adapted to growing the very best olives, not only for pickling, but for oil as well.

The superior qualities of our olives have induced at least two pickling firms from southern California to enter this territory as purchasers of high-class olives. One of these does business at San Diego; the other one is the American Olive Company of Los Angeles.

A successful local establishment is the Roeding Olive Company, which is just closing up a very prosperous season, wherein it paid growers all the way from \$30 to \$80 per ton for olives, the average price being about \$40 for the small oil olives, to \$65 for good pickling stock.

**Olive Trees as Windbreaks.**—Reference has already been made in this department to the desirability of olive trees, as affording not only the very best windbreaks for inside citrus orchards and avenue shade trees, but yielding a good income also—in short, a most valuable dual-purpose plant.

The plan of protecting small citrus orchards, and especially lemons, with rows of olive trees set zig-zag, on the west and northwest lines of such fruit, was strongly urged at the Clovis Farmers' Institute recently, where the subject of windbreaks came up for general discussion. It is known that olive trees do best and give their fruit most conveniently when trained low. This low training affords protection from biting winds, just where it is most needed—near the ground. This was the argument of our Clovis theorists.

I am now able to support the theory with at least one instance of an actual orchard test. Just west of the town of Lindsay, a Scotchman by the name of Cairns has a successful navel orange orchard which is protected on the north and west by three rows of olive trees. This orchard is not in the so-called 'thermal belt' of that region, but is a 'plains orchard,' being west of the railway, which is also west of the town of Lindsay. I have been assured that these olive rows guarantee protection to the enclosed orange orchard, good paying crops being gathered year after year, while the crops in unprotected orchards in the neighborhood are often seriously injured by low temperatures.

**A Local Company.**—The Roeding Olive Company has just closed its largest and most successful season, wherein it handled 1400 tons of olives, the product being 2000 barrels of pickled olives and about 20,000 gallons of oil. A small percentage of the pickled olives are from fully ripened fruit. These are put up in cans and bring a high price, being considered a great delicacy.

Lee D. Coates has charge of this establishment. He informed me that last season was a banner year among olive growers, the yield being large and the prices the very highest. In fact, the crop was so great that it outstripped the handling facilities. This firm secured its olives all the way from Porterville to Merced, the market being especially lucrative for good pickling olives.

The products of this firm are marketed all along the coast, from San Diego to Seattle, and in the larger cities of the East.

"Want of proper grading," said Mr. Coates, "has always militated against California olive pickles. We think we are now in a position, as a result of our new invention, to guarantee per-

fect grading, and thus greatly stimulate the Eastern demand for our olives."

Then, of course, I wanted to see the new grader in operation. The electric current was turned on, a quart or so of olives put into the 'contraption' hopper, and the operation of separating all sizes and styles of olives began. Five grades are made by this new machine, which is the joint product of George Roeding, Lee Coates, and Carl Anderson.

The grading is based on the olive's shortest diameter, and except for want of some minor details, which the inventors are still working on, it is apparently all that can be desired as a perfect and rapid grader.

I naturally plied Mr. Coates with many questions bearing upon the value of olives from the viewpoint of the grower. He favors the large varieties, saying that the smaller oil varieties could never bring the grower high prices, in view of the fact that the yield of oil from these is so small, being from 30 to 35 gallons only to the ton of fruit.

I inquired of Mr. Coates why it is that there are so many poor olive pickles in the Fresno stores. He said they came from small growers, who pickle their own olives in a careless manner and make no attempt at grading their fruit. These improperly prepared and carelessly pickled olives are, in a manner, forced on the merchants by 'customers' whom the dealers have not the courage to turn down. Many of them are using antiquated methods in handling and pickling olives. The product may be easily guessed.

**Varieties.**—The following varieties are especially commended: Large Mission, Manzanillo, Obliza, and Sevillano.

**Pruning the Olive Tree.**—Great care should be taken to start the young olive tree properly by careful methods of pruning. To begin with, the tree should be headed low, not over 18 inches from the ground, and a systematic method of shortening-in and thinning-out of the lateral branches should be followed the first four seasons, in order to develop a well shaped, vase-formed head. The prevailing idea that the olive tree requires no pruning is erroneous; for, without it, the tree sends up a mass of straight shoots, which, if allowed to grow unchecked, will present a bare and unsightly appearance, and the only fruit-bearing wood will be on the tips of the branches, and there will be very little even of this. If the tree has been properly trained while young the pruning in later years will be an easy matter, and the fruit-bearing branches will extend from close to the ground to the very top of the tree—an ideal condition for an olive tree.

### BUDDING BEARING ORANGE TREES.

In the PACIFIC RURAL PRESS of February 29 we had a preliminary account by Mr. E. L. Koethen of Riverside on preparing old citrus trees for budding over to more desirable varieties. In the Fruit World Mr. Koethen proceeds with the selection and treatment of the buds: In the selection of buds lies the first element of future success or failure. If the trees from which the buds are taken are not first class as to character of growth and fruit "Up to Type," failure must ensue. Not only must the grower decide on the variety but also on the strain to be used. It is not enough to tell the budder that navels or Valencias are wanted. He might use Thompson's improved. He might use first removed Washington navels, or he might use "any old thing" so it has a navel at the lower end. Most of the so-called Australian are simply spots developed because of carelessness in selecting buds, and this has been the cause of thousands, yes millions of dollars in the history of the industry to the unfortunate grower. You should be sure that the trees from which your buds are cut are just what you want and that they have a reputation for producing good fruit, and plenty of it. It is the same with the Valencias; there are good and poor strains. One may be best for one kind of soil, the other for the other kind. Study the matter up before getting your buds.

In budding stalks of small caliber with thin bark the insertion is very easy, and while the principle involved is the same in both, the work with the heavy bark is more difficult and requires more skill.

To insert the bud a vertical cut is made in the

bark first, just deep enough to cut to the sap wood the whole length of the cut. Then a vertical cut is made with a little twisting motion, so as to lift the bark at its intersection with the vertical cut. This makes it easy to slip the bud in. As far as we can see, it is immaterial whether the horizontal cut is made above or below the vertical cut. That is, we do not think it makes any difference if the bud is run up or down in the inserting. Sometimes one is more convenient and sometimes the other. For instance, in budding nursery stock low down it would be awkward to slip the bud up.

The bud is selected carefully. A well-developed eye is necessary, from a rounded twig. Triangular twigs render the buds deficient in bearing surface where it is cut, and comes in contact with the sap wood, except in the case of very small twigs, where it may be best in order to fit. The bud should be cut with a sharp thin blade, with a smooth plain surface. Such a surface will lay flat and smooth on the sap wood. Success depends largely upon the snugness with which it fits on the sap wood and with which the bark is held down so as to exclude air and keep the sap flowing about the inserted bud, and building tissue rapidly.

Where large limbs are budded, five or six, or even more, may be inserted in a circle around the limb. We have budded in this way trunks over a foot in diameter, where the tree was branched too high to make a good budded tree. We prefer these buds to be inserted about five feet from the ground in large seedlings.

In inserting buds in heavy bark, it is often necessary to pare the bark off about the buds in order to thin it down so that a smooth fit may be secured about the bud, but care must be exercised to keep it so that a good pressure may be secured in trying to hold all parts firm and snug, free from air contact.

The tying is best done with strong muslin dipped in pure beeswax. No grease or oil should be used. It might cheapen it, but the best is none too good, and there is nothing equal to pure beeswax.

The muslin is torn into narrow strips and wound about the limb carefully so as to lap just a little, and a good pressure is applied with the thumb in passing the bud or buds, in order to firm it well into place, and hold it there with the cloth. When the entire cut is covered the loose end of the muslin may be hitched under the last round and pulled firm, or with large limbs, in order to economize cloth, a small tack may be stuck into the end to hold it fast. This is important, as with changes of temperature and the pressure of the growing limb the wax is likely to be loosened and the whole process fail because of allowing the cut surfaces to come in contact with drying air before a complete union is effected.

## Sylviculture.

### MORE ABOUT GROWING EUCALYPTUS.

In the present state of the California mind as to eucalyptus growing, there is not likely to be too much printed on the subject, and we are glad to present a carefully prepared article by Mr. W. A. T. Stratton of Petaluma, who during the third of a century has pursued the propagation of eucalyptus species and produced more young trees than any other man in the State—possibly as many as all other growers combined. Thirty-three years ago we used to publish his interesting articles on these trees when people needed exhortation to plant them, and his pioneer work had much to do with the foundation of their present popularity. In the following, from the California Cultivator, he cannot fail to please many of our present generation of readers:

**Growing Seedlings.**—The young plants of eucalyptus trees are not so easy to produce as those of many other trees, unless it be the blue gum, which is comparatively easy. Many other varieties are affected with damping off and other troubles, which sometimes gives an exceedingly low percentage of plants from the seed used. But for the benefit of those who may wish to make a trial of seed planting, I give an outline of the work.

We use but a strong red loam which is obtained from roadside or pasture field, that has not been cultivated. This we work through a No. 4 sieve



four meshes to the inch), which thoroughly pulverizes or removes all the coarser particles. Of this we take four boxes, then one box of manure which has well decomposed, and work through the sieve. We then take one measure of sand, which is the purest fine creek sand, clean and well washed. This is screened through a No. 8 sieve to remove the coarser particles. This mixture, of course, is well mixed by shoveling together, and used for filling the flats.

The flats should be three inches deep. Ours are uniformly made, 14 by 21 inches inside measure.

Fill the boxes with the prepared soil, firm the corners and sides, and smooth off the surface. This should be done very carefully, so as to give a even, level surface for receiving the seed. Scatter the seed carefully and evenly over the surface. It is well to firm the seed down into the soil so as to insure actual close contact. Now apply the covering, which should be the same kind of sand that which was mixed with the soil. This covering should be about one-eighth of an inch deep. Water carefully and very lightly with fine spray, so the seed may be washed up to the surface.

Place these boxes in a warm but shady place and cover with sheet muslin or lath frame. The greatest care must be exercised in keeping the seed and young plants supplied with moisture. Do not let the surface get too dry at any time, neither should it be made too wet.

When the young trees are two or three inches high remove the boxes to full sunshine and see that they do not suffer for water. One bad wilt gives a lot of stunted trees which will never recover.

**Places to Plant.**—The first step in successful planting is to put the ground in the very best possible order. You cannot overdo it; cultivate well and deeply. If a thing is worth doing at all it is worth doing well. This all-important work, in the first stage of our work, is of the greatest importance. There are many places on very many trunks that cannot be plowed—as among the rocks or on soils so shallow that nothing will grow. Among rocks the soil must be forked up in places designed to plant the young trees at least three or four feet across, and as deeply as possible. In localities having shallow soil, or no soil at all, the pick must be freely used.

One of the finest groves in Sonoma county is just such soil. Pot holes were dug with a pick two feet across by two feet deep. Loam was hauled up the hillside to fill these holes made in the shell rock. The young trees were planted under our special instruction. The first year they barely held their own, but the second after they were planted they grew up to eight and ten feet high, too, without any irrigation. I have in view another planting of eucalyptus equally as interesting. It was made on a barren hilltop, the soil thin and poor nothing would grow. There was no soil to plow, nothing but a very hard yellow something—not with any name. At my suggestion a subsoil plow, with four horses, was used to plow furrows eight feet apart, the plow being weighted down with all the men it could hold. In the finishing off a deep dead-furrow was left to plant the eucalyptus. It was a dismal hope, but they did grow most vigorously and stocky, completely interlocking each other. Its owner now considers it has most valuable acreage.

**How to Plant.**—The young trees which have been grown in the boxes or flats should be so separated as to permit of being removed with a small trowel or ball of earth. With a common kitchen case knife cut down between the plants so as to have a small ball about the tender rootlets, taking care not to break up the little ball. If it is broken it is probable the tree will not live. If care has been used, this can be done, especially if the soil in which the young plants are has been thoroughly moistened. Of course, if allowed to get too dry at this planting time, the moment the attempt to cut is made with the knife, dry dirt will immediately crumble.

Now, have the hole in which the little tree is to be planted in a dead furrow above mentioned, similar to that with the hole deeply dug and partially refilled with fine, fertile soil, at least enough to pack around the little rootlets. Now place the little trees well down in the hole and firm the soil about the roots, but use care not to crush the ball of earth. Cover with moist, rich soil, say two inches or more deeper than it was grown in the

flat. This will place the young tree deep in the ground, but bear in mind the dry weather of the next summer will make it desirable to have the roots down where the sun's rays will not heat or dry out the soil too much. This deep planting is of the greatest importance.

If possible, mulch about the trees with weeds or straw, or anything that will shade and cover the ground. Of course the planter must use common horse sense and make the depth of planting according to the character of the soil and the exposure. The coarser, gravelly soil will always dry out more and take the heat of the sun more than the heavier, more compact soil.

The distance apart in planting all depends upon the soil, whether dry or naturally moist; also the nature of the variety to be planted. In general, I may say that for blue gums, 10 by 10 feet; yet many planters in Sonoma county plant 12 by 12 feet, and some even more. You must also understand that when the soil is naturally moist and deep, closer planting than that is permissible. Shallow and coarser will dry out earlier and a greater distance is required between trees.

**Handling the Trees.**—Do not for one moment think that these hardy trees will thrive on slipshod culture. It pays to do the work well. Give them good care if you wish good growth.

Do not trim the bottom foliage off the trees; let nature do the trimming. When the lower limbs are of no further use they ripen up and die. By trimming up a tree the growth is more slender; it becomes top-heavy. They need the lower limbs to expand the trunk; nature will do the work very correctly if you will but let her. It is far better to reduce the top. Don't think for one moment this cutting out the top will make a crooked tree. We have cut the tops out of trees twenty feet high down to ten feet. A leader started out, and in a few years no one would know the top had ever been reduced. This shortening in the top is very essential where the fall rain soaks the ground so as to loosen the surface roots. In heavy winds many will blow over or lean badly. The heavy foliage carries a heavy wind pressure. In such a case cut out the top freely. Straighten the young tree up; firm the soil around the tree with the feet. As a fact, it is well to go over all the trees before the ground gets soaked with water, and cut the tops out freely before they blow over.

The time to cut these eucalypti for fuel, or for that matter, any purpose, is when there is the least circulation of sap. During the low temperature of November and December they practically stop growing. The timber is then in its best condition for any purpose. Should the trees become frozen, immediately cut them down below the frozen wood. Do not let them remain with the frosted top. There is a circulation of diseased sap that kills the tree.

There are many in our State who are exceedingly anxious to plant out large groves of these eucalypti. I advise caution—not to the planters of experience, but to those lacking experience. Go slow, do not invite failure. See what your neighbors have done, how they have succeeded. There can be no more money-making work on the farm than a grove of these trees, but to be successful you must study and learn essential conditions.

**Varieties.**—As to the varieties and their good points, there is sufficient matter under that heading for an entire article, if not for a book. In this grand family of trees are varieties that grow on the highest Austrian Alps, and as hardy as an oak, and others so tender that they are only suited to the warm, tropical climate of the far south. In this family there are sorts that vie with the finest rosewood, mahogany, walnut or cherry. These valuable sorts are as yet in the experimental stages. The coming generation will reap the benefit of our very costly work, a work of love, not of money-making.

## Agricultural Engineer.

### IMPROVING THE ROADS OF A COUNTY.

Mr. J. C. Rhodin, supervising engineer of the State Department of Engineering at Sacramento, whom we suppose has charge of the road-work branch of the wide duty placed upon Mr. N. El-

lery, the State Engineer, has written a letter of advice to the Napa Register which may be suggestive in other counties also. We take the following paragraphs:

Heavy traffic in wet weather is a crucial test for roadways. If they are to keep in good condition they must be:

1. Properly designed and laid out.
2. Properly built.
3. Properly maintained.

These conditions are vital, all three must exist. Without one, the two others will not help.

The main, all-important and vital feature is drainage. Water must be carried off immediately. If by some cause or other water can stand and soak into any road, no matter how it is constructed, it will give out under traffic.

Drainage must be designed, provided and maintained. The average country road lacks surface drainage. Rain-water remains in ruts and chuck-holes, it soaks into the very foundation of the road. The average soil in this county, when wet, loses all stiffness and strength. Water-soaked and worked by horses' hoofs and wagon wheels, it quickly becomes a flowing mud. It does not take long for such roads to become almost impassable.

Now good roads, like everything else that is good and valuable, can not be had without effort, knowledge, and systematic perseverance.

The present haphazard system should be abandoned. How can any one expect that a good roadbed will be had by simply dumping gravel or rock into a stream of mud, sometimes three feet deep?

Napa county has shown admirable foresight in the construction of stone bridges. Why not show the same foresight and intelligence in the handling of the roads themselves?

Nature has done its share. Road materials of excellent quality are to be had in any quantity. The rainfall, while heavy, is not excessive. And where is the climate more inviting for road travel?

Recent movement seems to indicate the existence of a widespread desire for better conditions. The writer ventures to offer some suggestions how to go about the matter, based on experience in work that has given results.

**Plan and Organization.**—The first thing to do is to designate which roads are to be built, kept and maintained by the county. A map should be traced over the county map showing these roads. They should be numbered and indexed in such a manner that any point on a certain road could be designated and referred to without error. Then the roads should be classed according to importance, in boulevards, highways and branch roads, so that the expenditure per mile on each road could be graded in proportion to the use of the road.

Levels should then be run along all the accepted roads; a profile of each road drawn up and marked to refer to the roadmap. They should be worked out in detail profiles and sections showing the condition of drainage for every foot of the road. Also standards of free width, clear height, standards for construction of roadbed for different roads in different localities, standard concrete culverts, etc.

It is of the greatest importance that this work be skillfully and thoroughly done. The different localities should each be carefully studied. One kind of construction that is desirable may be economical in one location, but wasteful in another.

Main roads for heavy traffic require other construction than branch roads for light loads. In all cases the question should be studied in the light of experience from other places. There is today a great movement for good roads all over the United States. The county should take advantage of results derived by great cost in other communities.

This work of laying out the road system and fixing construction standards should be carried out as a special undertaking. It should be in the hands of a thoroughly competent and experienced engineer, who should visit the localities and consult with all the interested parties and authorities. When all the details had been worked out to satisfaction the road map and construction standards should be adopted by the county to govern future work. A piece of work of this nature would naturally cost something, but its value for the future would be immeasurable.

It would appear that the expense of such an exhaustive plan might be borne in part by the



promotion committees and chambers of commerce, with some aid from the Board of Supervisors.

**Construction and Maintenance.**—To receive the full benefit of the work outlined above, new construction and maintenance should be under the general supervision of someone who would be thoroughly acquainted with the design and who could properly interpret and apply the methods laid down.

On large new construction the county should appoint special superintendents, one for each job, on the engineer's recommendation, the superintendents to devote all their time to the work assigned, to keep such records and notes as the engineer would direct, and keep close inspection to see that every contract agreement was lived up to.

For maintenance of roads already built, the county should appoint district foremen, good workmen, each having charge of maintenance and minor repairs within certain suitable districts. They should follow out the directions of the engineer and report to the county. The plan of a general road superintendent, as you suggest, has not worked out successfully in the majority of cases, where the territory is as large as Napa county. Working foremen, with smaller districts, have been found far more efficient and economical. Roadwork must be closely watched all the time, or money will be spent to no benefit.

The proposed arrangement of district foremen corresponds to the system of section foremen used by all railroads. On new construction all railroads have a large staff of engineers, who see that the work is put in right, but for maintenance one engineer can take care of a large territory, with the aid of good section bosses.

**Time Required.**—The proper time to start the organization and planning would be the early spring. All the outside engineering work could then be done in good weather during the summer. As the engineering work progressed the worst defects would become evident and could be remedied before wet weather. Proper district foremen could be found and appointed to get ready road drags and tools to be prepared for the winter. Money available, it should be possible to have the whole road system perfect in a few years' time.

The carob tree, which is quite distinct from the locust tree of America, seems to prefer the mild climate of the southern sea coasts and islands of the Mediterranean. It is, however, found in the Lebanon.

## The Stockyard.

### LIVESTOCK IN THE IMPERIAL VALLEY.

Mr. Joseph E. Wing, whose declaration about agricultural education we recently worked into an editorial paragraph, has been writing for the Breeders Gazette about what he saw in the Imperial Valley. He really seems to think that "Imperial Valley is destined to be of greater importance, to have greater wealth, to produce more than all the rest of California south of Tehachapi pass." What he writes about the livestock which he saw, and what they feed upon, we quote as follows:

Yesterday I took my first walk afield in the Imperial Valley. One sees at once evidence that he is in a warm climate; the houses are many of them of canvas sides; sometimes there is a roof above the house to shut off the sun, with a wide air space between it and the roof or ceiling below. On the verandas, which often surround the little houses, one sees beds. Even in winter men and women sleep out of doors, not all of them, but a good many of them. I stopped at a neat little cottage in the midst of a new clearing where the man had planted eucalyptus and pepper trees in a fine avenue and had alfalfa and grapes and oranges set. The door-yard was a fine mat of white clover. The cows grazing his alfalfa were fat, too fat indeed, it seemed to me. A curious growth came up along his ditches and on the roadside; it looked like Johnson grass, but was too coarse and in bunches too much. I asked the farmer what this strange plant was, and was told that it was Kaffir corn, which does not die in winter in this curious land. It seems nearly as persistent as Johnson grass; and sorghum, they tell me, lives for years.

On beyond was a great ranchhouse, the most enormous I have ever seen, the headquarters of the California-Mexico Land & Cattle Co. I found Walter K. Bowker, the manager, at home, and we chatted for a time beside his great fireplace, where smoldered a log or two. It is cool enough here for a fire at this time of year, and the nights are rather sharp. Mr. Bowker told me of his great company, which owns 1000 acres of land in California and a million in Mexico, just adjoining, and grows cattle, hogs, horses, and sheep. Then we drove out to see the Shorthorn cows. He had brought most of them down from Iowa, and as there are no ticks here he had no difficulty at all

in acclimating them. It seems the sun here is so hot that it speedily kills ticks. We drove into his cow pasture and the cows were munching Kaffir corn stalks, some 75 to 100 of them. They were in splendid condition, some almost too fat, and the feed that they were getting seemed insufficient to keep them alive; it was nearly eaten down to the bare earth. They do not eat the Kaffir corn at all. It seems they but turn the animals in to eat it. Some hundreds of pigs running with the cows were less fat; they get a trifle of barley. There were grand calves, too, running with the cows. From this bunch of cows they get their bulls to put with the main herd.

We drove to an adjoining pasture and there saw about 75 splendid Percheron mares and their colts. I think that I have seen good Percherons in my time, but I admit that I have never seen a lot that so awakened my enthusiasm as this. They were grazing alfalfa alone, and the condition of the mares was good; they were indeed almost too fat, and the colts were wonderfully fine, large, strong, healthy and happy.

Mr. Bowker insists that there is absolutely no disease among either cattle, horses, sheep or swine in this region. And how easily it is irrigated! It seems as level as a floor, but in reality there is fall enough to make water flow well, and to make it necessary to have large drops in the main canals, and these drops can make electric power enough for every ranchhouse and farm in the valley.

Mr. Bowker says that one man irrigates his tract of 1000 acres, having a horse to ride from field to field. The one danger is of over-watering in summer time. Some of the fields of alfalfa were thin in spots, and Mr. Bowker would sow more seed there soon, first disking them up. In the Kaffir corn field he would soon sow alfalfa, which would be ready to graze in June, and if cut for hay would make at least four or five tons this year, whereas old established fields make as much as ten tons a year. Alfalfa hay has sold for \$12 a ton during the past year. But it seems the general policy to feed it off on the ground with livestock.

I really wonder if there is such a region in this is! Mr. Bowker insists that animals do not mind the heat, owing to the dryness, and that they do not seek the shade, but the sun instead, maybe to escape the flies. In the patio of the great ranchhouse they are about to plant palms and bananas, not that bananas are apt to be ever a staple crop here; there is some frost, also cool nights.

## OLD MEXICO

Today offers opportunities to the Tourist, Financier, Homeseeker, Fruit Grower, Small Capitalist, etc., which no other country can boast of.

Her quaint people, prehistoric ruins, unsurpassed scenery, delightful climate and hospitality, win the affection of all tourists.

The present awakening, as to her resources, reminds one of the "49" period on the Pacific Coast and immigrants are flocking in to take advantage of the opportunities.

This is an opportunity that should not be overlooked by those who are seeking to better their condition.

The MEXICAN CENTRAL RAILWAY reaches nearly all points of interest in the Republic.

### Excursion Rates all year

Rates, beautiful illustrated advertising literature, and further general information can be obtained upon request, from

J. C. McDONALD,

Gen'l Pass. Agt.

Mutual Bldg., Mexico City.

H. J. SNYDER,

General Agent

15 Flood Bldg., San Francisco



The Famous Mission Train California to Chicago in three days over the

### Sunset Rock Island Route

Sixty miles along the famous Salton Sea, 250 square miles of lake with background of the high San Jacinto Mountains.

Drawing room sleeping cars. Dining service unsurpassed. Open air observation rotunda. Parlor car—library and cafe—Ladies lounging room—Gentlemen's smoking apartment.

ASK ANY AGENT

### SOUTHERN PACIFIC

OR CALL

884 Market St.

872 Market St.





## Patrons of Husbandry.

### Tulare Grange Discusses Forestry.

To the Editor: Tulare Grange convened at its hall in regular session on Saturday the 7th. There was a good attendance. The subject of the day, carried over from last regular meeting, was: "The desirability of trees on our highways in this climate, and the necessity of growing timber trees on the farm to replace our forest timber, now being so rapidly exhausted."

The Worthy Master, Brother J. T. Lawson, read a well written paper, in which he told of the magnificent groves of oak growing on the delta of the Kaweah when settlers first came, of their subsequent, almost utter, destruction, what is now left being rapidly cut down; of the necessity of growing trees on the farm to meet the future want for fuel and timber purposes, and of trees suitable for avenue, grove, fuel, and manufacturing purposes. Brother Lawson considers the subject so important to the future welfare of Tulare county that instruction in tree planting, in suitability of tree for avenue, grove, fuel, and manufacturing purposes, and that children, boys and girls, should be taught and encouraged to plant a tree every year of their lives, until each is twenty-one years old.

When settlement of California commenced, in no part of the State was there a finer body of oak timber growing than that in the delta of the Kaweah, with groves, for size and beauty of tree, unsurpassed. It is regrettable that the last of those beautiful groves are now being felled for fuel purposes. In a few years only a few scattering trees of them will be left.

It would seem some persons are to blame for this. A few years back, when lumbermen and speculators were gobbling the last of our sequoias and destruction threatened them, to prevent this Tulare Grange, with two or three patriotic citizens, advocated the reservation of the groves not yet sold as a Sequoia Gigantea national Park. Congress made the reservation, and it is the glory of Tulare county, in which it exists, and the pride of the nation. How is it that up to this time no one of our county government officials has made effort to have reserved from destruction for our own and future generations even one of our typical oak groves which were growing here when settlement civilized came to this valley? Someone is to blame for this. Who is it?

Brother Barber read an interesting letter from a man in Ohio telling of his cultivating a timber lot of 100 acres in Catalpa speciosa, of its rapid growth, its suitability for all manufacturing purposes, and its great durability as posts or railroad ties in the ground. It was not known to the members present if the catalpa will do as well in Tulare as they do in Ohio. The few specimens of catalpa growing in Tulare may not be of the C. speciosa variety, the one commended by the writer.

Brother F. H. Styles read an inter-

esting paper by Mr. J. T. Bearss on trees suitable for forestry, shade, avenue, and manufacturing purposes, which will be published later.

Brother I. N. Wright gave a very interesting account of the different conifers in the Sierra, their growth and suitability for timber purposes, and spoke of the rapid growth and shapely head, for avenue purposes, of the species of poplar known as balm of gilead.

A short discussion took place as to the greater suitability of deciduous or evergreen trees for shade and avenue purposes. It was claimed by some that deciduous trees in winter when the foliage is off will admit ventilation and sun to the road, both very desirable, while the evergreen will deprive the road of both at that season.

The deciduous trees that do well in this country are the cork elm, balm of gilead, black walnut, honey locust and mulberry. The evergreen trees which do well in this country are the black acacia and the different Australian eucalyptus. Of the latter the E. rostrata and the E. viminalis are both hardy, fast growers, suitable for timber and manufacturing purposes. It is claimed for the eucalypts that in addition to being rapid growers and the wood suitable for most manufacturing purposes, they are free from insect or parasitic disease.

Brother H. T. Hunsaker moved the following resolution, seconded by Brother F. H. Styles:

Resolved, For the purpose of promoting tree culture in this county, that tree planting clubs be formed to act in conjunction with a national club now organized for promoting forest planting, and Tulare Grange, P. of H., will aid in organizing such a club and in promoting its work, if the Tulare City Board of Trade will start it.

The Worthy Master, J. T. Lawson, Brothers F. H. Styles, H. T. Hunsaker, and E. Barber were appointed a committee to act in conjunction with the Board of Trade.

In considering the subject of forests and their preservation, streams and waterways, and President Roosevelt's late message to Congress thereon, were considered.

There are now before Congress seven bills, perniciously, without consideration, providing for perpetual franchises in water-powers. These bills are opposed by Chief Forester Gifford Pinchot and President Roosevelt. The President, in his message to Congress, in dwelling on the uses and benefits of the waterways to the nation, says: "Under these circumstances the introduction of bills to provide for the largest use of our navigable waters by all the people should receive the careful attention of Congressmen. But they should as vigorously condemn any bills suggested by companies desiring to control any part of our waterways without compensation to the public, and to escape Government regulation."

The message is timely, the language emphatic, worthy and typical of the President who wrote it. A letter thanking the President for his timely action and watchful care of the public interest was formulated, and the secretary directed to send a copy to President Roosevelt.

J. T.

Tulare.

The world never discovers a man is a genius until it is too late to let him know of the discovery.

# The 1908 Improved DE LAVAL CREAM SEPARATORS

are ten years ahead of all others in every  
feature of separator construction.



Ten New Styles

Ten New Capacities

Ten New Prices

A size for every dairy, from the smallest to the largest.

**BEAUTIFUL IN DESIGN  
PERFECT IN CONSTRUCTION  
EVERLASTING IN DAILY USE**

The result of thirty years experience in building separators. See the Improved DE LAVAL before you buy, or you must surely regret it later on. Send for handsome new catalogue of 1908 machines, to be had for the asking.

## De Laval Dairy Supply Co.

108 So. Los Angeles St.  
LOS ANGELES

42 E. Madison Street  
CHICAGO

74 Cortlandt Street  
NEW YORK

General Offices:

101 DRUMM STREET

SAN FRANCISCO

107 First Street  
PORTLAND, OREG.

1016 Western Avenue  
SEATTLE

Box 1052  
VANCOUVER, B. C.

### WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25 cents.



## The Home Circle.

### To Age.

Welcome old friend! These many years  
Have we lived door by door;  
The fates have laid aside the shears  
Perhaps for some few more.

I was indocile at an age  
When better boys were taught,  
But thou at length hast made me sage,  
If I am sage at aught.

Little I know from other men,  
Too little they from me,  
But thou hast pointed well the pen  
That writes these lines to thee.

Thanks for expelling Fear and Hope—  
One vile, the other vain;  
One's scourge, the other's telescope—  
I shall not see again.

Rather what lies before my feet  
My choice, shall engage,  
He who hath brav'd Youth's dizzy heat  
Dreads not the frost of Age.

—Walter Savage Landor.

### In Love's Old Time.

Had I but earlier known that from the  
eyes  
Of that bright soul that fires me like  
the sun,  
I might have drawn new strength my  
race to run,  
Burning as burns the phoenix ere it dies;  
Even as the stag or lynx or leopard flies  
To seek his pleasure and his pain to  
shun,  
Each word, each smile of her would I  
have won,  
Flying where now sad age all flight  
denies.

Yet why complain? For even now I find  
In that glad angel's face, so full of rest,  
Health, and content, heart's ease and  
peace of mind  
Perchance I might have been less sim-  
ply blest,  
Finding her sooner; if 'tis age alone  
That lets me soar with her to seek God's  
throne.

—Michael Angelo.

### The Age of Chivalry.

She stood at the door of the big  
theater, visible distress manifest in  
every feature of her pretty face.

Her cheeks, fresh from the down-  
land breezes, were crimson with fear  
and indignation, and ever and anon  
she cast a glance over her shoulder  
nervously as the lights went out one  
by one and she heard the clanging  
of the heavy doors behind her.

At last the attendant, tired of  
waiting, began to draw the barred  
outer gates.

When he came to where she stood,  
peering out from behind the massive  
pillar, a sudden compassion moved  
him, and he touched his hat respect-  
fully.

"Four-wheeler or 'ansom, miss?"  
he asked.

"No, thank you." Her voice, clear  
and childish, carried farther than  
she imagined. "My cousin has gone  
for one. I do hope he won't be much  
longer."

She gazed anxiously down Coven-  
try street, and, gathering up her  
courage, stepped out on to the broad  
pavement.

"Very good, miss," said the man;  
and, with her heart in her mouth,  
she heard the iron bars shoot to be-  
hind her.

"Won't you allow me the pleasure  
of seeing you home?"

She looked up, and saw a tall man  
in immaculate evening dress looking  
down upon her with a smile, and  
shrank back in confusion.

"Please don't think it imperti-  
nent," he hastened to reassure her;  
"but I fancy I know your cousin.  
Isn't his name—er—"

He paused as if searching his mem-

ory, and she supplied the words with  
innocent promptitude:

"Maunsel Frazer."  
"Of course," he said hastily.  
"Why, we were at school together."  
"At Charterhouse?"

He nodded his head, but her old  
anxiety had returned.

"He went for a four-wheeler," she  
explained. "I don't like hansoms,  
and I suppose it is difficult to get  
one."

"Very, just now. But never mind,  
Miss Frazer," he began easily. "I'll  
take care—"

But she interrupted him.  
"Oh, my name's not Frazer! It's  
Doubleday—Jean Doubleday."

As she spoke three young men,  
arm in arm, swung down upon them,  
and the girl shrank back from their  
openly admiring glances.

"I'm Le Strutt—Captain Le  
Strutt," said her companion, hast-  
ily. "But you can't stay here, you  
know." He paused, his eyes on her  
pretty flushed face. "Let me take  
you over to Scott's and we'll have  
some supper, and I'll leave a mes-  
sage with the man here"—he pointed  
back to the theatre—"to tell your  
cousin to come and join us."

She gave one more desperate  
glance up and down the street, and  
the next moment she had taken the  
stranger's arm, and they were cross-  
ing the road.

The traffic terrified her, and he  
smiled as he felt her little hand  
tighten nervously upon his sleeve.

But as they entered the brilliantly  
lit restaurant she stopped suddenly.

"I think I'd better go home," she  
decided. "Bill is sure to return at  
once, if he doesn't find me. It's very,  
very kind of you," she stammered  
in her eagerness; "but if you would  
get me a cab, I think I'd rather go  
home."

"But Frazer will come on here,"  
he protested. "I've left the message  
now, and, if he doesn't find you here  
he'll imagine all sorts of desperate  
things."

He laughed the edge off the words  
gayly.

She gazed at him thoughtfully as  
they stood at the foot of the stairs,  
and he noticed that her eyes were  
hazel—not black, as he had thought  
—but the pupils, dilated by excite-  
ment under the thick dark lashes,  
lent themselves to the former theory.

Anyhow, with her fair hair blown  
by the cool night wind from its orig-  
inal smoothness into little curls  
round her fresh young face, she was  
well worth the impulse that had  
thrown him into this new adventure  
of the night.

She weighed her decision silently.  
"Very well," she said at last, "if  
you really think it's better," and  
they went upstairs.

Seated at the little round table her  
spirits rose rapidly, thawed by the  
warmth of the bright room and the  
gay chatter around.

She told him of the country life  
she had left for these few days' dis-  
sipation with an aunt in Kensington,  
Maunsel Frazer's mother; of her  
dogs and horses, and the prospect of  
the winter's balls, but every now and  
then her glance stole anxiously to  
the door.

For there was a something in  
the man's manner, unsophisticated  
maiden that she was, which yet  
roused her distrust—a too open ad-  
miration in the bold blue eyes, a sug-  
gestion of familiarity in the very  
kindness of his voice—and dimly  
she began to wonder why her cousin  
failed to arrive.

Meanwhile she ate her oysters se-  
dately, but only sipped at her wine,  
despite her companion's laughing en-  
couragement.

He raised his glass to his lips,  
drinking to her a trifle boisterously.  
It was not the first, by a long way,  
he had taken that evening.

"To a pair of hazel eyes!" he  
cried.

But the girl flushed angrily, her  
glance riveted on the floor, and, as  
if in answer to her prayer, it opened  
suddenly, and there appeared upon  
the threshold four persons—a white-  
haired clergyman with two elderly,  
countrified girls, followed by a well-  
set-up young fellow who carried the  
word 'gunner' unmistakably written  
on his brown soldier's face.

In a moment Jean Doubleday was  
on her feet. She shot forward, hands  
outstretched.

"Oh, Canon Sherard! Fancy you  
being here. And Elsie—and Nora  
and Jim!" She shook hands excite-  
dly with each in turn, pouring out  
her story upon them.

As she went on, the old parson's  
eyes instinctively sought his son's  
face, which had passed from open  
astonishment to a look of steady an-  
ger, and unseen by the girl, he raised  
his finger to his lips.

"And now, my dear," he said, as  
she finished breathlessly, "we are not  
going to spare you so soon after this  
fortunate meeting." "Jim," he  
raised his voice, his keen old eyes on  
his son, "Go across to Captain Le  
Strutt—isn't that his name?" he  
turned to the girl gently, "and ask  
him with my compliments to join our  
party with Miss Doubleday. We will  
take this table."

He suited the action to the words,  
and presently, with a very ill grace,  
the Captain followed his son back.

"I must thank you for your kind-  
ness to Miss Doubleday," said Canon  
Sherard, smoothly, "in the absence  
of Mr. Frazer, who, I hope, will soon  
be with us."

The Captain smiled a little uncom-  
fortably.

"He is a long time coming," he  
suggested boldly, "and I only hope  
my message was not miscarried."

"Perhaps it would be well to send  
across and inquire," said the most  
thoughtful clergyman, but Jean pro-  
tested, happy again in the familiar  
atmosphere of home.

"Oh, he's sure to come out all  
right! Bill always was slow!" and  
everyone laughed.

"You knew him at Charterhouse, I  
understand?" The gunner asked  
him directly, and Le Strutt gave him  
back glance for glance.

"Only slightly—he was a good bit  
my senior." He turned to the girl.  
"And I was always a dunce!" he  
laughed.

"I'm sure he will be very glad to  
see you again!" said the girl, pret-  
tily, and the gunner smiled, but con-  
tinued the attack.

"You were in his house?" he  
asked.

The Captain looked away, and  
committed his first blunder.

"Er—no!" he said, shortly.

"Then fancy your remembering  
him at all," said Jean, with innocent  
astonishment.

"At the games," said the Captain  
quickly; "we played—er—cricket  
together."

"Never knew Bill cared for crick-  
et," said the gunner cheerfully; "al-  
ways thought he was a 'soccer' man!  
However, he'll soon be here to tell  
us himself." He beamed mischiev-  
ously upon the assembled company.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a  
full corps of teachers for all departments in the  
English branches, Latin, Greek, and the Modern  
Languages, also accredited by the University of  
California, Leland Stanford Junior University,  
and by Eastern Colleges.

Special attention is given to lessons in elocu-  
tion, singing, the violin, the piano, and to draw-  
ing and painting.

Lectures are given by professors from the Uni-  
versity of California, and a course of study for  
High School graduates and for young women  
who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July  
for boarders, under the care of the house man-  
ager. A summer school will also be maintained  
by one of the teachers.

"Let's hope so," said the Captain  
piously, and turned the conversation  
neatly on the dangers of an oyster  
diet.

"I knew some people once," be-  
gan the Canon, ponderously; "it was  
at Colchester, where one really ex-  
pects the very best oysters—eh?"

For a waiter was bending down  
beside his chair.

"Excuse me, sir, a Mr. Sherard—  
wanted on the telephone.

The gunner was on his feet in a  
moment.

"That's Bill," he said, turning to  
the girl. "I rang up your aunt,  
Jean, before I sat down to supper,  
so as to relieve any anxiety."

He was back again almost imme-  
diately.

"Prepare to meet your long lost  
cousin!" he informed her, with dra-  
matic effect.

"Poor old Bill," said Miss Double-  
day; "he must be tired!" Her face  
fell suddenly. "I do hope he won't  
scold me for leaving the theatre; but  
what could I do?" She turned to Le  
Strutt.

"You will have to explain," she  
began, but the Captain had risen to  
his feet.

"Now that you are really in safe  
hands—" he suggested, and to em-  
phasize his meaning he pulled out his  
watch.

"It is so nice to find," said the  
Canon suavely to the table at large,  
"that the old-fashioned chivalry is  
not extinct—despite what people  
say! Had it not been for this gen-  
tleman's courtesy it might have  
proved a very embarrassing position  
for a young and unsophisticated lady  
living in the quiet country and igno-  
rant of London's ways."

The Captain's eyes fell before the  
elder man's quiet stare, and he called  
up the waiter with a swagger born  
of desperation.

"My bill!" he said in a loud voice.  
But the clergyman's eyes flashed.

"Excuse me," and his voice was  
stern. "It is most hospitable of you,  
and I could not think of allowing  
my old friend's daughter to be in-  
debted to a total stranger. Pray con-  
sider me her host—and yours, for  
this one evening."

A shade of satire crept into the  
measured intonation.

Just then a girl in big feather hat  
rushed past them, and as her eyes  
fell on the embarrassed Captain she  
threw him a glance of mingled aston-  
ishment and amusement, and turned  
quickly to her companion.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

A lost fragment of her speech floated back.

"\* \* \* Joey in the bosom of the Church!" he heard.

Mastering his irritation with a strong effort, he made a hasty farewell.

But as he reached the door he met an elderly man with a fair, anxious face, hurriedly entering the room.

"There's Bill—just in time!" cried Jean, excitedly.

Her beautiful hazel eyes grew wide with astonishment as the two men passed each other in silence, and she leaned across the table confidentially to the gunner.

"How odd, Jim," she whispered, as her cousin joined the little party; "why, he never even looked at him."

But the gunner only smiled.—Muriel Hine, in *Black and White*.

### Back to the Farm.

In an address to a body of prominent teachers recently President Roosevelt said:

"I trust that more and more of our people will see to it that the schools train more toward and not away from the farm and workshop. We have spoken a great deal about the dignity of labor of this country; but we have not acted up to our spoken words; for in our education we have tended to proceed upon the assumption that the educated man was to be educated away from and not toward labor. The great nations of medieval times who left such marvelous works of architecture and art behind them were able to do so because they educated alike the brain and the hand of the craftsman. We, too, in our turn must show that we understand the law which decrees that a people which loses physical address invariably deteriorates; so that people shall understand that the good carpenter, the good blacksmith, the good mechanic, the good farmer, really do fill the most important positions in our land, and that it is an evil thing for them and the nation to have their sons and daughters forsake the work which, if well and efficiently performed, means more than any other work for our people as a whole.

"One thing that I would have you teach your pupils is that, whether you call the money gained salary or wages, does not make any real difference, and that if by working hard by your hands you get more than if you work with your head only, it does not atone for it to call the smaller amount salary. The term 'dignity of labor' implies that manual labor is as dignified as mental labor—as, of course, it is. Indeed, the highest kind of labor is that which makes demands upon the qualities of both head and hand, of heart, brain, and body. Let us show that we regard the position of the man who works with his hands as being ordinarily as important and dignified and as worthy of consideration as that of the business or professional man."

A Cornish editor recently appealed to his subscribers in this unique way: "If you have frequent headaches, dizziness, and fainting spells, accompanied by chills, cramps, chilblains, epilepsy and jaundice, it's a sign you

are not well, but you are likely to die any minute. Pay your subscription a year in advance, and thus make yourself solid for a good obituary notice."

### Pith, Point, and Pathos.

It is better to be investigated than to be so poor that investigation isn't worth while.

It is funny how impossible it seems to be for a man to find a hiding place when the office seeks him.

Penitence is what a man adopts when it is too late for him to try any other plan.

The successful man is the one who gets what he wants while others are planning to get it.

If all excuses were printed, humanity would have a better reputation for fiction-composing.

Truth is what a man tells when he isn't certain just what he told the last time the question was asked.

After marriage both parties learn a lot about each other that they had overlooked before the ceremony.

It doesn't take a man long to learn to make love if the girl happens to be a good teacher.

Some men would never be accorded greatness if their neighbors did not criticise them so much.

### A New One on Him.

An automobilist, in making a 'cross country tour in Dakota, had the misfortune to have his machine break down. He saw a small house not far off and cut across to it. The only man about the place was a Swede, who was much amused by the sight of the strange rig the automobilist wore, says an exchange.

"My friend," said the automobilist, "my machine has had a bad break, and I would like to know if you have such a thing as a monkey wrench about here?"

The Swede looked at the automobilist with greater curiosity than ever, and then laughed. He had met some strange folks and heard some odd things since he had come to America, but this was the worst.

"Monkey ranch!" he asked, sarcastically. "I got sheep ranch, and my cousin Ole he got cow ranch, and Meester Ferguson he bane have pig ranch, but Ay tank anny wan start monkey ranch in North Dakota bane big fool!"

### Waterproofing Boots.

I have for the last five years successfully used a dressing for leather boots and shoes, composed of oil and india rubber, which keeps out moisture and is not injurious to leather, leaving it soft and pliable, says a writer in the *Scientific American*. To prepare this dressing, heat in an iron vessel either fish oil or castor oil, or even tallow, to about 250 degrees Fahrenheit, then add, cut into small pieces, vulcanized or raw india rubber about one-fifth of the weight of the oil, gradually stirring the same with a wooden spatula until the rubber is completely dissolved in the oil; lastly, to give it color, add a small amount of printers' ink. Pour into a suitable vessel and let cool. One or two applications of this is sufficient to thoroughly waterproof a pair of boots or shoes for a season. Boots or shoes thus dressed will take common shoe-blackening with the greatest facility.

# BEEF SCRAPS

# RAW BONE

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

### Domestic Recipes.

**SALTED ALMONDS.** — Pour boiling water over one pound of nuts, let stand till cool; take out a few at a time, as they blanch more easily when damp. Lay on a paper over night to dry. In the morning put in the oven. When heated take out, put in a piece of butter the size of an English walnut. Stir thoroughly, salt to taste. Put back in oven, stir repeatedly until a delicate brown. Do not have oven too hot, or they will burn. Better watch them closely.

**APPLE COBBLER.** — Take about ten apples, peel and slice in quarters, put on stove to stew a little with a piece of butter the size of a walnut and a little water to prevent burning; also add one-half cup of sugar; take off stove and put in a deep pudding pan and line top with a layer of pastry rolled out to the thickness of one-half inch; put in oven till a nice brown, and serve with a hard sauce made thus: One cup pulverized sugar, one-half cup of butter, one teaspoonful vanilla extract; beat altogether until nice and light; when serving cobbler place a teaspoonful on each piece.

**MOLASSES NUT CAKE.** — One-third cup molasses with a tiny pinch of soda in it; one-third cup sugar; one-third cup butter; one-third cup chopped hickory nuts; one egg, and flour to make a stiff dough. Bake in "Brownie" tins. This is a small rule and should be doubled except for a small family, as they are so well liked that there are never any left for a second meal.

**TWO CAKES FROM ONE EGG.** — One scant cup and a half of flour, one cup sugar, one egg, two teaspoonfuls baking powder, flavoring to taste. Put white of egg in cup, without beating, put in sufficient melted butter to make half a cup, and fill to the top with milk. Sift flour, pour in contents of cup and stir; add baking powder dry and beat five minutes; add flavoring and bake half an hour. Make second cake like above, using yolk of egg.

**FRUIT SALAD.** — Take red California cherries, fresh if possible, but canned will do if they are large; pit them, and place in each one a blanched filbert kernel. Serve on lettuce leaves with a mayonnaise dressing. Looks pretty and tastes better.

The scarlet fever epidemic was bad in a neighboring village, and a cautious teacher inquired of a pupil who had been absent, "Mabel, why did you stay away from school yesterday?"

Mabel—Please, miss, muvver's sick.

Cautious Teacher (anxiously)—What is the matter with her; what does the doctor say it is?

Mabel—Please, miss, he says it's a girl.

"THE OLD RELIABLE"

**DIETZ**  
LANTERNS

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

## Pneumatic Fruit Grader

A perfect Sizing Machine for Oranges

Capacity 500 Boxes a Day

Runs Easily by Foot Power

Cannot Damage the Fruit

Price \$50.00

**WRIGHT BROTHERS,**

Riverside, Cal.

**Eureka Lemon**

**Valencia and Navel Oranges**

**Eucalyptus Trees**

Globulus, Rostrata, Rudis, and Tereticornis

**Phoenix Canariensis,**

**Chamaerops Excelsa**

**Loquats, Roses, Etc.**

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,**

Covina, Cal.

**CONOVER'S COLOSSAL ASPARAGUS PLANTS.**

Plants exceptionally strong and true to name. Price given on application. Address **W. A. Stewart,** Rio Vista, Cal.

**School of Practical, Civil, Mechanical Electrical and Mining Engineering**

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA

Open all Year. A. VAN DER NAILLEN, Pres't Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

### SURE CURE FOR PILES

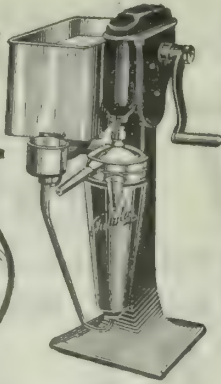
ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by **Dr. Bosanko's Pile Remedy.** Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. **DR. BOSANKO, Philada., Pa.**

**Blake, Moffitt & Towne**

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## The Tubular Separator



## Will Give Service for a Lifetime



We gave a Tubular the equivalent of a Fifty-years Run and it showed no wear and was good for fifty years more.

We've proved the Tubular, and recommend it to dairymen on test.

We furnish an unlimited guarantee, because we know how the Tubular's built and that it will give long service.

### Here's our Guarantee:

**Guaranteed Forever**  
We guarantee Tubular Separator No. 9 against defects in either material or workmanship, and agree to replace, free of charge, any part or parts of same which may have become unfit for service because of original defects, providing the damaged parts are returned to our factory. The term of this guarantee is unlimited and our agreement will be fulfilled any time. Repairs necessitated by ordinary wear and tear, accidents, abuse, etc., are not included in this warranty.

The Sharples Separator Co.  
West Chester, Pa.

### Here's the Tubular Test:

Machine .....	No. 9 Tubular
Rated capacity per hour.....	900 pounds
Hours in operation .....	2,600
Pounds separated.....	2,340,000
Revolutions of crank .....	6,837,480
Revolutions of bowl.....	2,496,000,000
Oil used .....	6 1/2 quarts
Time oiling .....	About 8 minutes
Time adjusting .....	10 minutes
Repairs .....	75 cents

At the end of the twenty-fourth week we made a very careful examination of this Tubular. We found that two of the nine balls in the frictionless bearing supporting the bowl were beginning to wear unevenly. To preserve perfect balance we replaced the nine old balls in this bearing with nine new ones. After making this small repair the machine ran 28 weeks longer and finished a full year without needing further repairs or adjustment. The exchange of balls costing only 75 cents and ten minutes work, yet made the machine as good as new.

Did you ever hear of any other sort of a separator giving a test or a guarantee like these? Good for a lifetime?

Don't you think both are conditions of value to dairymen, and of pride for the Tubular manufacturers?

Wouldn't other separators gladly furnish like evidence and assurance if they could? And isn't it because of inability to meet such standards that they don't offer equal proofs and guarantees?

No bowl except a suspended bowl could meet such conditions as the Tubular can. But there isn't any other suspended bowl in the whole country—all the others are supported. There's the difference—and a lifetime of service is a part of Tubular accomplishment.

Never an explosion with a Tubular—only "barrel" and "bucket bowls" do that. No oil waste with a Tubular; no drip, no dirt, no lost oiler, no oil-holes nor cups to clean out, yet the perfect lubrication which is a condition of long time, easy running.

Write for Catalogue No. 131. Let us tell you about cream separating and what the Tubular can earn—save—for you in your home dairy. No cost to you to get information—and if you have a good herd and no Tubular we can tell you how to get more profit from your cows than you get now.

**The Sharples Separator Co.**

West Chester, Pa.

Toronto, Can.

Chicago, Ills.

San Francisco, Calif.

**FRANCIS SMITH & CO.,** Manufacturers of

**SHEET IRON & STEEL PIPE**

**FOR TOWN WATER WORKS**

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

High In Quality

Low In Price

**OUR SEEDS GROW**

**Vegetable, Flower and Farm Seed**

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## AGRICULTURAL REVIEW.

### KERN.

Echo: Northern Kern county had more rain during the recent storm, and probably more for the season, than Bakersfield. As a consequence the prospects for the grain crop are very good. The acreage is quite as large as last year, and the total number of sacks harvested will be as large as last year if the spring continues favorable.

### SAN DIEGO.

Standard: The earliest cantaloupe plants are beginning to stick their heads out of the ground. On thousands of acres men and women and children are busy getting in seeds, and the greatest cantaloupe season this valley ever witnessed is opening. No one can form any idea of the amount of land which will be actually planted this year. The latest estimates are 10,000 acres in the valley, set aside now with the intention of planting, but it is certain that there will be a considerable shrinkage from this area before the seeds are in, for the reason that many persons have set themselves a greater task than they can accomplish. It may be a fair estimate that there will be from 6000 to 7000 acres actually brought to the point of harvest, but even these figures will include a considerable area not thoroughly cultivated, for the reason that many growers will not bestow on the crops the attention they demand.

### SAN LUIS OBISPO.

Santa Barbara Press: Observations as to present crop conditions indicate that the barley crop will be the heaviest ever known in California. The high prices of the past few years have led to almost exclusive planting of this cereal by the grain farmers of the Salinas valley, and similar conditions are said to exist elsewhere. R. M. Shackelford, one of the big men of this district, and for many years a large handler of grain, is authority for the statement that the wheat acreage between Salinas and Santa Margarita is not more than 15 per cent. Accordingly, a shortage of wheat is predicted, and it is certain that there will be a surplus of barley.

### SONOMA.

Argus: Four dogs broke into the sheep pasture of Mrs. Kelsey in Vallejo township, and of a band of 170 fine sheep killed 20 and injured 60 more so badly that they will die. Of the whole band there will be only 90 sheep left. The loss will be nearly \$200, as Mrs. Kelsey has been receiving \$8 per head for the stock in San Rafael. The sheep were fine mutton stock and in prime condition. A neighbor succeeded in killing one of the dogs, but the other three made their escape. An effort will be made

## Tuttle's Elixir

Greatest maker of sound horses in the world. Tested many years, never fails if cure be possible. \$100 reward if it does. For lameness, curb, splint, spavin, ringbone, swellings, etc.

**Tuttle's Family Elixir**

Liniment for household use. Ask for Tuttle's American Worm and Condition Powders and Hoof Ointment. "Veterinary Experience," perfect horse-man's guide free. Symptoms and treatment for all common ailments. Write for it. Postage 2c. TUTTLE'S ELIXIR CO., 33 Beverly St., Boston, Mass. Los Angeles, W. A. Shaw, Mgr., 1921 New England Av. Beware of all blisters; only temporary relief, if any.

Coffin Redington Co., 625 Third St., San Francisco, Cal.



Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address The Lawrence-Williams Co., Cleveland, O.

to locate the owners of the dogs and compel them to make good the damage done.

### STANISLAUS.

Oakdale Leader: Sixty-five acres have been planted to almonds in the southern suburbs of Oakdale this season. The land is well adapted to both almonds and grapes, as has been demonstrated in that locality. Both will yield bountiful crops when the season is favorable with thorough cultivation alone. In this vicinity there are hundreds of acres not susceptible of irrigation, unless the water was pumped from wells, which would produce profitable crops of olives, almonds, or grapes, and perhaps other varieties of fruits and nuts, by conserving the moisture by a thorough system of cultivation.

### SUTTER.

Sutter Farmer: Every year there is quite an acreage of old orchards replanted. This season the stump-pullers have been exceptionally busy in this section. Almost all the trees pulled out are peaches that have grown too old to be profitable, while a number of almond and pear orchards have been removed. The replanting is mostly to prunes, grapes and cling peaches.

Farmer: The planting of alfalfa seed in the vicinity of Meridian will be greater this season than for years. One consignment of seed brought up by the steamer last week was over 5000 pounds, the same to be sown on lands sold by the syndicate to new settlers who are going into the stock and dairy business extensively. All of 2500 acres will be sown there this year.

### TEHAMA.

Harry Andrews of Proberta has teams plowing about 200 acres which he will seed to alfalfa. Mr. Andrews says the seeding will begin about the last of March, after the plowed ground has been thoroughly disced and harrowed several times. Four crops a year without irrigation can be expected on this land after the first year.

### TULARE.

Register: The dairying industry in this locality is one of the principal occupations of the farmers and is one of the best paying. As evidence in proof of this we give a few figures furnished by a dairyman who resides within a few miles of this city. He





## One Louse

A louse is small, but in the wrong place it makes trouble. Keep them out of the henery or there is misery in store for the hens and small profit for you.

## Instant Louse Killer

puts a speedy end to the louse pest. A thorough dusting of roosts, nests, hidden corners and cracks destroys them utterly. If you suspect lice, try it before they become a plague. Instant Louse Killer is the formula of Dr. Hess (M. D., D. V. S.) and kills lice on stock, ticks on sheep, rose slugs, cabbage worms and bugs on cucumber, squash and melon vines. It is also a reliable disinfectant and deodorizer. Comes in shaker-top cans.

Sold on a Written Guarantee.

1 lb. 35c; 3 lbs. 85c.

If your dealer cannot supply you, send your order to us.

MANUFACTURED BY

**Dr. HESS & CLARK**  
Ashland, Ohio.

THE PETALUMA INCUBATOR CO., PETALUMA, CAL.  
Pacific Coast Distributors.

has 26 dairy cows and at the end of the year he figured up that these 26 cows brought him in just \$2682, an average of over \$100 a cow. The price paid for these cows was about \$55 apiece. It's a very good investment that will pay for itself in a year and give back the original purchase price besides. This is only one instance of many where large profits are made out of the dairying business. Of course, hard work is necessary to produce such results.

### VENTURA.

Gazette: The annual report of the secretary of the Santa Ana Valley Walnut Growers' Association shows that for the season of 1907 the association distributed \$140,000 to its growers. The association handled 1,118,000 pounds of nuts. The price received by the grower was \$13.55 per 100 pounds. The actual cost of operation, including final payments on the machinery, this year was 73 cents per 100 pounds, which was 19

cents less than the net cost per 100 pounds last year.

### YOLO.

The Winters Fruit Association was formed for the purpose of handling the coming crop of green fruit. The association will be incorporated under the mutual co-operative laws of California, and will have no capital stock. L. N. Brown of Acampo will be the local manager. The officers of the association are among the largest growers and shippers of green fruits in the Winters district and are all men who will inspire confidence.

### YUBA.

Coyotes are increasing in numbers in the foothills. They are growing bolder day by day and are committing serious depredations among the sheep of Western Yolo.

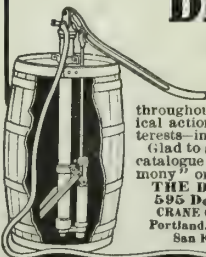
### WASHINGTON.

Not for five years have Washington growers received as little for their hops as now, states a recent dispatch from Tacoma. The best that dealers will offer is 4 cents, and many lots have been purchased at 3. Occasionally a fine lot will command 5 cents. Local dealers say there is no demand for hops from the brewers and about the only persons who are buying are those who sold hops short early in the season and are now closing contracts. Prominent dealers say hops are being sold in eastern Washington for 30 to 50 per cent less than the actual cost of production. Many hop fields will be plowed up owing to the poor returns. Considerable fault is found by growers and dealers with the Government hop reports, which are said to have been very misleading this year, as the estimates of production were very much lower than the actual yield. The same conditions are reported from Germany. The yield there is said to be very much in excess of the early estimates and early buyers were greatly misled. The weakness of the market and very low prices are also attributed to the large quantity of old hops carried over.

### Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.

THE DEMING COMPANY  
595 Depot St., Salem, Ohio.  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.



# POTASH

in the fertilizer in generous quantities makes heavy yields of clean and sound vegetables and fruits.

Strong and lusty plants resist the attacks of insects and germ pests.

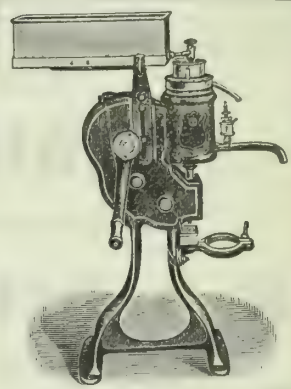
Plenty of Potash in the fertilizer assures the best crops.

Our Book, "Potash in Agriculture," is free to farmers. May we send it to you? Address

GERMAN KALI WORKS, 93 Nassau Street, New York  
Atlanta: 1224 Candler Building Chicago: Monadnock Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## FOR 16 YEARS THE BEST! STILL BETTER IN 1908 UNITED STATES Cream Separators.



The United States has always, since its introduction, separated more cream from the milk, and has done it more thoroughly and quickly than any other separator. The figures of the public national and international tests demonstrate this.

### THE 1908 MODELS HAVE IMPROVEMENTS

which make the handling of milk still easier, quicker and more profitable. They do their work more efficiently, more economically than any other, and are built to wear. In spite of the fact that the demand is greater than ever before, and that dairymen everywhere are exchanging other makes for the reliable and efficient United States, the standard separator, we are prepared to make prompt deliveries anywhere.

Write to-day for "Catalogue No. 148 and any desired particulars  
VERMONT FARM MACHINE CO., Bellows Falls, Vt.  
Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N. Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

PROMPT DELIVERY ASSURED CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

## The Fresno Scraper



3½—4—5 FOOT

Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.

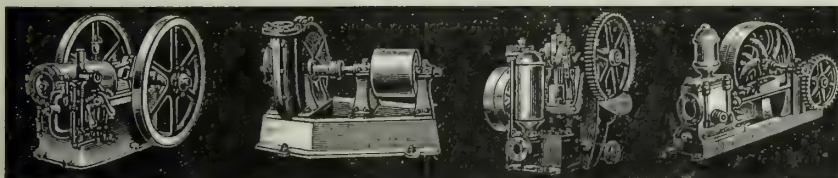
## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

For Sale: Jerusalem Artichokes  
THE GREAT WINTER HOG FEED

Fancher Creek Nurseries, Fresno, California.



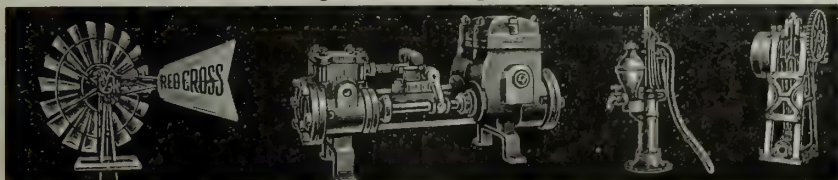
**WOODIN & LITTLE,** 70-72 FREMONT STREET, San Francisco, California

DEALERS IN **PUMPS** FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITEWASHING, ROAD SPRINKLING, SHIP, &c. POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.

WIND MILLS, TANKS, HORSE POWERS.

IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES 2 TO 50 HORSE POWER.

Send for Complete Catalogue—Mailed Free.

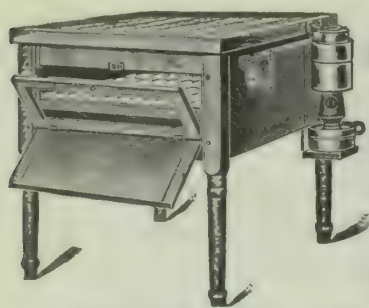


## \$30,000,000

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

San Dimas Citrus Nursery  
SAN DIMAS, CAL.  
R. M. TEAGUE,  
PROPRIETOR.





## A New Deal ON Sure Hatch Incubators For Pacific Coast Trade Lower Prices!

### Every Incubator Buyer Should Investigate

We have discontinued our Los Angeles selling agency and are selling direct to the user from the factory. We have a few machines at Los Angeles and a fine stock at Salt Lake City. Don't buy until you get our Free Catalog and New Prices. Quick action is absolutely necessary, as these machines at bargain prices will be snapped up in a hurry. Write immediately to

**Sure Hatch Incubator Company**  
Box 151, Fremont, Neb.

### Free Book and Bargain Price Certificate

SURE HATCH INCUBATOR CO.,  
Box 151, Fremont, Neb.  
Please send Free Book and Bargain Price  
Offer.

Name \_\_\_\_\_

Address \_\_\_\_\_

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## Fruit Trees and Grape Vines

We Grow on New Virgin Soil all Leading Varieties of Fruit Trees and Grape Vines.  
We Guarantee all Stock True to Name and Free from Disease.

**SPECIALTIES—Apples, Pears, Peaches, Plums, Prunes, Figs, Apricots, Cherries. Wine, Table and Raisin Grapes.**

We grow only Standard Commercial Varieties—Money Makers. Life is too short to experiment with so-called Novelties which have been untried. We have been pleasing our customers for 18 years. We refer to any bank or business house in Fresno as to our standing and reliability. Write us for prices. Large Catalogue and Souvenir Picture showing Largest Tree in the world mailed Free. Address

**THE FRESNO NURSERY**

F. H. WILSON, Proprietor.

Box R. R. 42.

Fresno, California

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not in-  
jure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinions as to Patentability and Infringement HANDBOOK FOR INVENTORS FREE  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco

## Entomological.

### The Cabbage Aphis.

Prof. C. W. Woodworth of the University of California in the course of his work with insects in southern California proceeding from the University's Laboratory of Plant Pathology at Whittier gives important information about the cabbage aphis or cabbage louse, as it is commonly called. In the multiplication of plant lice the weather is probably always a most important factor. Plant lice thrive within rather narrow limits. Rainy spells result in a general destruction of plant lice. The supposition that rain is directly fatal is wrong, but instead, the moist conditions of the atmosphere favor the dissemination and increase the virulence of the diseases which affect them. Everyone has probably noticed that while rains generally cause the destruction of the insect, in certain cases they will remain just as bad as ever; sometimes on single plants where there seems to be no reason why the weather should not have had the same effect as on surrounding plants. Since the death is due to disease, however, such cases are to be expected, due to the absence of the necessary disease germs.

A dry condition presents another limit to their continued development on a plant. As long as there are only a few lice on the plant, the conditions are rather favorable to growth and the insect develops rapidly. After the plant becomes badly infected, if the weather is dry, the insects suddenly change their mode of development and fly into the air. The drier it is at this time the less the chance of one of these migrants getting back onto a cabbage plant with enough vitality remaining to enable it to leave descendants. Whole fields have in this way become almost free from lice and many plants in almost any field not too recently planted will show the curled leaves of extinct colonies. Dry weather acts thus as a check preventing excessive numbers, but not protecting the plant from injury, since winged forms are only produced after the plant is in a bad way and new colonies are established again whenever the plant makes a new start. Winged forms can be seen in the air everywhere about the cabbage fields and it would be only an accident if a plant should escape becoming infected.

**REMEDIES.**—While it will be thus seen that natural checks are hardly classable among the things we can control and therefore make use of; at times we must resort to remedies if we are to escape the destruction of the crop, still these natural checks are usually more efficient than any practical remedy, and it is necessary to understand their nature if we would avoid the mistake of applying a remedy when not useful, or refraining from a treatment when it is most needed. There have been a few attempts at controlling natural checks. Ladybirds have been gathered and introduced in large quantities for certain other species of plant lice. No attempt in these cases was made to determine what was actually accomplished, however, and in the instances, that have come under my personal observation the results were nothing, though the growers were satisfied that the ladybirds had been effective because other conditions intervened which caused the destruction of the lice. Moisture can be secured by irrigation, possibly enough to develop the diseases, but there is no careful observation at hand to show that this is possible. Disease germs may be introduced also, and in the case of the chinch bug in the Mississippi Valley very careful experiments proved that under some conditions such introduction hastened very materially the death of the insect, when the weather became favorable. These, however, are all matters worthy enough of study and experimentation but not yet dependable for practical work.

**SPRAYING.**—As our knowledge now stands, the sole dependence in the way

## Horse Sense

Proper management of farm teams requires good sense on the part of the owner. An ignorant farm hand easily ruins the best horse by unwise feeding and mismanagement. Best results are obtained by keeping the system of the horse healthy and active, especially the digestive organs. Owners who make daily use of Dr. Hess Stock Food have serviceable, active and handsome horses. It is a tonic which acts directly upon the digestion, contains iron for the blood and nitrates to expel poisonous matter.

Professors Quilman, Winslow and Finley Dun tell us that these things are beneficial to any animal.



## DR HESS STOCK FOOD

contains such elements. It helps growth and fattening, makes a larger milk yield and gives good condition to all farm stock. Sold on a written guarantee.

100 lbs. \$7.00 25 lb. pail \$2.00

Smaller quantities at a slight advance.

Where Dr. Hess Stock food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

If your dealer cannot supply you, we will.

**DR. HESS & CLARK, Ashland, Ohio.**

Also Manufacturers of Dr. Hess Poultry Pan-a-c-a and Instant Louse Killer.

**THE PETALUMA INCUBATOR CO.,**  
Petaluma, Cal., Pacific Coast Distributors

more satisfactory than cyanide, or per-  
of remedies is to spray the plants. What spray to use is not a very important question, since the insects are very easily killed. Probably a kerosene emulsion or a distillate spray at about half the strength necessary for scale insects would be the cheapest. A soap solution, not stronger than one bar to five gallons, is the most convenient, at least, for small growers. The spraying should be thoroughly done, if done at all, for the only insects killed are those actually wetted in the spraying operation. A spray nozzle should be used, giving a rather narrow fan-like spray so that the stream can be directed accurately at the center of the plant, for at best some of the lice will escape treatment. The most thorough, careful work can be done at a cost not to exceed ten dollars an acre, and under the best conditions probably for that amount. Each grower will have to decide for himself whether in any particular case it will pay to make a treatment. One can afford to make two or three, or even more treatments rather than lose the greater part of a crop. Probably in most cases one treatment may be enough to give the plants a start and keep them growing until natural conditions arise, unfavorable to the lice.

**FUMIGATION.**—The practical impossibility of reaching all the lice with a spray makes the idea of fumigation very attractive. This method is strictly in the experimental stage, however, as applied to field crops, and I regret to say the experiments thus far made are not very promising. The cabbage louse appears to be about in the same class as the mealy bug in its resistance to cyanide, and the cabbage plant is rather liable to injury by the gas, perhaps because of the high water content of the leaves. However, it may be that it can be done, though it will be certainly more expensive than spraying. Perhaps it may be more practical for seed bed disinfection than for field work, and probably carbon bisulphide may prove

Only One "BROMO QUININE"  
That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c

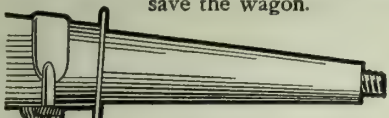




## MICA AXLE GREASE

adds years to the life of a wagon. Just what a farmer, teamster or drayman needs to make the "wheels go round" with least wear and most profit.

Poor grease cuts the boxes out of your wheels—don't use it—get Mica Axle Grease and save the wagon.



Mica Axle Grease has just the right "body" to wear long without running. Coats the axle with an anti-friction surface of powdered mica which is almost as good as roller bearings.

Your wagon needs Mica Axle Grease—ask the dealer for it.

**STANDARD OIL COMPANY**  
(INCORPORATED)



haps no method of fumigation may prove practical.

**DIPPING.**—Every precaution should be taken to prevent the first introduction of lice into a field. In most cases observed this season the insect was without doubt present on the plants when they were set in the field. A few growers practice the dipping of the plants in soap solution or in kerosene emulsion and in some cases apparently every louse was killed. Spraying the seed bed or dipping the plants before planting are both very inexpensive and certainly should never be neglected.

**CUTTING WEEDS.**—The original source of the infection of cabbage plants in the fields and seed beds is the wild vegetation belonging to the same botanical family—that is, mustard and wild radishes. A comparatively small amount of work would enable most growers to destroy such weeds as perhaps in this way produce plants entirely clean from the pest and possibly prevent the infection of the field until the cabbages have a good start, and avoid the necessity of other measures. Old seed beds should be plowed under, since they are often a prolific source of lice which migrate to other fields.

## The Stockyard.

### Fattening Stock in Southern California.

The Los Angeles Times gives an interesting account of the operations on the great Patterson ranch near Oxnard, Ventura county. This ranch contains 5656 acres. A few years ago it was a little more than waste land. The development of methods in handling this ranch have followed the laying of over three miles of tile and the establishment of a thorough underground drainage, the water being carried to a dumping station at the southwest part of the prop-

erty and pumped over the sand dunes into the Pacific. Then came the rotation of crops, only about one-third of the ranch being devoted to sugar beets at one time, the other years growing beans and grain. Lastly has come the development of the cattle fattening industry, thousands of head each year being fed upon beet pulp from the beets of the ranch, bean straw from the beans, and molasses from the sugar factory, shipped to the stockyards in tank cars and stored in big tanks.

One of the most interesting features of the stock fattening process is the large beet pulp silo, which is 300x300 feet and when full contains 60,000 tons of pulp. Pulp cars are filled at the sugar factory and are run to the silo on the tracks of the Bakersfield-Ventura Railroad. The track runs over the center of the excavation and the pulp drops through to the silo below, where it seeks its own level and is forced by the weight of that coming later to the full capacity of the excavation. It gradually becomes heated by the process of fermentation and after resting for a few weeks becomes hard and is cut away with spades and shoveled into cars which run down between two lines of troughs and connect a series of corrals on either side, in each of which are a hundred head or more of cattle. In this manner 3000 head of cattle are fed each day. Beet pulp also needs something for coarseness, the pulp alone being too rich and watery for exclusive food. On this ranch, where lima beans are used to rotate with sugar beets, to the mutual benefit of both, the residue of these two crops is employed in the feeding of cattle. One would be insufficient without the other. The straw is scattered in the corrals, and the stock feed on it, along with the pulp. In the early days it was placed in the troughs with the pulp, but this method has been discountenanced on account of the extra expense, and the results were no more effective than in the present method. The managers of the Patterson ranch find the beet pulp gives a bigger percentage of nutritive ratio to meat of pulp fed stock than almost any other food. It is claimed by prominent stock feeders that these cattle develop in a good thrifty manner, and are even superior to the alfalfa-fed cattle of the north. Horned cattle gain an average of one and one-half pound per day, and dishorned cattle two pounds per day. After 30 days they gain very rapidly and on the Patterson ranch seem to reach their ideal condition in a little less than 90 days.

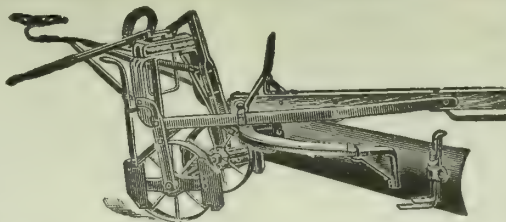
It would seem that the feeding of beet pulp to beef cattle is destined to be the salvation of cattle feeding in southern California, following the development of the sugar beet industry. It may be secured in the greatest quantities at that time of the winter when almost all of the ranges of the south are crying for rain and after the rain comes must wait several weeks before the starving stock can get the benefit of slow-growing grass. From November until the pulp gives out in spring, this date being only dependent upon the number of cattle to feed, many thousands of head of stock can not only be kept alive, but put in the finest possible shape for the market. Cattle take to siloed pulp much more readily than might be expected. The Patterson ranch management has hit upon the scheme of furnishing beet molasses that is of no avail at the sugar factory and by another season will feed more sugar molasses to stock than any other ranch in the world. A tank has been built at the pulp silo that contains a total of 200 tons of molasses. This molasses is run into tank cars on the same tracks upon which the pulp cars run and from them is distributed in the long lines of troughs the same as the pulp. It is mixed with the pulp to give it a more pleasing taste.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

## West Coast Cresol Dip

Strongest and most effective Germ Destroyer, Insecticide, and Disinfectant. Made of Coal Tar Cresolite Oil. Great caution must be exercised in using Carbolic dips and those that contain Petroleum oils. Reports in 1905 from Wyoming show that many sheep died on account of dipping in petroleum. Sulphur-Lime dips impair the quality of wool on sheep, and sometimes blind them. Tobacco dips very often sicken sheep. And none of these dips can compare in effectiveness with Cresol Dips. These, while being most effective, are perfectly harmless. Wool is improved by their use, as it not only cleanses the wool, but leaves no stain and gives it a soft texture.

But Cresol Dips differ very much. A Coal Tar Dip depends for its activity almost entirely upon the Cresylic Acid it contains. West Coast Dip is guaranteed to be made from Coal Tar Cresolite Oil containing 25% Cresylic Acid. Most dips sold in the United States are made from domestic creosote oils which run about one-half the strength of imported oil. Permission was given by the U. S. Department of Agriculture to use our Dip for the treatment of sheep scab in the proportion of one part Dip to 67 parts water. This is the highest dilution we have ever heard of being permitted by the Department. When thus diluted it costs but a trifle.

For Sale by many Dealers. If yours does not keep it, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

## GRAFTED Franquette Walnut Trees

Walnut trees require 1600 to 3600 square feet per tree, according to the soil. A tree planted to fill that space cannot be too good. In other words, too much care cannot be taken to be absolutely sure that the variety being propagated is true to name and that the seedling trees used for grafting shall be only those of first-class strength and vigor, everything else being rigidly discarded.

Our stock is selected *only* from strong, vigorous seedlings of the best types of the California Black Walnut; and our grafts were taken from our own trees, and they were grafted from the best bearing trees in the famous Vrooman grafted Franquette orchard.

Write for circular and price list if you are interested in walnuts.

## IMPERIAL WALNUT NURSERY CO.,

F. A. LEIB, Manager,

SAN JOSE, - - - CAL.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded

Patent Continuous

**WOOD PIPE**

Made from California Redwood

or Selected Puget Sound Yellow Fir.

404 Equitable Savings Bnk. Bdg.  
Los Angeles

268 Market St., San Francisco

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

**PILES CURED IN 6 TO 14 DAYS.**  
PAZO OINTMENT is guaranteed to cure any case of Itching, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.



## THE MARKETS.

San Francisco, March 18, 1908.

## WHEAT.

Wheat prices are about steady this week, with no change in any description. Speculative business has been dull most of the week, with prices unchanged, but at present futures are higher, with considerable inquiry. Cash grain has also been neglected, as buyers and sellers were apart in their views, but this week's market opened with considerable activity. There is no movement of shipping grades of any moment, but the millers are showing more interest, taking on moderate lines at quotations. Crop prospects in general are favorable, in spite of rumors of the green bug in some sections.

California White Australian..	1.65 @1.70
California Club.....	1.60 @1.65
California Milling.....	1.65 @1.70
California lower grades.....	1.30 @1.50
Northern Club.....	1.57½ @1.62½
Northern Bluestem.....	1.62½ @1.65
Northern Red.....	1.57½ @1.62½

## BARLEY.

Chevalier is still nominal, with none on the market, but there is now considerable movement of brewing, after several weeks of neglect. Arrivals have been very light for several days past, and the market shows more strength, with a material advance on everything quoted. Brewing now brings \$1.42 to \$1.50, and sales of choice bright feed have been made as high as \$1.40. Larger quantities are being taken for shipment, though this business is light for this time of year. Feed is moving well, even lower grades being in good demand and firm.

Brewing .....	1.42½ @1.50
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.37½ @1.40
Common to Fair .....	1.30 @1.35
Shipping .....	1.42½ @1.45

## OATS.

Seed oats are no longer quoted, as there is no demand for them. The market seems to be picking up, as there is a good demand for nearly everything, and higher figures are quoted. Receipts have been light for some time, and the market is about cleaned up in some descriptions. White are particularly strong, with liberal sales of northern stock to arrive. Choice white is hard to find anywhere. There is some difficulty in getting supplies for this market, as large lots of northern oats have been shipped east within the last month.

Choice Red, per ctl .....	\$1.52½ @1.60
Ordinary Red .....	1.47½ @1.50
Gray .....	1.60 @—
White.....	1.47½ @1.60

## CORN.

Prices on all descriptions of corn are steadily maintained, but the market is very quiet. With a limited demand, there have been no further arrivals from the east for several days.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @—
White .....	Nominal
Western State sacked Yellow .....	1.60 @1.65
White, in bulk.....	1.54 @—
Mixed, in bulk.....	1.52 @—
Brown Egyptian.....	1.37½ @1.42½
White Egyptian .....	1.60 @1.70

## RYE.

No particular interest is taken in rye at present. Sales are small and infrequent, and supplies offered here are very light. The small amount of California grain that is moving goes at formerly quoted prices.

California .....	\$1.47½ @1.52½
------------------	----------------

## BEANS.

Blackeye beans are quoted 10 cents higher. Otherwise there is no change in prices, everything being held steady, with no particular tendency to advance or decline. Local dealers describe the market as quiet. The season of heavy shipments appears to be about over, though some whites are still moving, but supplies are so small that any increase in the demand would cause greater firmness. Higher prices are reported on limas in the south, but quotations here are unchanged, \$4.60 being the top quotation for round lots.

Bayos, per ctl.....	\$3.00 @3.15
Blackeyes.....	3.35 @3.60

Butter .....	4.50 @—
Cranberry Beans .....	2.90 @3.25
Garvanzos.....	3.50 @4.00
Horse Beans .....	2.25 @2.75
Small White.....	3.40 @3.60
Large White .....	3.30 @3.50
Limas.....	4.50 @4.70
Pea .....	3.50 @3.75
Pink .....	3.10 @3.25
Red .....	3.50 @—
Red Kidneys.....	3.25 @—

## SEEDS.

All descriptions of seeds bring the prices last quoted, except timothy, which is nominal. The market has quieted down considerably, though there is still a good demand for some lines. All prices are strongly maintained, with alfalfa as before the firmest feature.

Utah Alfalfa .....	18 @19 c
Turkestan alfalfa.....	18 @19 c
Alfalfa .....	17½ @18 c
Broomcorn Seed, per ton .....	\$22.00 @25.00
Brown Mustard, per lb.....	3 @ 3½ c
Canary.....	4 @ 4½ c
Flaxseed .....	3 @—
Hemp.....	4 @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

It is reported that the northern millmen have reduced their prices about 20 cents a barrel, but there has so far been no change in quotations on northern grades offered on this market. Business here is very dull, even for local account, while there is practically no demand for export.

California Family Extra, per bbl. ....	\$5.40 @6.00
Bakers' extras .....	5.40 @5.65
Superfine .....	4.20 @4.50
Oregon and Washington, Family .....	4.75 @5.25

## HAY.

Arrivals of hay for the last week show but little change from the week before, 3150 tons as compared with 3320. The market continues rather uninteresting, but with prices, on the whole, fairly well maintained. Some little encouragement is found in the fact that general business conditions have improved somewhat as it is believed that this will be reflected in the hay market before long. In the country stocks are being rapidly reduced and crop prospects are excellent. The belief continues that the coming hay crop will be lighter than last year, owing to the favorable outlook for grain.

Choice Wheat, per ton .....	\$15.50 @16.50
Other Grades Wheat .....	10.00 @15.00
Wheat and Oat.....	10.00 @15.00
Tame Oat.....	10.00 @14.50
Wild Oat.....	9.00 @12.50
Alfalfa .....	9.00 @13.50
Stock .....	7.50 @ 9.50
Straw, per bale.....	50 @ 90 c

## MILLSTUFFS.

There is still considerable demand for bran, shorts, and middlings, and with no material increase in arrivals from local or northern points, the market is very poorly supplied. Under these conditions, the high prices that have ruled for some time past are firmly held, in spite of the increasing quantities of green feed. Miscellaneous lines of feedstuffs are steady to firm at former prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @—
Jobbing .....	23.00 @—
Bran, ton .....	30.00 @31.50
Broom Corn Feed, per ctl.....	90 c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @—
Jobbing .....	28.00 @—
Corn Meal.....	34.00 @—
Cracked Corn.....	35.00 @—
Mealalfa.....	22.00 @—
Jobbing .....	23.00 @—
Middlings .....	33.00 @35.00
Mixed Feeds.....	26.00 @27.00
Oil Cake Meal, per ton.....	37.50 @38.50
Rolled Barley.....	28.50 @30.00
Shorts.....	31.00 @32.50

## VEGETABLES.

Japanese onions are cleaned up, and supplies of eastern stock are low. With nothing offering from first hands for several days, prices are higher, but supplies are now ample. The demand is quiet at the high prices. Asparagus has been steadily declining, with increasing arrivals and a less urgent demand. Rhubarb is also much more plentiful, selling by the box for lower prices. Peas and tomatoes are weak, and there is little market for mushrooms.

Garlic, per lb.....	10 @ 12½ c
Green Peas, per lb.....	8 @ 11 c
Chile Peppers, per lb.....	12½ @ 15 c
Bell Peppers .....	12½ @ 15 c
Cabbage, per ctl.....	50 @ 60 c
Onions—	
Oregon Yellow, per ctl.....	3.25 @—
Eastern Yellow.....	3.15 @ 3.25
String beans, per lb.....	20 @—
Tomatoes, box .....	1.25 @ 2.25
Marrowfat Squash, per ton.....	10.00 @15.00
Carrots, sack .....	75 @—
Hubbard Squash, ton.....	10.00 @15.00
Celery, doz.....	35 @ 50 c
Egg Plant, lb.....	15 @—
Rhubarb, box .....	1.25 @ 1.75
Mushrooms, box .....	Nominal
Asparagus, lb.....	12½ @ 15 c

## POULTRY.

A very firm position has been maintained for the leading lines of poultry. The market cleaned up satisfactorily at the close of the week, and several descriptions are bringing higher prices. At present, however, there is a feeling of easiness. Arrivals are larger than they have been, and the demand is not so urgent. Small broilers in particular are weak, with lower prices, but extra hens, and all kinds of roosters, are higher with continued inquiry. Small hens are rather easy.

Broilers .....	\$5.50 @ 6.50
Small Broilers.....	3.50 @ 4.50
Ducks.....	4.00 @ 7.00
Fryers.....	6.50 @ 7.50
Geese .....	2.00 @ 2.50
Hens, extra .....	7.50 @ 9.00
Hens, per doz.....	6.00 @ 7.00
Small Hens .....	5.00 @ 5.50
Old Roosters .....	4.50 @ 5.00
Young Roosters .....	7.50 @ 9.50
Pigeons.....	1.25 @ 1.50
Squabs .....	2.50 @ 3.00

## BUTTER.

Butter shows very little change, and has apparently about reached bedrock. Shipping orders for the north at the close of last week were larger than expected, which temporarily caused a firmer feeling, and the anticipation of more business of the same sort tends to keep the prices from falling. Seconds are 1 cent lower, with everything else as last quoted. Stocks are in excess of the current requirements, however, and the feeling on the street is weak.

Cal. (extras) per lb.....	24 c
Firsts.....	23 c
Seconds .....	20½ c
Thirds .....	18½ c
Fresh Packing Stock, No. 1 .....	18½ c

## EGGS.

Buyers of eggs at Petaluma are now paying 15 cents a dozen, and say they will not let them go any lower, as the expense of production is greater than last year. The movement into storage has now become general, and the large surplus is being cared for in this way, as there is no large demand from outside. Extras went down to 15 cents here a few days ago, but are again at last week's figure. There are a good many washed eggs, which cannot be stored, and which are hard to dispose of. Lower grades show a general decline.

California (extra) per doz.....	16 c
Firsts.....	15 c
Seconds.....	14 c
Thirds .....	13½ c

## CHEESE.

Most lines of cheese remain steady as last quoted. Business is quiet, and supplies ample for all requirements. California flat first are lower at 10½ cents, and fancy Young Americas are a little stronger.

Fancy California Flats, per lb...	11½ c
Firsts.....	10½ c
New Young Americas, Fancy.....	13½ c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	17½ c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	12½ c

## POTATOES.

Prices have advanced during the week on several lines of potatoes, owing to a falling off in arrivals. The tone of the market at present, however, is weak, as liberal supplies have come in during the last few days. Salinas stock is entirely cleaned up. Sweet potatoes are higher, but new potatoes are now plentiful, with easier prices.

Oregon Burbanks.....	75 @1.00
Lompoc Burbanks.....	1.10 @1.30
Burbanks, River, bag .....	40 @ 85

Early Rose, ctl.....	1.35 @1.50
Seed Potatoes .....	75 @ 90
Sweet Potatoes, per ctl .....	3.25 @3.50
New Potatoes, lb.....	3½ @ 5

## FRESH FRUITS.

There is somewhat more demand for apples, with better prices on some varieties, but the movement at best is not large. Some Palo Alto strawberries have come in, but were very unattractive, and sold at poor prices.

Apples, fancy .....	1.25 @ 1.75
Apples, common to choice...	60 @ 1.00
Strawberries, crate.....	1.50 @ 2.00

## CITRUS FRUITS.

The recent rise in prices at growing districts has now appeared in this market. The market is in much better shape than last week, most of the old stock having been disposed of. There is a good demand for all grades of oranges, with large quantities of standards taken by peddlers. Limes are lower, but lemons and grapefruit are quite firm.

Choice Lemons.....	\$1.75 @2.00
Fancy Lemons.....	2.25 @2.50
Standard .....	1.25 @1.50
Limes, repacked .....	6.50 @7.00
Oranges—	
Fancy.....	2.00 @2.25
Standard.....	1.50 @1.65
Tangerines .....	Nominal
Grape Fruit .....	2.50 @3.00

## DRIED FRUITS.

There is little demand for either fruits or raisins, here or in the east. Still lower prices are quoted for practically everything in the fruit line, though seeded and seedless raisins are a little firmer. The opinion is prevalent that the market has reached bedrock, and a turn for the better is expected in the near future.

Evaporated Apples .....	6½ @ 7½ c
Figs, black.....	2 @ 3 c
do white.....	2 @ 3 c
Apricots, per lb.....	16 @18 c
Peaches .....	8 @ 9½ c
Prunes, 4-size basis, 1907 crop..	3 @ 3½ c
Pears .....	7½ @ 9 c

## RAISINS.

2 Crown .....	4½ @—
3 Crown .....	4½ @—
4 Crown .....	4½ @—
Seeded, per lb.....	6 @ 6½ c
Seedless Sultanias .....	4½ @—
London Layers, per box .....	\$1.20 @1.30
London Layers, cluster.....	1.50 @2.00

## NUTS.

The outlook for the almond crop in most sections is said to be excellent, in spite of slight damage done by the frost. With the prospect of considerable holdings through the country being put on the market, the feeling is very weak, though no change in prices is noted. Walnuts are firm as formerly quoted.

Almonds, Nonpareils .....	15 c
I X L.....	14½ c
Ne Plus Ultra.....	14 c
Drakes .....	13 c
Languedoc .....	12 c
Hardshell .....	8 c
Walnuts, Softshell No. 1.....	14½ c
Softshell, No. 2.....	12 c
Italian Chestnuts.....	10 @12½ c

## HONEY.

Occasional small lots of honey are coming forward, but the crop seems to be pretty well out of the hands of producers. Stocks are limited, and all prices are firmly held.

Water White, Comb .....	16 @17 c
White .....	15 @—
Water-white, extracted .....	8 @ 8½ c
Light Amber, extracted .....	7 @ 7½ c
Dark Amber and candied .....	5½ @ 5½ c

## WOOL.

The spring clip will soon be coming into the market, and dealers in interior towns are preparing for an early opening of business. The position of California clips in the eastern markets, however, is anything but encouraging, and little improvement in prices is looked for.

Spring-clip, Humboldt and Mendocino, year's staple.....	20 @22 c
Fall clip: Northern free, mountain .....	7 @10 c
do. defective .....	6 @ 7½ c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @10 c
Fall Lambs, Southern.....	6 @ 8 c
Nevada .....	12 @15 c

## HOPS.

Still lower prices are quoted on 1907 crop, and the situation offers little en-



couragement. The spread of the prohibition movement is generally assigned as a reason for the reduced consumption. There are frequent reports that next year's acreage will be greatly reduced.

1906 crop .....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 5 1/2 c
1908 (contracts).....	9 @ 10 c
3 to 5 year contracts .....	10 @ 11 c

## MEAT.

Supplies of small veal are still in excess of the demand, and large veal is lower. Spring lambs are also weak. Other lines are steady to firm, at about last quoted prices.

Beef: Steers, per lb...	7 1/2 @ 8 c
Cows .....	6 1/2 @ 7 1/2 c
Heifers .....	6 1/2 @ 7 1/2 c
Veal: Large.....	6 1/2 @ 8 c
Small.....	7 1/2 @ 9 c
Mutton: Wethers .....	11 @ 12 c
Ewes .....	10 1/2 @ 11 c
Lamb.....	12 1/2 @ 13 1/2 c
Spring lamb.....	14 @ 14 1/2 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	8 1/2 @ 9 c
No. 2.....	7 1/2 @ 8 c
No. 3.....	6 1/2 @ 7 c
Cows and Heifers, No. 1.....	6 1/2 @ 7 c
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	3 1/2 @ 4 c
Calves, Light.....	5 @ 5 1/2 c
Medium.....	4 1/2 @ 5 c
Heavy.....	4 @ 4 1/2 c
Sheep, Wethers.....	5 1/2 @ 6 c
Ewes.....	5 @ 5 1/2 c
Lambs, yearlings.....	6 @ 7 c
Spring Lambs, each.....	3.50 @ 3.75
Hogs, 100 to 200 lbs.....	5 1/2 @ 6 c
200 to 300 lbs.....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## GET A BOOK THAT MAKES YOU YOUR OWN HORSE DOCTOR.

In 9 cases out of 10 the man who is well posted on veterinary matters can successfully treat an ailing horse, cow or other animal. In many instances veterinary doctors are not at hand, anyhow, so it is necessary for the stock owner to rely entirely upon his own good judgment and knowledge. Every reader of this paper should know as much as possible about the common diseases of animals and the simple methods of treatment. A very handy practical little Reference Book on this subject can now be had by writing to the Tuttle's Elixir Co. This book, which is the product of an eminent authority on veterinary surgery, contains in a nutshell the description and symptoms of many animal diseases, and tells how, by the aid of simple remedies, any man can treat sick animals, without going to the expense of hiring a medical expert. Since the book is sent free, all postage paid, it would be well for every reader of this publication to get a copy of it at once. Then when some unexpected ailment seizes a horse or steer or other unfortunate animal, the information for reliable treatment will be right at hand. If you want the valuable little book, send your name and address to the Tuttle's Elixir Co., 147 Beverly St., Boston, Mass., mentioning this paper in your letter.

## TO MAKE HARNESS LAST.

Harness oil serves an important purpose in stable economy.

It is one of those little things that mean a great deal when profit and loss accounts are balanced up.

Everyone knows how a water-soaked shoe hardens, and how much more liable it is to crack or wear through when in that condition.

It is just so with a harness. The leather and making may be the best, but continued use in all weathers—wind, rain, sun, and cold—tend to harden and dry out the leather and leave it without "life" or elasticity. Just at this point the destruction of the harness begins, because the open pores in the leather readily absorb moisture and animal sweat, and decay at once sets in.

If a harness is kept soft—the pores filled with Eureka Harness Oil—it will go through daily service under the most trying weather conditions and last very much longer than it otherwise would.

"Eureka" is a heavy bodied oil made especially for treating harness. There are no acids or anything whatever in it that can injure leather, but it does contain elements that are positively beneficial.

When a harness is cleaned, an application of Eureka Oil makes it pliable—soft as a glove, tough as new leather. In point of fact—barring wear on the stitching—just as good for looks and actual service as a new harness.

Used Successfully for 25 Years on Sweeny, Windgalls, Etc.

I have used Gombault's Caustic Balsam for sweeny, windgalls and calloused scars resulting from wire cuts and collar sores, with very best results. I have used it for the past 25 years and it always gave entire satisfaction.—Jess W. Harper, Glenullin, N. Dak.

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.

## THE MEN WHO KNOW THE SUPERIOR QUALITIES OF



## SLICKERS, SUITS AND HATS

are the men who have put them to the hardest tests in the roughest weather.

Get the original Tower's Fish Brand made since 1836

CATALOG FREE FOR THE ASKING  
A. J. TOWER CO. BOSTON, U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO, CAN.

## TREES

## Best Stock on the Coast Every Tree True to Name CITRUS

Any quantity in all of the leading Standard Varieties. All grown at Exeter, where they develop perfectly.

## DECIDUOUS

The best of everything in all sorts, strong and healthy, will well developed roots. Properly packed and shipped promptly or when desired. Place your orders now.

## BURBANKS NEW CREATIONS

We are sole propagators and disseminators

**Santa Rosa Plum**  
**Rutland Plumcot, Gaviota Plum**  
**Formosa Plum, Vesuvius Plum**  
**Royal and Paradox Walnuts**

Send 10c. for our valuable booklet, beautifully illustrated in colors, which tells all about these wonderful new creations.

## GRAPEVINES

On their own roots and grafted on Phylloxera Resistant Roots.

**Calimyrna Figs, Ornamental Trees, Roses, Palms, Plants.**

Our large new catalogue sent free.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 18 Fresno, California, U.S.A.

## BUFF ORPINGTONS

Eight years careful selection gives our COM-MONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

W. SULLIVAN,

Agnew, Santa Clara County, Cal. Stone's throw from depot.

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth. \$1.50

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.,** Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH,** breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

## HOWARD CATTLE COMPANY.

## BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

## POULTRY.

**SANTA TERESA POULTRY FARM** can fill your orders for day-old-chicks. Eggs for hatching from best of White Leghorns, laying 75% now. Stock for sale. Send for prices. Wm. Hansam, Eden Vale, Cal.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

**GEO. C. ROEDING,** Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, DUROC HOGS,** Choice, thoroughbred Poultry. **William Niles & Co.,** Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. SHORE, Stockton, Cal.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 38 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 361 McAllister St., S. F.

## NOW READY

## THE BOOK OF ALFALFA

History, Cultivation and Merits. Its Uses as a Forage and Fertilizer. By F. D. COBURN, Secretary Kansas Department of Agriculture.

The appearance of F. D. Coburn's little book on Alfalfa, a few years since, has been a complete revelation to thousands of farmers throughout the country and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is, by far, the most authoritative, complete and valuable work on this forage crop ever published.

One of the most important movements which has occurred in American agriculture is the general introduction of alfalfa as a hay and pasture crop. While formerly it was considered that alfalfa could be grown profitably only in the irrigation sections of the country, the acreage devoted to this crop is rapidly increasing everywhere. Recent experiments have shown that alfalfa has a much wider usefulness than has hitherto been supposed, and good crops are now grown in almost every state. No forage plant has ever been introduced and successfully cultivated in the United States possessed of the general excellence of alfalfa.

The plant although known in the Old World hundreds of years before Christ, was introduced into North America only during the last century, yet it is probably receiving more attention than any other crop. When once well established it continues to produce good crops for an almost indefinite number of years. The author thoroughly believes in alfalfa, he believes in it for the big farmer as a profit bringer in the form of hay, or condensed into beef, pork, mutton, or products of the cow; but he has a still more abiding faith in it as a mainstay of the small farmer, for feed for all his live stock and for maintaining the fertility of the soil.

The treatment of the whole subject is in the author's usual clear and admirable style, as will be seen from the following condensed table of contents:

History, Description, Varieties and Habits. Universality of Alfalfa. Yields and Comparisons with Other Crops. Seed and Seed Selection. Soil and Bedding. Cultivation, Harvesting, Storing, Pasturing and Soiling. Alfalfa as a Feed Stuff. Alfalfa in Beef-Making, Alfalfa and the Dairy. Alfalfa for Swine. Alfalfa for Horses and Mules. Alfalfa for Sheep-Raising. Alfalfa for Bees. Alfalfa for Poultry. Alfalfa for Food Preparation. Alfalfa for Town and City. Alfalfa for Crop Rotation. Nitro Culture. Alfalfa as a Commercial Factor. The Enemies of Alfalfa. Difficulties and Discouragements. Alfalfa in the Orchard. Practical Experiences with Alfalfa.

Illustrated. 6 1/2 x 9 inches. 336 pages.

Cloth. Price \$2.00.

PACIFIC RURAL PRESS

## INDEX TO ADVERTISERS Pacific Rural Press

(-) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	189
Beckman, Geo. V.....	191
Bird & Co., J. A. & W.....	187
Blake, Moffitt & Towne.....	185
Bosanko Medicine Co., Dr.....	185
Breeders' Directory.....	191
California Fruit Exchange.....	192
Coates Nursery Co., Leonard.....	192
Covina Nurseries.....	185
Croley, George H.....	191
Cutter Laboratory, The.....	186
De Laval Dairy Supply Co.....	183
Deming Co., The.....	187
Dewey, Strong & Co.....	188, 192
Dietz Company, R. E.....	185
Disbrow, F. H.....	192
Driver, E. S.....	191
Fancher Creek Nurseries.....	187, 191
Fresno Agricultural Works.....	187
Fresno Nursery.....	188
German Kali Works.....	187
Hanford Nursery.....	192
Hamlin School, The.....	184
Hart, Ed.....	191
Hess & Clark, Dr.....	187, 188
Holcombe & Co., R. A.....	188
Howard Cattle Co.....	191
Hoyt's Tree Support Co.....	187
Imperial Walnut Nursery Co.....	189
International Harvester Co.....	189
Jackson & Co., T. W.....	192
Lawrence-Williams Co.....	186
Lister, Henry B.....	191
Lynch, John.....	191
McClanahan, E. E.....	187
Meacham, Frank A.....	187
Mexican Central Railway.....	182
Mountain Copper Co.....	188
National Wood Pipe Co.....	189
Niles & Co., Wm.....	191
Oakland Poultry Yards.....	191
Orange County Nursery & Land Co.....	192
Oregon Nursery Co.....	192
Pacific Coast Business College.....	185
Pear Blight Remedy Co.....	188
Roeding, Geo. C.....	191
Santa Teresa Poultry Farm.....	191
Seulberger, J.....	186
Shaw, Henry.....	192
Sharples Separator Co.....	186
Silva & Bergholdt Co.....	192
Simmons Hardware Co.....	186
Smith, Francis.....	186
Southern Pacific Railway.....	182
Standard Oil Co.....	189
Stewart, W. A.....	185
Stowe, C. A.....	191
Sullivan, W.....	191
Sure Hatch Incubator Co.....	188
Teague, R. M.....	187
Temple Pump Co.....	186
Tower Co., A. J.....	191
Trumbull Seed Co.....	192
Tuttle's Elixir Co.....	186
Van Der Naillen, A.....	185
Vermont Farm Machine Co.....	187
Wagner, J. B.....	187
Waite, Thos.....	189
West Coast Cresol Dip.....	191
Western Meat Co.....	185
Woodin & Little.....	187
Wright Brothers.....	185

## A NEW SHEEP BOOK.

"Modern Sheep; Breeds and Management," by "Shepherd Boy," author of "Fitting Sheep for Show Ring and Market," is the latest work from the American Sheep Breeder press of Chicago, and it is perhaps within bounds to say that it is the best work on sheep ever published in this or any other country. It contains over 100 half-tone engravings, among them being something like thirty of different breeds of sheep from different parts of the world. The subjects covered by this work are divided into eight parts: Part I deals with History and Breeds; Part II, General Management; Part III, Sheep Management in the Western States; Part IV, Fitting Sheep for Show; Part V, Raising House or Spring Lambs; Part VI, Dressing Sheep and Lambs; Part VII, Pastures, Forage Crops, etc.; Part VIII, Diseases. The author of this work is one of the world's best known authorities on sheep, having had practical management of flocks in several different countries, and is at present associate editor of the world's leading sheep journal. A unique feature of this work is that wherein the author seems to upset the theory advanced by some scientists that on account of the differences of the genus of the sheep and goat a hybrid from such a mating is impossible, since the pages of this volume contain a half-tone engraving from a photograph of the produce of such a mating and the statement of a member of the Government Bureau of Agriculture giving his opinion that this hybrid is genuine. This is a book that will be read with interest and profit by the veteran sheep breeder as well as the novice. It can be ordered through the PACIFIC RURAL PRESS at \$1.50, postpaid.



YOU never buy a cheap horse and expect to get a good one. Some fruit ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want.



**Muir, Lovell, Elberta, Phillips Cling, Tuscan Cling and Orange Cling**

We have a fine stock of exceptionally strong, thrifty, well-rooted trees in these varieties. Write us at once concerning your needs. These standard money makers are going fast.

## OUR STOCK

Comprises all profitable commercial sorts of

PEACHES,  
PLUMS,  
PEARS,  
APPLES,

CHERRIES,  
ALMONDS  
APRICOTS  
and GRAPES.

Send for Catalogue and Price List

Contract now the trees you want

WRITE US

# PLACER NURSERIES

SILVA & BERGTHOLDT CO.

NEWCASTLE, CAL.



## California Fruit Exchange

(INCORPORATED)

Head Office:

SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

Orna-  
mental

# TREES

FOR STREET AND TRACT  
PLANTING A SPECIALTY

NURSERY STOCK OF ALL KINDS

125,000 BLUE GUMS    50,000 SUGAR GUMS    25,000 RED GUMS

Orange County Nursery & Land Company

FULLERTON, CAL.

TAKE ADVANTAGE of the opportunity

THE ALL-AROUND TILTON APRICOT  
Is offered at special rates by the introducer.

HANFORD NURSERY

Hanford, Kings County, California.

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.  
SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1906 Seed and Plant Annual.

TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

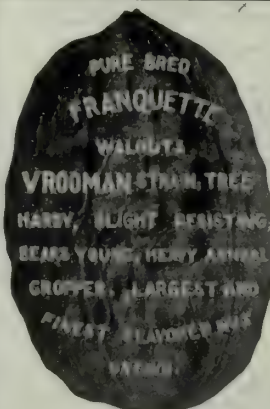
545 Sansome Street,

San Francisco

## GREENBANK

Powdered Caustic Soda and Pure Potash.

Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

OREGON NURSERY COMPANY

SALEM, OREGON.

Salesmen Wanted.

Red Gum } for  
Sugar Gum } timber,  
Gray Gum } posts, piles,  
Desert Gum } poles, etc.

Best Four. Get Our Prices.

Cling and Free Peaches, Apricots, Almonds,  
Cherries, Walnuts, and a few French Prunes.

Peppers, Acacias, Casuarinas, Italian and  
Monterey Cypress, Pine, Cedar, etc.

Leonard Coates Nursery Co., Inc.

Morganhill, Santa Clara Co., Cal.

ORANGE SEED BED STOCK

We have a fine lot of stock grown from seed of the California sweet seedling or Tahite, and from the Florida Sour orange, the latter being resistant to gum disease.

Get your order in early, before we are sold out. Planting may begin now.

SOUTHLAND NURSERIES,

F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.  
Largest Citrus seedling nurseries in the State.

Eucalyptus

Red Gum Sugar Gum

6 to 12 inches.

In Flats F. O. B. \$15 to \$18 per 1000  
Packed and Prepaid to you by Express,  
\$2.50 per 100—\$23 per 1000

HENRY SHAW,

320 River St.

Santa Cruz, Cal.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 13.

SAN FRANCISCO, SATURDAY, MARCH 28, 1908.

Thirty-eighth Year.

## IN THE SIERRA FOOTHILLS.

Our pictures suggest the Sierra foothill region nearly in its early stages of development, when it was the scene of the greatest activity of the mining pioneers. Their enterprises did not greatly change the wild aspect of the country except in the gulches, where they changed everything, even turning the ground itself upside down by their digging and washing and by the water-bolts of their hydraulicking. In these gulches also, or on adjacent slopes, their pioneer towns extended themselves irregularly, and have since that time either advanced into greater civic importance or have disappeared beneath the kindly cloak of vines and shrubbery which Nature fondly weaves over the mistakes of man. All this could be done, and millions on millions of gold could be drawn from its subterranean treasure vaults, without change in the general appearance of the country: the trees taken for fuel were hardly missed, the winter carpet of wild flowers and the summer spread of yellows and browns were still the exponents of the two-season year. It was during this early period of Californian activity that the California foothills reached their unique fame for salubrity, for natural beauty, and then, too, humanity in the foothills assumed its most picturesque and unique phases. There are many regions like those shown in the pictures where little change has occurred since pioneer times, and where the visitor, knowing of the industry, the poetry, the humor, and the heroism of the days of the argonauts, can almost persuade himself that all these things will again spring upon sight and hearing when he attains the outlook which the ridge, soon to be reached in his journey, will afford him. But he will be disappointed. The old times have passed away, and the old attitudes of people do not exist in the present generation. The foothill life pictured by Bret Harte is no more, but it has left its impress not only upon



*Rocks and Oaks in the Foothills of California.*

literature but upon mankind. Never before did men think less of little things; never before did justice between man and man attain such proximity to poetic justice. It was one of the many phases of the unfolding of manhood which is perhaps the West's greatest contribution to humanity and to progress.

Our pictures show places in the foothills where man's activity has produced least effect upon the landscape. The earth-sears of the mining industry are unseen, although the locality shown is one of the most successful in mining enterprises. Nor do the signs of agricultural development protrude except as they may be embodied in the growth of the foothill village which is in part due to adjacent agriculture. In this respect the views

we have chosen are not characteristic of those portions of the foothill region which have been traversed by overland railways or by side-lines thereto. The pictures, for instance, are not in Placer county, where the landscapes have been so radically changed by the development of the fruit interest. All along the path of the railway, as far as one can see from the car windows and considerably beyond also, the serried ranks of fruit trees have banished the natural aspect of the land. All the way from the park-like citrus groves of Whitney and others, as the trains begin their climb of favoring slopes near Rocklin, on through the almost endless stretches of vineyard and orchard of shipping fruits around Loomis, Newcastle, and Auburn, and farther still to the harder fruits of the Colfax district, the foothills of old have given way to the newer foothills which are civilized and humanized by the beauty and fragrance of the fruit blossoms and the embowered charm of the simple residence structures which befit the genial clime. In this district also the near-track industries of fruit handling disclose a bustle and create sounds wholly unknown to the foothills of the olden time. We have had many pictures representative of such scenes as these, and choose for contrast with them more peaceful places which have not yet been invaded by the later phases of foothill industry.

To find such scenes as the pictures show, one must take a stage line or one of the smaller railways which has no ambitions for transmontane greatness. To find such districts of the foothills one may take stage eastward from Marysville, and if the season is right he will depart before daylight and leave the plains just as the rising sun throws his first rays upon the snow peaks of the High Sierra far above. The gray, the blush, the gold of dawn upon these distant uplifts, once seen is never to be forgotten.



*A Picturesque Village in the Foothills.*



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.

PUBLISHERS

E. J. WICKSON

Editor

EDGAR RICKARD

Business Manager

## The Week.

We doubt if there has ever been in this State a better demonstration of the cordial relations existing between those engaged in scientific research and the California captains of horticultural industry than was held at the opening of the Plant Disease Laboratory of the University of California at Whittier last week. As announced in our issue of March 14, the meetings filled four days, mornings, afternoons, and evenings, and the average attendance could not have been less than 250. All branches of southern California horticulture, from the lowly but profitable export vegetable to the lordly walnut and citrus fruits, were included in the discussions, and prominent men engaged in both production and trade of these varied lines of soil products were active at the meetings. There was universal acceptance of systematic research by properly trained experts as the only avenue to an adequate understanding of conditions affecting production and the difficulties arising therein. Most enthusiastic praise was given to those who are pursuing such research work in southern California, both under the direction of the University Experiment Station and of the United States Department of Agriculture. Not less than a dozen men are now working in southern California under the auspices of these two great truth-seeking agencies of the State and of the Nation, and the cordial spirit of co-operation among them is most promising and delightful. It has been too common in the past to find the votaries of science snarling and quarreling and back-biting each other. Such an attitude is at enmity with the spirit of science and a stumbling block in the path of the practical man. What can be done for industry by cordial co-operation and mutual appreciation among research men and their directing principals was one of the most significant features of the Whittier meeting. Another feature was the expertness and efficiency of the investigators themselves and the frank way in which producers conceded thousands and millions of value to their work and to the changes in practice which are irresistibly suggested by their results, was inspiring and encouraging to both those who are doing the work and to those whose industry is protected, guided and made more profitable by their work.

We shall have from week to week, as space is available, many drafts from the proceedings of the Whittier meeting: also fuller information as to the outfit and undertakings which pertain to this branch of experiment station work in southern California. It is clearly foreseen at its opening that the establishment is to be unique in its work, as it is in its structures and equipment. In this issue there are several interesting things drawn from the meeting of last week: The greatness of the commercial vegetable interest at the south; the method of top-grafting the English walnut trees which are proving less profitable because of native inferiority or through blight encroachment. The fact now being generally recog-

nized, that there is an individuality in seedling walnut trees which ranges from unprofitability to wealth-production, is one of the first great results of the work of Prof. R. E. Smith and his staff in the onset which they have made upon the walnut blight. It had been formerly stated by Prof. Newton B. Pierce that the development of blight-resistance was to be the ultimate victory over the disease, and he entered upon that work with his characteristic care. Those who followed him, however, made the observation that blight-resistance was already available in sufficient degree to warrant immediate entry upon the horticultural employment of it, and now there is prospect of immediate realization of notable advantage by simply selecting the best tree or trees in the district and grafting over all less desirable trees with scions from such trees. The professional investigators are supplemented by the growers themselves, and scores of people are now studying individual walnut trees as they never did before, and from the thousands of acres of seedling trees they have a field for selection, comparison and close valuation which has been in preparation for a couple of decades. It is doubtful whether such a wide field of opportunity to profit by the variation of seedlings of a tree fruit ever existed before. By such selection and working-over of trees there promises to begin, almost immediately, a general advance in quality, in uniformity, and in yield, as well as in blight-resistance, which may attain surprising results.

This is a quick-improvement route which has only just made impression upon the public mind at least. Previous propositions to resort to immune varieties were connected with efforts to secure by hybridization and subsequent selection of hybrids. This is, of course, a very long distance proposition, and promised to be of more value to a later generation than to the present one. Such work as this is of course still in mind, and plantations of walnut species and varieties are being made by the Whittier experts to afford materials to work with. Meantime, however, they are harvesting the field which has been made ready by all the planting of seedling walnuts which has been previously done in southern California, and of which their very large product consists. It was the general conclusion from the discourses and discussions at the meeting that the discovery of a particular remedy for the blight was unlikely, and that in the simpler processes of plant-breeding and in the improvement of cultural methods would be found a way to circumvent the disease and ensure protection. The general tone of the walnut interest thus betokens expectancy and confidence, in marked contrast to the condition at the time this research and experimental work was begun. The grafting of the walnut was a leading subject of discussion, and we have an installment of it upon another page of this issue. More will follow.

Perhaps the most sensational subject at the Whittier meeting was the demonstration of the feasibility of vastly improving the condition of oranges on arrival at distant points of sale, as shown by the experiments and researches of Mr. G. Harold Powell of the U. S. Department of Agriculture. An outline of the way in which this subject was presented at the meeting is shown upon another page. If one will study carefully the statements there made, he will easily understand how it is that Mr. Powell's work is really revolutionizing the picking, packing, and transportation of oranges, and adding, as is freely declared by those who know, millions to the present and prospective value of the orange crop of Cali-

fornia. We never saw or heard of a clearer tribute paid to an agricultural investigator than was enthusiastically extended to Mr. Powell at the University Farmers' Institute at Whittier.

A good rain is now a desideratum in nearly all parts of the State. The season in most parts of the State has been admirable in its water distribution, and the general condition is good thus far, but owing to the recent rent in the clouds, showers have not fallen, and a little too much drying heat has been received. The whole State desires a refreshing bath, and the sooner it comes the better.

The California end of the sulphur question is all right so far. Mr. Briggs is still in Washington awaiting the meeting of the Referee Board, which will take place this week. It is very fortunate that Messrs. Briggs and Brailsford went east as they did, for their statements must have helped greatly to get the lifting of the embargo from this year's dried fruit product. The member of the Board from California, Dr. Alonzo E. Taylor of the University of California, has already gone east to attend the conference of the Board. He has obtained a year's absence from the university, and will, after the Washington conference, take steamer for Sweden, where he will take up the study of physiological chemistry in the University of Stockholm. He will remain at the Stockholm university for at least six months, when he will return to America and lay his observations before the board of experts. It is unofficially reported from Washington that the effect of sulphites is really unknown, and that much investigation may be needed to reveal it. This is just what the California contention has been all along, and that it was a mistake to embargo a product upon the basis of the unknown. Producers do not particularly care how long the investigation requires, providing demonstration is really attained and that the content of sulphides, whether injurious or not, is determined upon what is eaten and not upon what is never eaten.

The Oriental outlet for Pacific Coast flour is an interesting local question, and our grain growers and millers will be pleased to read that Senator Flint offered an amendment to the judicial and legislative appropriation bill for an appropriation not to exceed \$10,000 to pay the expense of investigating Oriental markets for American flour. Numerous letters were received by Senators and Representatives from milling interests of California, Washington, and Oregon, urging that some such step be taken. The House cut the appropriation available for this purpose from \$50,000 to \$35,000, and the Senate restored it to \$40,000, but that is not enough to provide for this special service. A special agent has been appointed to visit Europe and investigate the extension of the markets for flour there, and Senator Flint believes the Coast and Western States should receive consideration in a similar direction. Last year the Coast exported 4,300,000 barrels of flour and 3,600,000 bushels of wheat, nearly all of the product of the Coast.

It is not well to enlarge too much upon the price which is sometimes paid for orange land, because people might get the idea that too much money was being made from a protected industry. And yet thinking people would of course recognize the fact that individual prices do not represent property generally, and that there are other conditions than profit which enter into land values. It is gratifying to read, however, of a quarter of a million paid for an orange ranch. It is announced



from San Bernardino that W. F. Whittier of San Francisco has concluded the sale of his orange grove at Redlands Junction to A. C. Denman, Sr., of New York for \$220,000. This is the largest single transfer occurring here in a number of years. The property consists of 165 acres, all in oranges, and a dwelling. Mr. Denman, who is one of the wealthiest New Yorkers, buys the grove for a home place, and we hope he may have great joy in it.

## Queries and Replies.

### Lemon Gum and Orange Seedlings.

To the Editor: My lemon trees have had the gum disease for two years, and are in very bad shape. I went over the orchard and cut off all the gum and old bark back to the white wood and painted with antiseptic. The gum dried up and did not run any more last year, but now it is starting out again on the trees. I also pruned one tree back to a few limbs as an experiment. Will orange seed grow well if planted in nursery style, instead of sown in beds?—Reader, Fresno county.

As gumming is not a specific disease, but is an indication generally of unsatisfactory growing conditions in the soil, or is produced by allowing water to stand around the trees in irrigation, the presumption is that the continued gumming of your trees is due to the fact that you have been treating it as a local disease and have not been arranging conditions in the soil which promote a healthy growth. Your treatment should have healed the old wounds, and if drainage was furnished so that the soil would not have standing water, or if bark injury was not occasioned by contact of water with it, the trees would have assumed and retained a more healthy aspect. As it is impossible to tell from a letter which conditions prevail in your case, only these general remarks can be made.

Orange seed will grow all right in nursery rows, providing the soil is kept in the right moisture condition and the rows can be given such protection from excessive sun heat and frost injury as is desirable. The reason why they are grown in beds instead of rows is because suitable conditions can be so much more cheaply and effectively provided.

### Moist, but Not Wet.

To the Editor: I have forty acres which is so completely sub-irrigated that the hoof-marks of a horse bring up moist soil. I have been variously advised concerning the value or safety of this amount of moisture. Some say that a sub-irrigation as complete as this is just the thing for alfalfa; some say that alfalfa will not live in such a condition. I would be very much indebted for a word of advice from you in this matter, as to whether, with the water-level so near the surface, I can safely plant alfalfa, vines, or orchard.—Beginner, Stanislaus county.

In order to determine whether your soil will grow alfalfa and fruit trees satisfactorily, you will have to see at what depth the water stands. Soil may sometimes have surface indications of moisture such as you mention, and still not be saturated or water-logged. Dig a hole two or three feet deep and see if the water stands in it, and where, and, if no water stands, dig deeper and find out where the ground water is. If you find you have five or six feet of soil that is moist but not saturated, there is no reason why you could not reach success with alfalfa or fruit trees, providing you had no alkaline content to deal with. An even and adequate distribution of moisture through the soil is a very desirable thing, but excess of it is ruinous to many deep-rooting plants like alfalfa and fruit trees.

### Olive Handling.

To the Editor: Our Japanese, in picking the oil olives, either beat the trees with heavy sticks or, putting the hand about the branch on which they are picking, tear off the olives and small twigs. Does this not injure the trees and the buds of that year? Would a small hand rake be a better way of picking? Should olive trees be pruned each year?—Observer, Riverside county.

Olive trees should be systematically pruned so as to promote the growth of new shoots, because the olive bears upon new wood, just as the peach does. They should also be pruned to prevent the tree from becoming too dense, because with a heavy shade the interior twigs are unthrifty. Picking olives should, of course, be undertaken with as little injury to the tree as possible, and for small olives something like a comb or rake which one could use with one hand while holding the branch with the other, would be much better than beating with a club and pulling through the hands, because it would be less likely to injure the small shoots upon which the next crop must come.

### Late Planted Potatoes.

To the Editor: I have light loam land without clay or hardpan. This is the first year of irrigation, so there is no water below. They tell me that Burbanks are planted in July by flooding the land and not watering any more for that season's crop. Is this correct? Would it be well to plow now? How close and how deep ought the potatoes be planted? Should they be planted in the early part of July or latter? Are the Oregon Burbanks better than the other kind?—New Comer, Stanislaus county.

Potatoes are certainly grown as you suggest, and will make a good crop without further watering, providing ample irrigation is given before plowing, and the soil is sufficiently retentive so that the water which the plant needs shall not escape by too free drainage. On a loose, sandy soil this could not be accomplished, but subsequent irrigation should be required. You can plow under now the crop of weeds which may be upon the land, and plow again after the mid-summer irrigation. Plant and cultivate the potatoes in the ordinary way, except that if the soil is rather light the seed should be covered considerably deeper than in winter and spring planting.

### Onion Smut or Mildew.

To the Editor: My onion leaves have gray, powdery spots, and they all wither and die within a day or two. I think it is the onion smut, and I am going to spray with Bordeaux mixture. Kindly tell me if the mixture cures the disease or not, and if there is any better mixture. Do the onions grow all right if the disease is cured, after they have once been caught by the enemy?—Grower, Burbank.

The Bordeaux mixture is the proper treatment for onion smut, and while you are not likely to encounter the disease, it should be applied early so that it would act as a preventive. If such prevention is successful, or if the disease is arrested before it has made too much progress, the onions will certainly proceed satisfactorily with their growth, as far as this trouble is concerned.

### Planting Orange Trees and Potatoes.

To the Editor: Is it now too late to plant orange trees on a rich sandy loam, and would it be detrimental to plant potatoes on same ground between them? I have water 15 feet from surface and intend to irrigate.—Planter, Lemon Cove.

It is certainly not too late to plant orange trees, providing you have irrigation water and everything ready for the use of it as the trees may require. Potatoes may be safely planted among

young orange trees, providing you do not allow them to take water from the trees, and providing gophers, which are quite disposed to enter potato fields, do not attack your young trees. Watchfulness as to the moisture and proper measures against gophers will make your proposition feasible.

### Burr Clover Not Alfalfa.

To the Editor: Please tell me what the enclosed seeds are. We bought the seed last fall from a seedsman, who sold it to us for Utah alfalfa seed. It is now 12 inches high and has a yellow blossom on the side of the stem. Some of my neighbors say it is "burr clover." I enclose a piece of the stalk.—Reader, Merced county.

It is certain that this is not alfalfa seed, and almost as certain that it is burr clover. But burr clover can be distinguished from one or two related species only by the burrs, which have not been sent, because they have been removed by the machinery, which produces the clean seed. This is the first time this confusion has arisen, to our knowledge.

### Asparagus and Apricots.

To the Editor: Can asparagus be planted in April or not? Do peaches and apricots grow all right on the coast, where ocean breezes prevail?—Enquirer, Burbank, Los Angeles county.

You can often get good results from asparagus seed sown in April, though it is much better to start earlier. It would also be late for field planting, because you would be unlikely to find roots which are still dormant. The transplanting must be done before the shoots start out far. Peaches are not generally successful upon the immediate sea-coast, while in southern California the apricot succeeds very well under such conditions, providing the location is otherwise favorable.

### Kerosene-Irrigation.

To the Editor: We have a few apple trees badly infected with scale. We have a hand-sprayer. Would a cheap grade of kerosene applied plain be effective and harmless?

About irrigation: we have the water piped to the garden. We tried sprinkling with a hose, but there was too much loss from evaporation. The best way seemed to be to make a furrow close to the row to be watered, run the water in it from the hose for a short space, then move the hose along and cover the wet furrow immediately. It is a good deal of work, but it is effective.—Beginner, Sonoma county.

Do not use plain kerosene in spraying plants. Make a good emulsion according to the formula we have often published. Your garden experience has put you on the right track. Where you have so light a soil that the water soon loses itself in the furrow, it is a good thing to use a hose, as you are doing.

### Sour Stock Seedlings Wanted.

To the Editor: I wish to get a lot of sour stock seedling stock ready to put in nursery rows for budding later. Who has it? By the way, tell us what the "sour stock," so-called, really is.—Planter, Colusa county.

You can get plenty of sour stock seedlings from anyone advertising citrus trees in our columns. The sour orange is the orange of Seville or bitter orange. It was brought into Florida by the early Spanish settlers so long ago that it is often called "wild orange of Florida." It has grown wild for generations, but it is not a native of Florida. There are so many bearing trees in California that it is not necessary now to import either the seeds or the seedlings. In fact, it is safer not to do so. It might also be difficult to do, because our quarantine officers keep a sharp outlook against it.



## Fruit Marketing.

### THE HANDLING AND TRANSPORTATION OF CITRUS FRUITS.

By Mr. G. Harold Powell of the Bureau of Plant Industry, U. S. Dept. of Agriculture, at the University Farmers' Institute at Whittier.

I desire to summarize the work of the Bureau of Plant Industry of the U. S. Department of Agriculture, in investigating the decay in oranges while in transit from California.

The losses from decay were estimated to vary from \$500,000 to \$1,250,000 annually a few years ago.

It was a loss of that amount of money to the grower and to the shipper. It was one of the leading factors in the frequent demoralization of the eastern orange market. It gave the California orange a reputation for poor keeping quality that does not belong to it; and as the causes of the decay were not clearly understood, the responsibility for the trouble could not be fixed. It led to difficulties between the shipper, the transportation companies, and the receivers.

Through the persistent appeal of Mr. J. H. Reed of Riverside, who recognized the magnitude and complicated nature of the problem, the Department of Agriculture was induced, in the winter of 1903-04, to undertake the investigation, since when it has been carried on during each succeeding shipping season.

In passing, I cannot refrain from saying that in my experience in California in the last five years I have met many progressive men connected with the citrus fruit industry, the peers of any other class of men engaged in American agriculture. I do no one of these gentlemen an injustice by saying that it has not been my privilege to meet a more far-seeing, loyal, and wholly unselfish public-spirited worker in the interest of the citrus fruit industry than Mr. J. H. Reed.

In order to conduct the investigation it has been necessary to develop an organization of scientific men who would command the confidence and could work harmoniously with the growers and shippers in California, with the transportation and cold-storage interests, with the receivers in the markets, and among themselves in scientific team-work.

The present staff that works on the fruit transportation and storage investigations is composed of A. V. Steubenrauch, in charge of cold storage investigations in California; L. S. Tenny, in charge of the citrus transportation investigations in Florida and also in general charge of the fruit inspection work in New York; H. J. Eustace, in charge of fruit storage investigations in the central United States; S. J. Dennis, in charge of the engineering problems in transportation and storage, and G. W. Hosford and H. M. White, who are connected with the transportation and storage investigations in different parts of the United States.

In this discussion I desire to summarize the results of the investigations rather than to make a detailed discussion of it, leaving the details for a report that will be issued from Washington in the near future.

The decay in oranges in transit from California is due to a blue mold fungus which enters the fruit through mechanical abrasions of various kinds, or other types of physical weakness. It is not uncommon to find from 5 to 50 or even 75 per cent of the oranges visibly injured, the most common injuries being caused by the clippers, by stem punctures, gravel punctures, and improper packing-house facilities. These injuries are often the result of ignorance on the part of the grower and picker, but are generally caused by systems of labor hiring, of fruit handling and packing that place a premium on the quantity rather than the quality of the work done. There has been a vast improvement in the handling of the fruit in the last few years, due to the substitution of day-paid labor under competent supervision for piece-paid labor; to the picking of the fruit by the associations rather than by each member of the association; to the simplifying of packing-house equipment and to a general realization that the elimination of the mechanical injury of the fruit is one of the large problems for the citrus industry to accomplish. It is evident from our work

this year that there are still many growers and packers who are either indifferent to the question or who are finding it too large an undertaking to accomplish.

On the other hand, we have abundant data to show that fruit can be handled on a large commercial basis without serious mechanical injury. To accomplish this is a matter of business policy of good men, and of eternal vigilance.

The specific investigations aside from the determination of mechanical injury have been conducted to bring out the following points:

1. The decay in oranges handled in different ways for shipment after holding the fruit in packing houses in California about two weeks.
2. The decay in oranges handled in different ways for shipment when forwarded at different lengths of time after packing under ventilation, icing, and pre-cooling.
3. The decay in oranges handled in different ways before shipment, and forwarded under different conditions, the decay being determined at intervals during a storage of the fruit in common-storage rooms in the eastern markets.

There has also been accumulated technical data on methods of pre-cooling, on the changes in temperature in cars during the transcontinental trip when shipped under ventilation, icing and pre-cooling, and on the cold-storage of citrus fruits.

In the packing-house experiments which have been conducted in many parts of southern California for their educational effect, the oranges that are free from mechanical injuries and are handled in a simple manner develop the least decay; brushing increases it slightly, washing increases it still more, especially if the water becomes infected with the decay spores, while the mechanically injured oranges develop the maximum amount of decay.

It has been shown, also, that there is little difference in decay in oranges grown in different sections when handled in a similar manner; that there is little difference in decay in oranges picked from the same trees from January to May when handled with equal care; that the general opinion that the decay is less where oranges are cured before packing, and that the fruit is particularly susceptible to decay before the trees bloom has no basis in fact.

In the shipping experiments the least decay has developed while in transit in the sound, carefully handled oranges under all methods of shipment, and the greatest in the mechanically injured oranges. From the standpoint of the promptness of shipping after packing, the decay has increased as the time between packing and shipping has been lengthened, the greatest decay occurring in the mechanically injured oranges. As to the influence of the method of shipment, the least decay has developed in the pre-cooled fruit loaded in cars in cold condition. Pre-cooling is not essential to overcome decay, as it can be avoided by handling the oranges carefully. It does not remove the cause of decay. It only retards the development of rot while the fruit is cold in the oranges that have been made susceptible by improper handling.

In the tests of the keeping quality of the fruit after arrival in market, the fruit that is free from mechanical injury keeps the best, while the greatest amount of rot develops in the oranges that have been roughly handled and mechanically injured.

Sound fruit is, therefore, the basis for sound keeping quality while in transit, and it is the only fruit that keeps well after arrival. The oranges that are picked improperly, that are handled through complicated machinery or that are injured in any other way, are the principal ones, aside from the low grades, that rot while in transit and that bring the California orange into disrepute in the markets of the country. The matter is so plain and so clearly within the grasp of those who handle the fruit that the shipper who persistently injures the standing of the industry by shipping fruit to market that rots ought to be looked upon as a detriment to the business. A car of rotten fruit lessens the confidence of the buyer in every other car that is sold in the market on the same day.

In the tests of the changes in temperature in cars while in transit it has been found that the temperature of the fruit changes slowly. Under ventilation there may be extremes in the change in outside temperatures with relatively small

change in the temperature of the fruit, unless the extremes persist a long time.

Under icing the temperature of the fruit falls relatively fast during the first few days of the trip, and a train may cover one-third of the trip across the continent before the temperature of the fruit reaches 50° Fahrenheit. The decay develops during the first of the trip, while the fruit is warm, provided the oranges have been improperly handled.

In a car in which the fruit is cooled to 40° F. or lower before shipment, the temperature remains nearly constant if the car is re-iced regularly in transit.

In closing this summary, I desire again, as I have done many times in the past, to express the appreciation of the Bureau of Plant Industry, and the grateful appreciation of all of us who have been connected with this work of the splendid co-operation of the growers, the shippers, the railroads, the cold-storage interests, and the receivers in New York. This co-operation on the part of the various interests connected with the citrus fruit industry and the quick application of the results has not only made the investigation possible, but it has been the chief source of encouragement and inspiration to those who have been officially connected with the work.

## The Irrigator.

### IRRIGATION BY THE BORDER METHOD.

By C. E. Tait, Engineer of Irrigation Investigations, U. S. Department of Agriculture, Imperial, in the Desert Farmer:

To some of the settlers in Imperial valley irrigation is entirely new. To others the particular methods of applying water to land in common use in the valley are new. Furrows are used for the irrigation of melons, grapes, vegetables, etc., while alfalfa and grain crops are irrigated by flooding.

The method of flooding which is most practical in the Valley is the border method. No other method allows the use of such large heads, and this is very desirable on the large ranches of the valley. Both contour borders and straight borders are used. In both systems the field is divided into a number of compartments known as 'lands' by borders or little levees. The borders are about one foot high and from six to eight feet wide through the base. Wide borders are always to be recommended, because they are not impaired by being run over with farm machinery.

In the contour system the borders run on contour lines, or lines of level, just as contour ditches are run for flooding in the Rocky Mountain States. The contour borders, or contours as they are called, are necessarily crooked, but their general direction is transverse to the direction of greatest slope of the field. The contours are usually established by the surveyor's level, but home-made devices for running level lines may be used. The contour interval or the difference in elevation between two contours is three or four inches. The lands are usually long strips with irregular curves. Where the borders are made by the Fresno scraper, and this method makes the most substantial border, the earth may be taken from the upper side of the compartments for the construction of the borders. This brings the land nearer a level than the original slope of the field, and when flooded the water will approach a uniform depth over the entire land.

The water is turned onto the lands at one or both ends, or at the middle from a supply ditch running at right angles to the general direction of the contours. If the contour interval is three inches it is necessary to cover the lower side of the land to a greater depth than three inches in order to wet the upper side. Small wooden gates are placed in the ditch banks to let the water in, and in the contours for drainage.

It is a more simple process to lay out a field with straight borders than with contours. The borders are straight as the name implies, and parallel each other at distances apart from sixty to 100 feet, depending upon the slope of the land from one border to another. The direction of the borders is from the high side of the field to the



low side. They divide the field into rectangular lands, usually from one-eighth to one-half mile in length. A foot border is constructed across the ends of the lands at the lower side of the field, and the head ditch is brought along the upper side where water is turned into each land through a wooden gate placed in the ditch bank. A field usually has a slope in two different directions along adjacent sides. In this case it is well to take the earth for a border from the higher side of the land, as it levels the land to some extent in the direction at right angles to the borders, and prevents the water crowding toward the border on the low side. Alfalfa is sometimes seeded by drilling, when the little drill furrows are made parallel to the borders, and this has a tendency to lead the water in the right direction during the first irrigation and prevent the water from crowding toward one border. In the contour system the water begins to accumulate at the lower side of the land and rises until the entire land is covered. With straight borders the water has a slow passage toward the lower side of the field.

A field laid out with straight borders is similar in appearance to one laid out with the check system as used in the San Joaquin valley, but with the latter the compartments are actually leveled, while in the former the natural slope of the field is maintained, and is very desirable, if not necessary.

Both the contour and straight border systems have merits, and they are adapted to slightly different conditions. Straight borders make a much more attractive farm and are more convenient for the use of machinery. Contours can sometimes be used for flooding high slopes, or fields with slopes in different directions where straight borders cannot be used. A few years ago it was thought that contours were necessary on grades above six feet per mile, but it has been found that in many cases the straight borders can be used on grades as high as ten feet per mile. Water can probably be handled better on high slopes with the contours, but the advantages of the straight borders are enough to make them preferable wherever they are practicable. A larger head can be used in irrigating with straight borders than with contours. Contours are being replaced with straight borders on many ranches in Imperial valley.

With straight borders one man may successfully use a head of ten cubic feet per second, or five hundred inches, provided there are good gates in the ditches. He may irrigate as much as eighty acres in twenty-four hours.

The rapidity with which water passes over the land depends upon the fall of the land, character of the soil, stage of growth of the crop, and size of the head used. The soft and more sandy soils of the valley take up the water rapidly, while on hard soil it is difficult to wet the ground to a good depth and prevent the accumulation of surplus water at the lower end of the field. It is obvious that a much larger head can be used on soft land than on hard land, and that the duration of the irrigation may be correspondingly shorter. The water will pass over new land or land closely cropped much more rapidly than over a field of rank alfalfa or grain. Some ranchers irrigate alfalfa just after it has been cut, with sometimes second irrigation before the next cutting, while others irrigate it a short time before it is ready to cut, allowing only for the field to dry enough to permit mowing.

There is opportunity for the irrigator to show considerable skill and ingenuity in adjusting his gates to distribute the water properly to suit the conditions. If the stream of water running onto any one land be too small the upper end of the land will be sufficiently wet before the water has reached the lower end, while if the stream be too large the water will rush to the lower end and collect in a pool. Ordinarily all water should disappear within forty-eight hours after a land has been flooded. If it is allowed to stand for a much longer period in the hot sun of the valley alfalfa is in danger of being damaged by scalding. Care should be taken to drain off any surplus after the ground is sufficiently wet.

A good method to prevent a surplus at the lower end of the field laid out with straight borders is to run a border across the lower end of the field parallel to and a short distance from the foot border; this forms little lands from which the water may be withheld until the irrigation of the rest of the field above has been finished. The sur-

plus from the lands above are then drained into the little lands to irrigate them. With such a method less constant watching is required.

The results that are obtained from such careless and wasteful irrigation as is sometimes seen in the valley can only be attributed to the wonderfully fertile soil and admirable growing climate, in spite of the careless use of water. However, considering the extremely hot and dry climate and long growing season, the amount of water used in producing crops in the valley is very small, and it is a surprise to many who have had experience in irrigating elsewhere to find that nine cuttings of alfalfa, which requires more water than any other crop, are made with the annual application of not to exceed four acre feet per acre, or an aggregate depth of four feet on the land. Alfalfa is given from twelve to fifteen irrigations in a year, and after the first year not more than three inches of water is applied each time. To apply three inches of water to a field of eighty acres with a stream running at the rate of five cubic feet per second requires about forty-eight hours. It only requires from one to one and one-half feet of water to produce a crop of barley. With water at fifty cents per acre foot and a method of application like the border method, which allows a large area to be covered in a short time, the irrigation is not expensive. The country is yet new, and as large holdings are cut up into smaller tracts, in the future great improvement may be expected in the handling of water.

## Horticulture.

### STRAWBERRY GROWING IN OREGON.

Mr. A. J. Shipley of Monmouth has prepared for the Oregon Agriculturist an account of his experience and of the few things he has learned while he has been trying to transform an old, run-down, side-hill farm into a strawberry patch. He writes:

When one begins the systematic culture of the strawberry he should first decide on about how large an acreage he can handle and do the work well. We will suppose he wants two acres in bearing all the time. Then, I would select four acres to be devoted to this fruit; I would aim to put one acre in corn each year, and the next year plant it to berries. We will suppose you have raised your acre of corn the past year, then this should be thoroughly plowed three times, each time being disced and fined down as deep as plowed. The first plowing should be about four inches deep, the second about seven, and the third about ten inches deep. This should be done as early in the spring as the ground can be worked. I have never been able to get my ground in proper condition with less than three plowings, and when the ground is in proper condition to work it can't be disced, harrowed, and clodmashed too much.

After the ground is in good condition, lay it off in rows as straight as possible. For this I use a sled with runners three feet apart. Be sure to get your first row straight, and then keep one runner in the last track and your rows will be the same distance apart—a fact you will not regret when you begin cultivating. It seems hardly necessary for me to say if you are going to raise many berries you must arrange to do all the work possible with a horse. When you have used a horse and cultivator all you can, you will still have all the hoeing you will want.

After our ground is laid off, we are ready for the plants. These should never be taken from an old fruiting bed, but either from a regular propagating bed or a young bed that has never borne fruit. Before putting out the plants they should be properly trimmed. About one-fourth of the roots should be cut off, and all of the top except about two leaves. In pruning the roots use a pair of scissors; straighten out the roots and cut them square across, taking off about one-fourth the total length of the roots. By this means all mutilated roots will be cut smooth, and rootlets will start to work at once in the mellow, moist soil.

In setting, we always use a spade. One person sets the spade, pushing it from him and drawing it back, thus making a V-shaped opening. The plant is then spread out fan-shaped and carefully

inserted in the opening. The plant should be set a little deeper than it grew in the nursery. The spade should then be set about two inches back from the plant and the earth pushed firmly about the roots. The soil should then be pressed firmly about the crown with the foot. The crown of the plant should never be covered up, nor should the plant be set so high the roots are exposed.

In setting, I put the rows three feet apart and the plants about two feet in the row. After the plants become strong and vigorous I train out a runner each way and fill in the space so as to form a solid hedge row across the patch.

Cultivation should begin as soon as possible after the patch is set, and should be continued at intervals of ten days during dry weather and after each rain. One should never allow a crust to form. In cultivating I run through between the rows with a cultivator and then follow it with a small clod-masher that has handles; this passes between the rows, leaving the ground smooth. Then with a hoe I go through and break up the ground around each plant. All blooms should be kept off the first year, and all runners except what you want to fill out the rows with. By so doing, your plants will build up a heavy crown and develop a strong root system and be in condition to give you a heavy crop the next year.

As soon as possible after your first crop is gathered, run over the patch with a mower, and if you have litter enough after it is thoroughly dried burn it over. If not, rake the trash up and haul it off. Then run two furrows between the rows, throwing the dirt away from the plants. The patch should then be thoroughly harrowed and clod-mashed. By the time you have finished it will look as though you had no vines left, but in a few weeks you will be surprised at the result. In working over the patch, care should be taken to get about one-fourth inch of fine dirt over the crown of each plant. This will enable you to build a new crown and root system, upon which will depend your crop for the coming year. The patch should be hoed and cultivated the same as a new bed.

After the second crop is off I would plow the ground thoroughly and plant it to corn or some other hoed crop before putting it to berries again. I am satisfied if one expects to keep two acres in bearing it will pay to follow this plan, keeping one acre in corn, one acre new bed, one acre first crop, and one acre second crop, to be plowed up and followed by corn. If vetches could be sowed between the rows of corn at the last cultivation it would be an advantage, as they would protect the ground from washing and furnish a supply of fertilizer to turn under. A good coat of manure before planting the corn would also be acceptable.

As to varieties, plant those that do best in your immediate vicinity. Those that do well for me might be a failure on ground a mile away. I have tried the Magoon, Marshall, Bederwood, Wilson, and Clarke's Seedling. The Marshall I find far superior to all others. The Wilson with me is a total failure. I expect hereafter to raise the Clarke's Seedling for an early berry and the Marshall for my leading crop. The Clarke's Seedling ripens about two weeks earlier than the Marshall, but will not bear half as many berries. My advice to anyone is, "Don't plant largely of any variety unless sure it will do well on your ground."

### TWO IRISH QUESTIONS.

To the Editor: I see in your issue of February 8 a reference to the feeding of prize cattle for the London exhibit on West Meath grass.

I have been to a good many fat stock shows in London between 1859 and 1892, and what always struck me was the labels hung on the pens as to the feed, and I remember most prominent at that time was "Fed on Blank's Food for Cattle."

I remember as a boy visiting a farm and seeing a fat "beast" in a pen, the floor about two or three feet lower than the surrounding floor. Expressing my surprise as to how he would get out, I was told that by the time he is fat enough for the show, the bedding would be floor high.

I should have thought that the long railway journey and the rough sea one would have upset the Meath fed cattle for the London shows.

W. J. H.

Redding, Cal.



**DANGEROUS**  
as well as painful

Backache    Neuralgia  
Lumbago    Rheumatism  
Stiff Joints    Sprains

**Gombault's Caustic Balsam**  
WILL RELIEVE YOU.

This penetrating, soothing and healing and for all  
Sores or Wounds, Eruptions, External Cancers, Burns,  
Bites, Cuts, Scalds and all Swellings where an outward  
application is required CAUSTIC BALSAM HAS NO  
EQUAL. Removes the cause—strengthens the muscles.  
Price \$1.50 per bottle. Sold by druggists or sent  
by express prepaid. Write for booklet L.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

## The Poultry Yard.

California City Squab Product.

In the Weekly Chronicle we find a sketch which may be helpful to our suburban readers. This from the pen of R. S. Ransom, who is making a comfortable income from pigeons raised on "city lots" in Los Angeles, will interest most of our readers, for it is with the commercial side of pigeons this article will deal.

The amount of misinformation given on this subject is simply appalling. Why is it necessary for some people to grossly exaggerate anything said or written containing homer squab raising, when the plain unvarnished truth presents the matter in a favorable light? It is true that as an industry squab raising requires less capital and less work in proportion to returns than any other business of similar character. It is not right to lead people (as some do) to believe that all that is necessary is to buy a miscellaneous lot of pigeons, place them in lofts, feed and water them regularly and sit down to wait for the coin to roll in. The individual who embarks in the business of raising squabs for market with such an idea is doomed to failure from the start. My advice to the beginner would be, says Mr. Ransom, "don't go into the business; grow into it."

Make a beginning with a reasonable number of birds, in order that you may know absolutely that they are properly mated when placed in the breeding pen, and that you may have an opportunity to study the birds and their habits as your flock increases. After you have acquired sufficient pigeon knowledge, you can begin selling squabs, and from the revenue thus derived buy additional breeders, being careful to deal only with those whose stock is equal to or better than yours. This point cannot be too strongly emphasized—"it pays to buy the best." If you contemplate having a loft you will want birds that will produce from eight to ten pairs of squabs a year, and not old played-out stock that may give you from two to four pairs or may not have fertile eggs.

In order to protect yourself in this particular, buy young and healthy birds from breeders of reliability and responsibility. Experience proves that young birds just mated are far preferable to "old-mated birds" that have worked for months or years in a certain loft to which they have become attached. The old birds in many instances will mope and pine for the old home, while the young birds will go to work without delay.

Now as to the birds best adapted to the work of squab raising: The most prolific bird and the best feeder is the homer pigeon, and a carefully selected loft of these superior birds will show their owner an average annual return of eight pairs of squabs per year for each pair of breeders. It costs in this locality about \$1 per year to feed a pair of breeders. As the squabs are ready for market when four weeks old and sell for at least \$3 per dozen, the reader can easily figure the profit. In this connection it should be borne in mind that, unlike chickens and turkeys, the feeding of young pigeons is attended to by the parent bird, thus saving a great deal of time, trouble and attention

which in other branches of poultry raising must be looked after carefully by the individual in charge of the plant. It seems the pigeon has never reached that stage of thorough domestication where the young birds may be fed artificially, but, like the wild birds of the forest, the pigeon is one of the few domestic fowl that attend to the feeding of their young, at first with what squab raisers call "pigeon's milk" and then grain until they are old enough to shift for themselves. Thus one of the most troublesome parts of chicken raising is absent in pigeon culture.

The main advantages of raising homer squabs for market over the squab of the common pigeon and other poultry are these: Less competition, less trouble in attending to the young, for the old birds do all the work; larger squabs and more of them, which means a better price and more frequent sales, and when a pair of pigeons are once firmly mated, they will remain so and do well for 10 or 12 years unless separated by accident or disease. From a pair of first-class homers you can depend on raising from eight to ten pairs of squabs per year, which can be marketed at the rate of 50c per pair dressed, while the cost of feeding the old birds will not exceed \$1. Pigeons lay two eggs for a setting; one day intervening between the laying of the first and second egg. The incubation requires about 18 days, and, while attending to the young in one nest (there should be two nests in the loft for each pair of brooders), they generally build another nest and have eggs before the young are capable of taking care of themselves. The birds breed all the year, except during the molting season, which occurs in September and October.

The first thing connected with a business of this kind is to have good quarters for the birds. This does not mean anything expensive. An idea of the space required may be had from the following: A room 10 by 12 feet and six feet high at the eaves will accommodate 40 to 50 pairs very nicely, which will be enough to keep together in one place, as too many birds kept together in one place complicate matters. This number is all a beginner should start with, and should not be increased until the birds and their habits are learned and some knowledge of the business is gained.

Pigeons, besides requiring good feed, must have plenty of fresh water. They want a good supply, not only for drinking, but for bathing, which they much enjoy. They also need grit and cracked oyster shell to aid digestion and to form the egg shell, salt, and occasionally charcoal. All these keep the birds in health; without them they become sickly and die. More pigeons die yearly from lack of grit to digest their food than from natural causes. Almost all diseases of the pigeon originate from some neglect of the owner. Homers are good breeders, are a good paying stock to have, as they require less attention than chickens, but to secure the best results from any flock, the birds must have proper attention. If you contemplate raising squabs on a large or a small scale, write to the Department of Agriculture, Washington, D. C., for a copy of Farmers' Bulletin No. 177. That publication treats fully and fairly on the subject of squab raising. This Government publication can be depended upon as the most reliable work issued on the subject. If, after reading, you decide to engage in the business, buy your birds from some breeder upon whom you can depend for an equal number of males and females. There are persons in Los Angeles whose experience in this respect proved costly and vexatious.

## The Field.

### Measuring Hay in the Stack.

The following discussion of measuring hay for weight in the stack appears in the Kansas Farmer and may help some of our readers:

The number of cubic feet allowed for a ton of alfalfa is usually 343, sometimes

# BEEF SCRAPS

# RAW BONE

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

less, and even as low as 216 feet. Of prairie hay, settled, 422 feet is usually called a ton. Most of the hay is put in "ricks" or stacks having rectangular base, put up with a stacker to the height of 16 feet. The usual method of measuring is to find the average length, the width on the ground and the average distance over. The contents are obtained by adding the width and "over," dividing by four, multiplying the quotient by itself and this product by the length. For small, low ricks, subtract the width from the "over," divide by two, multiply by the width and length.

There is no established rule for measuring round stacks. The following rule will approximate the contents of a stack of the ordinary form: Find the circumference at or above the base or "bulge" at a height that will average the base from there to the ground, find the vertical height of the measured circumference from the ground and the slant height from the circumference to the top of the stack. Multiply the circumference by itself, divide by 100 and multiply by eight, then multiply the result by the height of the base plus one-third of the slant height of top. The hay in a round stack is necessarily less compact than in a rectangular stack, hence a greater number of feet should be allowed for a ton. — J. H. Austin.

Alfalfa hay, when stacked 60 to 90 days: Subtract the width of stack from the "over," divide this by two, multiply the quotient by the width and the length, then divide this by 422, which is the amount of 7½ feet square (cube). This is also used for measuring cane in stack. — L. I. Diesem.

Add the width of the overthrow, divide by four, square the result, multiply by the length and divide by 512. This will give you the number of tons after the stack has settled for 30 days. The advantage of this rule is that the shape of the stack does not matter. By adding the average width to the average overthrow, you practically put the tape around the stack. Taking the fourth of this gives you one side of the square, which multiplied by itself, gives the square feet in the end of the stack. This again multiplied by the length would, of course, give the number of cubic feet in the stack, 512 of which is the general measurement allowed to a ton here, 30 days after putting up; or 420 cubic feet of hay that has been up over six months. As you say, there is a great difference in hay. This rule is, I think, as fair as can be had for the buyer and seller for the ordinary prairie hay put up in good condition. — G. E. Goddard.

The rules for measuring hay in the stack will vary according to the length of time the hay has been stacked and the kind and quality of the hay, and also according to the character of the stack. With alfalfa or prairie hay which has been stacked for 30 days it is usual to compute an eight-foot cube or 512 cubic feet as a ton. When the hay has been stacked five and six months, usually 7½-foot cube or 422 feet is calculated

for a ton. In old stacks which have been stacked a year or more a seven-foot cube or 343 cubic feet is allowed for a ton.

There are different methods for measuring stacks, depending upon the shape of the stack and also upon its size. For a long stack or rick the usual method is to throw a line over the stack measuring the distance over the stack from the bottom on one side to the bottom on the other; add to this the average width of the stack, divide this sum by four (which equals one side of the square), and multiply the quotient by itself and this product by the length of the stack; this will give you the number of cubic feet in the stack, which may be divided by 512, 422, or 343 in order to find the number of tons. For small, low ricks the rule is to subtract the width from the "over," divide by two, multiply by the width and multiply the product by the length, dividing the result by the number of cubic feet in a ton.

The rules may also be used in measuring any kind of hay, cane, or Kafir-fodder in the stack. However, for cane or Kafir-fodder only approximate results can be procured by stack measurements, because the fodder is apt to vary very greatly in weight according to the moisture it contains. — A. M. TenEyck.

## Sylviculture.

### The Eucalyptus Prophetically.

To the Editor: It may be encouraging to your Hanford correspondent to know what others are doing. In support of the inference made in a recent communication, I find that in the neighborhood of San Juan, not far from Gilroy, was started many years ago a tobacco field on an extensive scale. Groves and windbreaks were planted of Monterey cypress and pine, and the tobacco, not proving a success, was, in the course of time, given up, and the property changed hands. The present owner, seeing the timber in sufficient quantity, put up a sawmill, and is turning out a lot of fair lumber, though no one would have selected these trees for that purpose. I also find that a pioneer farmer of Chino, in the southern part of the State (Mr. W. Jacob Schaefer) has installed a sawmill to cut up his eucalyptus timber. This follows just as naturally as a fruit or vegetable cannery follows the planting in sufficient acreage of suitable varieties of fruits or vegetables.

Several companies have lately incorporated in southern California for the purpose of growing eucalyptus timber and erecting sawmills, factories, etc., some of these companies being composed of local business men, as one beginning to operate at El Cajon, with \$750,000 capital actually subscribed. Other companies are being formed by Eastern capitalists, as evidenced by a





**Don't Let Harness Rot**

Don't let wind, rain and sweat eat the life out of it. To make harness last, soften it occasionally with

**EUREKA Harness Oil**

Gets right down into the leather and fills the pores before moisture (which rots it) gets in. An application of Eureka Harness Oil renews the life of the harness. Use it often. Made by

**STANDARD OIL CO.**  
(Incorporated)

letter I recently received where the parties want estimates on a contract to furnish over one million trees for planting in the San Joaquin Valley.

One of the largest citrus growers of the south, at east Highlands, will begin this spring an extensive and permanent planting of eucalyptus trees for timber, and I could fill a column with items relating to the planting that is now being done, mostly in lots of from 5000 to 50,000 trees, not only in southern California, but in the San Joaquin and Sacramento valleys, about Modesto, and through the Santa Clara valley into San Benito and Monterey.

Referring to the planting in San Bernardino, the Evening Index says: "Lumber dealers are now offering to contract for many years in advance to purchase the lumber at \$300 per thousand feet for any timber that will saw 1x4, the price now being paid for the same lumber in the rough f. o. b. Australia." I am familiar with what is being done at a hard-wood planing mill in San Jose, and can verify what the editor of the PACIFIC RURAL PRESS said in regard to it. A visit would convince the most skeptical that eucalyptus lumber is going to be used all over the United States, and California is the State to produce it.

To engage in this industry must be at present, to some extent, dealing in futures. One would hardly expect a canner to contract for the crop of fruit before the trees were planted. The careful investor may study the government reports, gather all the available facts, make his own deductions from what is here mentioned, and plant eucalyptus trees or not, as his judgment dictates.

LEONARD COATES.

Morganhill.

[We never expressed any doubt of the present passion to plant eucalyptus. It is also perfectly evident that boomers are taking fast hold upon public credulity. No doubt it will pay to grow eucalyptus and we sympathize fully with the disposition to plant the tree, but why not be reasonable about it? The claim that dealers are willing to contract for many years in advance for 30 cents per foot, board measure, gives our believery a pretty hard jolt.—ED.]

#### Will Eucalyptus Growing Pay?

To the Editor: I am one of those who think that the man, woman or child who plants a tree in the right place, and nurtures it, is a benefactor to his kind.

The afforesting, or reforesting, of suitable lands is, and will be, a profitable branch of farming. Moreover, dendrology has as much right to be called a science as ichthyology, and I don't know why the arboriculturist is not as much a scientist as the ichthyologist or entomologist. But the gist of these lines is that he must be content, like most other scientists, with a moderate compensation. Recently an invitation was tendered me to become a director in a

eucalyptus growing corporation. Its promoter, like most of that ilk, unfolded so dazzling a prospect of future gold as put Aladdin's lamp in the shade. At the end of six years there would be avails of \$100 per acre; at twenty there would be board lumber sold to the tune of \$40,000 per acre. Assurances were made me that the tables published by State Forester Lull would warrant such expectations.

As you know, I am a little past the first bloom of youth, so I took the pains to look up Mr. Lull's tables. Among other experiences there recorded were those of Hon. Ellwood Cooper, whom I have long known as a reliable authority. I found that, figuring the whole thing down to an annual average, his returns were about equal to 2½ cords of available firewood per acre per annum. This was for the period of 29 years covered by the investigation.

The experiences of various others can still be read by any one who cares to send to Mr. Lull at Sacramento a request for his bulletin on the subject. The largest annual output was from acreage at the Presidio of San Francisco. This was some 6½ cords per acre per annum.

What the stumpage value per cord may be depends of course on locality. Drawing from personal experience, I am the envious owner of probably some 100,000 cords of wood, all within five miles of a city of 70,000 inhabitants. I should gladly snap at an offer of 25 cents per cord stumpage.

Nevertheless, were I a little less distant from that bloom-of-youth period, I should not hesitate to buy suitable low-priced land and plant eucalypts in large quantities, feeling that the investment would probably prove very profitable. And if I were planting only one eucalyptus to adorn and cheer my home, I should certainly choose that bright-blossomed Eucalyptus ficifolia, with its resplendent masses of scarlet flowers decorating all outdoors.

EDWARD BERWICK.

Pacific Grove.

#### To Fight Forest Fires in California.

A co-operative agreement for the patrol of dangerous foothill areas in and around the Sierra National Forest, California, where forest fires have done considerable damage in the past years, has just been entered into by the United States Forest Service and G. B. Lull, State Forester of California. The work will be in co-operation with Kern and Tulare counties. Each county will furnish two fire wardens to serve from May 15 to October 15, and the Government will furnish two guards in each county for the work during the same period. The entire force of eight men will be appointed by the officers in charge of the Sierra Forest, and the patrol organized and directed so as to protect most effectively the entire foothill belt within and outside the National Forest. The protection of this foothill region is most important, for it is the most dangerous fire belt in California.

State Forester Lull is most hopeful that the plan will work in checking the dangerous forest fires to a degree where loss through them will be very little compared with losses in previous years. The Government's foresters in Washington have also approved the plan of co-operation in all of its details, and have said that the Forest Service will be ready to put it in effect in other forests in California where local conditions warrant and where the necessary guards can be furnished without serious injury to their work. Forest officers and individuals who desire such co-operation in fire fighting between the Government and the State have been requested to confer with State Forester Lull.

## IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

If you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense.

For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading.

The Cloverleaf Endless Apron Spreader  
The Kemp 20th Century Return Apron Spreader  
The Corn King Return Apron Spreader

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.  
(Incorporated)

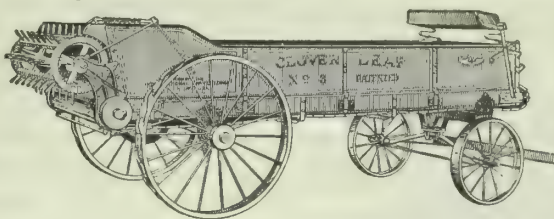
You will make no mistake in buying any one of these right working, durable I. H. C. spreaders.

I. H. C. spreaders are not built excessively heavy, but they have the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but all have good strong broad tired wheels, simple and strong driving parts, are easily and conveniently controlled, and do first-class work with any kind of manure.

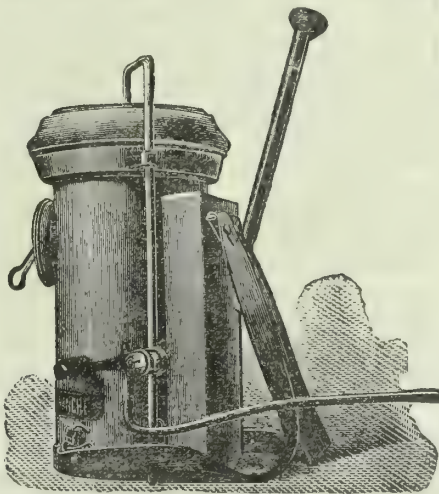
Any I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

If you prefer, write direct to our branch house nearest you for any information desired.



## NOW READY

### The Vermorel Torpille Knapsack Sulphuring Machine



We could not supply the demand last season so would advise you to

PLACE YOUR ORDERS NOW

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring EASY WORK AND saves sulphur. Recommended by users as the MOST effective sprayer used for the purpose.

Price \$15 net.

SOLD BY

**THE H. C. SHAW CO.**  
Stockton, Cal.

General Agents for the United States.

SOILING CROPS AND THE SILO.—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth. \$1.50

PLANT LIFE ON THE FARM.—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth. \$1.00

IRRIGATION FARMING.—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages, 5 by 7 inches. Cloth. \$2.00



## The Home Circle.

### Some Other Time.

"Some other time, I'm busy now," I said, And saw him go, with sad, uncertain tread, His broken trinkets dangling by his side; "Some other time!" His little plea denied, His little lingering figure in the door, And then a shadow, and the world once more, And strife and conflict and the sea of care That hid from me my whimpering baby there!

"Some other time, I'm busy now!" He went. With child lips puckered and his fair head bent, A crystal tear drop trembling from his eye, And in his throat a sob, his breast a sigh; The broken engine trailing after him Into the shadows that his grief made dim; I could not stop, I thought, so let him go, He'll soon forget and soon put off his woe!

Some other time—and now he never comes, No broken trinkets and no battered drums, No unkept promise and no chance to say: "I'm busy now, run out awhile and play!" Some other time—and I am waiting, dear, For little footsteps that I'll never hear, And little lips that never more will be In childhood love held up like blooms to me!

Some other time and here I sit and dream Of golden childhood with its eyes a-gleam, Rushing for help and comfort, as he came To me that day, with all his heart aflame; While care-bowed fathers cry, as I cried then: "Don't bother me, I'm busy, come again," And watch them fading in the enfolding gloom Where faltering footsteps lead them from the room!

Ah, bring them now, dear son, those toys of thine, Unto these idle, trembling hands of mine, The little barrow, with its broken wheel, The shattered engine and the battered reel, The bursted spring, the top that will not run, The leaking sailboat and the twisted gun; I shall find time to mend them as I said, For all my need of hurrying now hath fled!

Some other time—and now 'tis I that go With head averted and sad tread and slow, Calling the little shadow here and there, Through empty hallway, up the hollow stair, Down the long path that follows through the bloom Unto the hillside with its marble tomb— Some other time—O darling, all the years My idle heart now waits amid the tears!

—Bentztown Bard, in Baltimore Sun.

### How Her Consent Was Won.

"Howard Ashby! How absurd! She, a hireling, low-born, the daughter of a blacksmith! No, I never will consent. Rather let our race die out with us than the fair name of Ashby to be sullied by such a union!" exclaimed Mrs. Ashby, looking at her son in a dignified manner. The sweet notes of a joyous canary bird flooded the room with melody, but the haughty woman heeded it not.

"You wrong her; you wrong me, you wrong even yourself, mother," said her son. "You have not seen her. In intellect, in culture, Miss Watson is our equal. That she is of humble parentage is true, but that she should educate herself, become proficient at telegraphy, and by her own zeal should rise from obscurity to a position of responsibility is highly commendable."

"Howard, why be so persistent, so irrational? My ambition has been that you should marry well. Since your boyhood I have looked forward proudly to the day when you would bring home a bride worthy the name

of Ashby, and you have made love to a girl almost a pauper because you were enamored of her pretty face."

Mrs. Ashby sank lower into her rocker, her jeweled fingers stroking the plush-covered chair-arm impatiently.

"I have not made love to her, mother. I have sought your approval before mentioning love to her. I have—"

"Howard, let us dismiss this distasteful subject. I cannot be reconciled to your marrying so far beneath you. Why did you speak of this matter today? Why thrust this hateful theme upon me to haunt my loneliness during your absence? Have you forgotten that you must start for Detroit today?"

"I have not. I shall go on the colonial express this evening," replied the young man.

Howard Ashby had but a faint recollection of the stern, haughty father who had died when he was a child. The Ashby estate was a fair domain, and the boy's slightest wish had been gratified by the indulgent mother. Howard had taken a year's course at the Templeton business college. While at Templeton he fell in love with May Watson, who was employed as a telegraph operator there. Mrs. Ashby's opposition to this love was the first shadow that came into the young man's life. He could not disregard the wishes of his mother who had been so much to him. While she lived he must control the passionate yearning in his heart, and it was with sombre thoughts that he began his journey to Detroit.

May Watson was temporarily filling the post in the telegraph and switching station at Templeton. It was a position that would have tried the endurance of a man, which required all her senses to be on the alert. A mistake might mean instant disaster and death to hundreds.

She had to know every order passed down the lines by the dispatcher. The orders to her station had to be obeyed promptly. There could be no delay, no hesitation.

On a certain day the clicking key told her that the night express was approaching at forty miles an hour. She must have the track clear for the passage of the train. The semaphore had been removed a few minutes before to send a long freight train onto the siding. It must be swung back to let the express go by, otherwise the great vestibuled train would crash into the freight and a colossal disaster would result.

She grasped the lever of the semaphore that was to simultaneously move the switch and signal the engineer of the coming express that the track was clear. She pulled it over, but it did not slip into its accustomed notch. Instead, it flew back as if fired from a catapult, and struck her a stunning blow on the chest. It knocked her off her feet, and for a moment she lay there; but the importance of clearing the track for the coming express prevented her losing consciousness. That the lever must be moved was the one idea that was burning into her brain. She knew that if it was not in its proper place an awful catastrophe would occur within a few minutes.

She dragged herself to her feet and grasped the lever again. Sharp pains shot through her body. Her brain reeled, but she held on to the lever and slowly moved it over to the right place, and heard the click

as it reached the ratchet that held it.

She glanced from the window. The headlight of the locomotive was in full view, a stream of black smoke pouring from the stack and fire grinding from the driving wheels as the great motor came on, swaying with its long train of passengers behind. One look showed that the track was clear, that the signal was in its place. The long whistle of the engineer showed her, too, that he had seen the signal.

A mist swam before her eyes. She turned again to the instrument at the little table, and, almost fainting from pain, moved the switch that connected her with Blanford.

"Send help to Templeton. I am hurt. Wa—" The message dribbled off in an unintelligible mass of dots and dashes, but fortunately it was understood by the operator at Blanford, for as she was trying to make clear what had happened, she sank unconscious on the floor of the lofty switching tower.

There she was found, lying as if dead, a half hour later. Tenderly she was carried to an express wagon, and made as comfortable as possible on blankets, and brought to her boarding house.

The physicians who attended her said she was severely hurt internally. The lung tissue had been bruised but there was no evidence of internal hemorrhage, and they had strong hopes of her recovery.

Mrs. Ashby was in her elegant library reading the letters the post had brought. On the table beside her were several magazines, and a copy of the morning paper.

After reading her letters she took up the paper. The bold type of a lengthy article's heading caught her attention: "Colonial express saved by wounded girl. Miss May Watson struck by semaphore lever in switching tower at Templeton last night. Almost unconscious, she puts it in place, and collision with freight is averted."

Mrs. Ashby's face grew grave and pale, and the lines that time and care had imprinted thereon became more distinct.

"The colonial express? Why, that was the train that Howard had taken!"

Eagerly she read the article. She saw the glowing account of the brave girl's heroic deed. In her tremor and excitement the paper dropped from her hands. A possible scene of the awful disaster pictured itself in her mind. She saw the flying express crash with impetuous velocity into the long freight, derauling cars and piling them in a confused heap, many of them an unrecognizable mass of debris. She heard the terrible clang of iron against iron, the horrible hiss of escaping steam, and the dull grinding, crushing, splintering of wood. The piteous shrieks and groans of the wounded and dying rang in her ears, and there among the bruised and mangled bodies was the boy she loved with almost idolatrous devotion.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

But instead the express had been saved by a brave girl! She a hireling, low-born, the daughter of a blacksmith, had done this!

For nearly an hour Mrs. Ashby walked up and down the room in agitation. A multitude of thoughts rushed through her excited brain. Presently she summoned a servant.

"Tell Thomas to have the carriage in readiness at one-thirty," she said to the maid who answered her summons.

Howard Ashby was returning home. He had been absent four months. When he left home he intended to be gone only a few weeks, but his restless spirit demanded continual change of scenes, so his absence had been prolonged.

When autumn drew near he became tired of a roving life, and hastened homeward. As he beheld familiar scenes from the car window as the train sped through his native State, he realized how dear the old home and its associations were to him.

It was a short drive from the station to the Ashby residence. When the carriage entered the spacious grounds he saw his mother coming across the lawn to welcome him.

"Mother," he said, as they entered the house. "I have visited many fair places, but this is the dearest spot of all."

"Then why have you stayed away from it so long, Howard? My loneliness became unendurable, and I sought the companionship of a dear young lady who has been with me many weeks, and has done much to relieve the tedious monotony of the dull hours," said Mrs. Ashby.

"A young lady? Who is she, mother?" inquired Howard.

Mrs. Ashby did not reply, but opened the library door. To Howard's great surprise, by the open window sat May Watson. The August sunlight streaming full upon her heightened her dark beauty. With extended hands she came eagerly to him.

"We are so glad to see you!" she said.

## LIPPIA

The Drought-Resisting Lawn Plant.

A remarkable new substitute for lawn grass. No climate in California too hot or dry for Lippia lawns to flourish. Economical to maintain. Never becomes a pest.

For Sale by

JOHN SWETT & SON, Martinez, Cal.

Descriptive circular and price list on application.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

"M—May! M—M—Mother!" exclaimed Howard in his confusion.

"One would think, Howard, that you were under the influence of a stupefying drug," said Mrs. Ashby.

"Pardon me, I pray! This meeting was so unexpected that it quite unnerved me. But I am delighted to see you, Miss Watson, I assure you," he said as one waking from a dream.

"Miss Watson will spend the autumn with us. You must assist in making her visit pleasant," remarked Mrs. Ashby.

Howard Ashby passed a sleepless night. The more he thought of his mother's strange conduct, the more he became mystified. The next morning he asked an explanation.

"Miss Watson is a very estimable young lady, Howard; I sincerely hope that you will enjoy her visit, and that you will endeavor to make it equally enjoyable to her," said Mrs. Ashby, and she declined to discuss the subject further, so he resolved to let the mystery unravel itself.

One morning in October Mrs. Ashby entered the library. Howard was waiting for her there.

"Mother, I—I have asked Miss Watson to be my wife," he said hesitatingly.

"Well, did she consent?"

"Yes."

"And so do I, most heartily!" said Mrs. Ashby.

Then she told him the story of the switching tower, how her heart had gone out to the brave girl who had saved his life, how she had hastened to her and cared for her until her recovery, and had won the girl's love and gained her consent to be taken to the Ashby home as soon as the doctors would permit.

"My son," she said, "this is the happiest moment of my life. Of all women, you have chosen the one most worthy to bear our name."—F. P. Carpenter, in Waverley.

## Taking Care of the Feet.

To keep the feet in good condition it is necessary to bathe them three times a week and to look after the nails once a week. If they perspire a great deal, dissolve borax in the water, wash them thoroughly, keeping them in the water fifteen minutes, and wipe dry. This may be done every night before retiring. Dust them in the morning with a powder composed of four parts talcum powder and one part boracic acid thoroughly mixed. This checks perspiration and adds greatly to one's comfort.

Corns are very painful, and when they are new may be removed by rubbing with pumice stone. If of long standing, make a poultice by soaking light bread in vinegar five minutes and bind it to the corn at night. In the morning keep the foot in warm water ten minutes and the corn will be easy to remove. Wearing one pair of shoes in the morning and another in the afternoon rests the feet wonderfully. Nothing is more restful to tired feet than the salt-water bath. This is prepared by adding a tablespoonful of coarse salt to a quart of warm water. After they are removed from the water, wipe dry with a coarse towel.

## Worry, Subject to Control.

Take the great curse of American life—worry. How we wrestle with this giant evil, to be overcome by it again and again! How the little things of experience, the small annoyances, the social snubs, the inconsiderate words of friends, the enmity of those who dislike us, seize hold of the mind, tear and torture it, until we are reduced to a mass of quivering and suffering nerves! Suppose, now, the victim of worry should, on retiring to rest, compose his limbs, close his eyes, and calmly formulate in his mind this or a similar proposition: "Tomorrow I shall awake with a free, clear conscience, glad in the thought that I can do whatever work Providence assigns me. I will therefore be happy and cheerful. I will be master of myself and will know myself master of circumstance. I will not only be happy myself, but will seek to make others happy." What will be the result? This: Worry will soon loosen its hold on the mind, the world will appear in a fresh guise, and the whole life will move on a new plane.

## Curious Facts.

According to Chinese law, a wife who is too talkative may be divorced.

Fishes have no eyelids and necessarily sleep with their eyes open; they swallow their food whole, having no dental machinery. Frogs, toads and serpents never take food except that which they are certain is alive.

A curious barometer used in Germany and Switzerland consists of a jar of water with a frog and a little step ladder in it. When the frog comes out of the water and sits on the steps it is said infallibly to foretell rain.

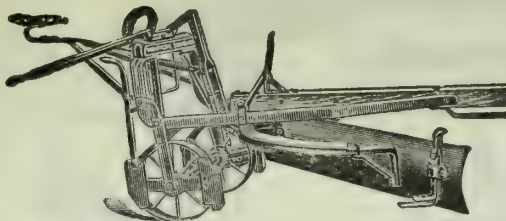
The library at the British Museum, which now contains between 3,000,000 and 4,000,000 volumes, is without exception the largest in the world, the only one which approaches it in size being the Bibliotheque Nationale, Paris, and it is interesting to note that for the accommodation of this immense number of books upward of 43 miles of shelves are required.

The ingenious Germans have invented a composition made from potatoes that answers the purpose of cedar in the making of lead pencils. Consul Hannah of Magdeburg writes: "I have used some of these pencils, which, while slightly heavier, are the same in size, form and appearance as those at present in use, admit of sharpening a little more easily, and can be produced at a very nominal figure."

In Denmark there is a peculiar institution in the way of insurance for the daughters of the nobility. As soon as a daughter is born to a Danish nobleman he enrolls her name on the books of this insurance company and pays a certain sum into the treasury. Each year thereafter the same sum must be paid. When the girl is 21 she becomes entitled to a fixed income and a suite of apartments until she either marries or dies.

Maine newspapers speak of Peter A. Foley of Portland as "the most wonderful telegraph operator in the world." Foley is totally deaf, an affliction which ordinarily would be supposed to make telegraphy an utter impossibility to him, but since he became deaf, eight years ago, he has developed what may be called a sixth sense, and by touch and sight he can detect the finest movements of the instrument and correctly interpret them. By means of the sense of touch in his finger tips he takes messages transmitted from the ends of the continent and can also read a message by watching the sounder. With his left forefinger placed lightly on the sounder he can take a message as accurately as the average operator.

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

## Worth Knowing.

When heating eggs add a pinch of salt to hasten the process.

Custards and cereals should always be cooked in a double boiler.

A little flour sprinkled over the top of a cake will prevent the icing from running.

Adding a spoonful of molasses to buckwheat batter will make the cakes fry a delicate brown.

To remove old putty from window frames pass a red-hot poker slowly over it and it will come off easily.

To make a drawer slide easily, if too tight, rub the ends with a piece of fat salt pork. It will give no further trouble.

If the water in which windows are washed is blued they will retain their brilliancy longer and polish easier.

A little rich, sweet cream spread over the top crust of a pie just before it is put into the oven will make it brown and flaky.

In a room that is used for sewing or reading there is nothing that can afford more comfort and pleasure than a bed spring suspended from the ceiling by hooks, in one corner of the room. For hammock, lounging, and reading it is fine; in emergency a bed. A good way to utilize an odd spring.

When a calcimined wall has been marred it may be quickly and easily repaired. Look along the edge of the woodwork around the door and windows until a place is found where some of the calcimine has been daubed on the wood. Then take a small paint brush, such as comes in any box of water colors and a little water, and moisten the place found and use as you would any paint on the spot on the wall, being careful to just touch up the spot. In this way one can always find a perfect match in color and the spot is quickly hidden.

## Mathematician.

A negro was discovered carrying a very large number of books, which brought forth the inquiry:

"Going to school?"

"Yes, sar."

"Do you study all these books?"

"No, sar; dey's me brudder's. I'se a ignorant kinder nigger 'side him, boss. Yer jest orter see dat nigger figgerin'. He has gone an' ciphered clean through addition, partition, distraction, abomination, justification, creation, amputation, and adaptation."

## The Wrong Sex.

Small Boy—Say, mister, dere's a sign in yore winder readin', "Boy wanted." Wot kind of a boy does youse want?

Merchant—A nice, quiet boy, that doesn't use naughty words, smoke cigarettes, whistle around the office, play tricks or get into mischief—

Small Boy—G'wan! You'se don't want a boy; youse wants a girl.

"THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanters in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

## Domestic Recipes.

**BREAD AND BUTTER PASTRY:** Roll out half a pound of rich puff paste until one-third of an inch thick; cut it into bands about three inches wide, cut these into strips a little more than one-fourth of an inch wide, and place them, cut side down, in rows about two inches apart on a baking tin. If placed closer together they will not have sufficient room to spread out as they should. Bake in a quick oven. Just before they are done sift powdered sugar over them, and cook until the sugar is melted. When cold spread with different jellies and preserves, and place two pieces together to imitate bread and butter.

**A Dainty Way to Serve Cabbage:** Cut out the heart, stem and core of a medium sized cabbage, and remove the outer leaves. Plunge the head into an abundance of boiling water for four minutes, and take it up very carefully, so as not to break it. Let it cool. Prepare a force meat, using a pound of sausage with a quarter of a pound of lean veal ground to a pulp and seasoned to taste. Stuff the inside of the head, and tie it up carefully, so that the stuffing will not come out. Put into a pan with a small carrot, a small onion, and a cupful of stock or milk. Let it simmer in the oven or on top of the stove, well covered. Baste occasionally, and serve with rich brown sauce.

**APPLE DESSERT:** Butter a deep baking dish; slice into this tart apples, peeled and cored, enough to fill the dish. Mix half a teaspoonful of salt and a teaspoonful of cinnamon with a cupful of sugar and sprinkle in; add half a cupful of wine, a little water and a tablespoonful of butter cut in bits. Sift together one and a half cupfuls of flour, three tablespoonfuls of baking powder and a quarter of a teaspoonful of salt; work into this with the tips of the fingers three tablespoonfuls of butter; beat an egg with three-quarters of a cupful of milk and stir in. When thoroughly mixed spread over the apples and bake slowly for three-quarters of an hour.

Only One "BROMO QUININE"

That is LAXATIVE BROMO QUININE. Look for the signature of E. W. GROVE. Used the World over to Cure a Cold in One Day. 25c

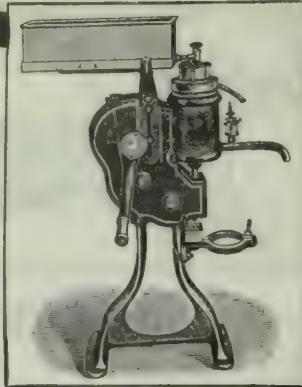


## 1908 Improvements

continue to keep the

# U.S. CREAM Separator

at the Head of  
the Procession



Remember: The separator which gets just a little more cream from the milk each day soon pays for the difference between the best and the "cheaper" article.

Remember: The separator which lasts practically a lifetime, doing good work every day, is a better investment than the cheap machine constantly needing repairs and worn out in a few years.

Write to-day for "Catalogue No. 148 and any desired particulars

**VERMONT FARM MACHINE CO., Bellows Falls, Vt.**

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N. Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

401

**PROMPT DELIVERY ASSURED**

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

## AGRICULTURAL REVIEW.

### ALAMEDA.

Pleasanton Times: The Pleasanton Hop Co. has about completed the setting up of 110 acres of its new hop yard. Some marked changes have been made from methods employed in former years. The rows in the new yard will be seven feet apart, instead of six feet, as in the old yard, and there will be three plants to the hill instead of two. The trellis will be sixteen feet above ground instead of eighteen. Wires are suspended below from hooks attached to the cable wires, instead of running across the tops of cable wires as formerly. This permits the work of stringing to be done from the ground, thus doing away with the use of wagon scaffolds, which are both awkward and dangerous to handle. The Pleasanton hop yard is one of the pioneers in the use of large redwood poles with heavy permanent wire trellis. During the coming year on the lands of the Pleasanton Hop Co. will be found experimental yards growing, as nearly as is possible with our climatic conditions, just as hops will be found growing in other counties, and it is expected that by this time next year, when the remaining acreage of the Pleasanton Hop Co. will again be put into yards, that sufficient data will have been secured by reason of this experimental work to make the Pleasanton Hop Co. yards not only the most modern and up-to-date mechanically, but far more productive than they ever before have been. The cuttings used in planting the new yard numbered a round quarter of a million, and all but 25,000 came from the Consumnes and American River districts; the final 25,000 are from the hop district of New York State.

### PILES CURED IN 6 TO 14 DAYS.

PAZO OINTMENT is guaranteed to cure any case of Itching, Blind, Bleeding or Protruding Piles in 6 to 14 days or money refunded. 50c.

### BUTTE.

Gridley Herald: The Pacific Vinegar & Pickle Works, at Hayward, has agreed to handle the crop of cucumbers in this neighborhood at prices that make the enterprise look promising. If the experience of the first year is satisfactory to the growers and to the factory people, there is scarcely any doubt that next year this firm will erect a large salting works here and the acreage will be largely increased. Many other kinds of vegetables are used by this concern and they will be in the market for them. It may be interesting to know that for a part of the season the Hayward factory uses 600,000 pounds of cabbages each week, making the product into sauerkraut.

Lakeview Examiner: Mrs. A. Cadwell performed one of the most daring feats recently that it has been our experience to chronicle. Shortly after her husband left the house a coyote came into the chicken yard and made a raid on the chickens. Mrs. Cadwell went to chase the coyote away, not believing that it would tackle a person. But she was surprised when the thing took after her. She started to run, tripped and fell prone to the ground. The coyote jumped on her and sank his teeth in her breast. She grabbed Mr. Coyote by the throat and choked it to death. The coyote's teeth were fastened in her clothing, and she succeeded in overpowering it, and never loosened her grip until her desperate victim was dead.

### GLENN.

The largest field ever sown to rice in the State of California is being seeded in Glenn county. The land is owned by a recent arrival. Last year he made quite a success in this line.

### SACRAMENTO.

The California Wool Growers' Association took steps at a meeting held in Sacramento to organize a national auction sale for wool, so as to cut out the commission men. In other words, the wool growers want

to sell their product direct to the manufacturers, so as to reap the full profit.

### SAN JOAQUIN.

Sentinel: A labor-saving device for grass and weed killing along the tracks of the Southern Pacific Co.'s roadbed is in Lodi. The innovation is a grass-burning machine, and when in operation gasoline flames shoot downward over the ground through a series of pipes that project on both sides of the track.

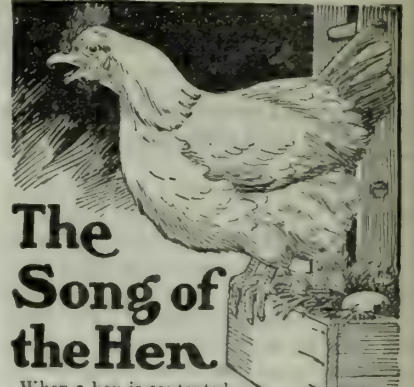
### SHASTA.

Searchlight: Five thousand seven hundred fruit trees on the Ludwig fruit farm three miles south of Anderson are being cut down and the stumps uprooted. This is just one-half of the trees in the entire orchard, which was set out 18 years ago. The object of apparently destroying one-half of the orchard is to increase its productivity. The trees had grown so large that they were crowded and their bearing qualities dwarfed. Every other row is being taken out, and it is expected that so marked will be the improvement in two years from now that the crop will be larger from the 5700 trees remaining than it was from the original orchard of 11,400 trees. The quality of the crop in addition will be vastly improved. Every alternate row is being taken out, without respect to the variety of the trees.

### SONOMA.

Press-Democrat: According to the reports furnished by the Sonoma County Co-operative Poultry Association, the Sonoma County Fruit & Produce Company, the Santa Rosa Poultry Association, Kopf & Donovan, and A. Mitchell, the principal large dealers in Santa Rosa, there were handled in this city during the past season an average of over 3705 cases of eggs monthly, or over 111,150 dozen eggs. This means 44,456 cases were handled during the year, or 1,333,689 dozen eggs. During the past season eggs were higher than ever before, owing to the contract of the Sonoma County Poultry Association for its output, and it is conservative to say the average price realized was 30 cents per dozen, as the price was never below 20 cents, and at that figure but a short time. This then would represent an average of \$33,345 per month pouring into the poultrymen's purses in this vicinity, or a total of more than \$400,106 for the year. These figures in every case except one are those taken from the books of the firms which have handled the output and in that case the figures are close estimates, which the dealer declared, if anything, were slightly under the actual transactions of the firm.

Healdsburg Enterprise: It is within conservative bounds when we make the statement that close to 500 acres of new vineyard is now being



## The Song of the Hen

When a hen is contented she sings. When she sings she is ready to lay. When she lays regularly she pays a profit. And she is contented, sings and lays her daily egg almost as regularly as the day comes round when she receives a little of

## DR. HESS Poultry PAN-A-CE-A

every morning. Poultry Pan-a-ce-a is the prescription of Dr. Hess (M.D., D.V.S.). It does not take the place of the regular ration, but contains the tonic elements which make the ration available. It aids digestion, makes rich red blood and contains nitrates to cleanse the system. Poultry Pan-a-ce-a is also a germicide and largely prevents disease. Endorsed by the poultry authorities of the country and

Sold on a written guarantee.

A penny's worth a day is sufficient for thirty hens.

1 1/2 lbs. 35c.; 5 lbs. 85c.;

12 lbs. \$1.75; 25 lb. pack \$3.50.

Send two cents for Dr. Hess forty-eight page Poultry Book, free.

DR. HESS & CLARK, Ashland, Ohio.

Instant Lice Killer Kills Lice.

THE PETALUMA INCUBATOR CO.,

Petaluma, Cal., Pacific Coast Distributors.

## BEST PILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. CUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25c. a box at druggists, or by mail Write Dr. Rosanko Co., Philada., Pa. Sample Free. ONLY ONE FOR A DOSE

## SITUATION WANTED

Stud Groom or Coachman; thoroughly experienced with Hackneys and Polo Ponies. Highest references from well known English breeders. Thoroughly understands Brood mares, young stock and enties. Steady, reliable and active. Apply Palmer, 118 Union Street, Napa, Cal.

and will be set out in this vicinity within the next few weeks. Most of the cuttings are of the resistant varieties. A well known viticulturist, roughly figuring, places the expense, including the cultivation, cuttings, stakes and setting out vines, at \$80 per acre, which brings the outlay up to \$40,000.

Ukiah Times: Some of the hop growers in the Ukiah valley will plow up from a third to a half of their fields this year, knowing that they can make the land pay better in alfalfa. The California and Washington growers who belong to the association have signified their willingness to agree to plow up at least 20 per cent this year, but the Oregon growers will not agree. Concerning the success of the association it is said that 68 per cent of the acreage has been secured in California, and over 70 per cent in Washington, but that the Oregon members are backward in joining the union.

Sebastopol Times: Among the shipments of produce from Sebastopol lately was a carload of dried apples sent by E. H. Mills to Sacramento. He also shipped a carload to Seattle. Mr. Mills has been in the fruit-drying business here for many years, and the past season has been the most profitable he ever had. He paid liberal prices to the growers,

## DEMING

Hand, Knapsack, Barrel and Power Sprayers

for the poultryman, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it's possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio

CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.



Write  
for Samples  
and Booklet of  
**REX** FLINTKOTE  
ROOFING  
and see for yourself  
J. A. & W. BIRD & CO.,  
91 India Street, Boston, Mass.  
PACIFIC COAST AGENTS: W. P.  
Fuller & Co., San Francisco,  
Sacramento, Oakland,  
Stockton, Los Angeles,  
San Diego, Portland,  
Seattle, Tacoma,  
Spokane.

and sold the finished product at a good profit. The output of dried apples in Anady township is increasing every year.

#### SUTTER.

Since the crane fly worms made their appearance in the Buttes, thousands of crows have been congregating there, feeding upon the pest. From the number of birds on the pasture land where the worms have been working, it would seem that the worms would soon be all destroyed.

#### TEHAMA.

S. D. Wilcox is now very busily engaged in shearing his flock of 9000 head of sheep. He says he will have about 200 bags of wool, which will be extra fine, as it is free from dust and dirt and is the growth of one year. Nearly all sheepmen have made a practice of shearing twice a year, in the spring and again in the fall, but this new plan has been adopted by Mr. Wilcox, and he thinks the wool a better and cleaner article, and states that he has already received encouraging offers for the clip.

Charles A. Rand has just finished planting 95 acres of the Dahling tract southwest of Yuba City to the White Adriatic fig. The trees are planted 35 feet apart. This is choice land and when the trees are in bearing they will produce a big crop of

#### VENTURA.

Anaheim Gazette: Never before has the outlook for the sugar beet crop in California been so auspicious as now. Reports from every beet-growing community in the State tell of wonderful development this season. Should weather conditions remain favorable the next two months, all previous records for beet-sugar production will probably be broken. The Pacific Beet Sugar Co., which is building an immense plant at Corcoran, reports its factory almost completed and the machinery nearly installed. The harvest in June will find everything ready for the making of sugar. The harvest in the fields at Corcoran and Visalia will be about 80,000 tons of beets from 8500 acres. This will produce 200,000 bags, or 20,000,000 pounds, of sugar, worth about \$1,000,000. The Oxnard plant, for the first time in its history, will be forced to run to full capacity when the harvest of more than 15,000 acres in that vicinity is completed. The output of the pure sugar from the 150,000 tons of beets will be 40,000,000 pounds. At Alamitos the output of sugar will be the same as at Corcoran. Including the latter territory in southern California, the crop of beets made into sugar will bring producers nearly \$4,000,000, the greatest amount ever made in that industry in this section.

#### WHAT CAUSES HEADACHE.

From October to May, Colds are the most frequent cause of headache. LAXATIVE BROMO QUININE removes cause. E. W. Grove on box 25 cents.

## Patrons of Husbandry.

### A Plea for Postal Savings' Banks.

Many nostrums have been duly advertised and advocated as cure-alls for our financial ills. Those ills have been ascribed to many causes. "Want of Confidence" is perhaps that most generally assigned.

Accepting this, for purposes of argument, how shall a recurrence of "Want of Confidence" panics be prevented?

Obviously by removing the cause of this "Want of Confidence"—the instability of banks—by providing banks whose stability is absolute.

This remedy is at once possible, easy, and sure. The offices are already open, some 70,000, in number, through the length and breadth of our land, but hitherto have not been permitted to do banking business. I allude of course to our post-offices.

Other countries have preceded us in adopting a system of Postal Savings Banks which has proved of the utmost financial benefit.

Perhaps Great Britain is the most notable example. There anyone over seven years of age can open a Postoffice Savings Bank account, and deposit any sum from 24 cents up to \$250 in a single year, providing the total account does not exceed \$1000.

These banks are as stable as the British Government. No panic disturbs them or their depositors. So popular are they that the immense amount of \$750,000,000 is deposited by the British public in these banks. That is \$25 apiece for every man, woman, and child, in the British Isles.

Had we these institutions in America it is reasonable to infer that our post-office would have a gross deposit of \$2,000,000,000 of the people's money available as a sure safeguard against panic. There would be no temptation to hide money in old stockings, holes in the wall, or plush lined cash boxes.

These banks would practically act automatically to avert panic and depression, in this way. Although their aggregate avails are so immense, each depositor is limited to a comparatively small deposit (\$1000) on which he gets comparatively small interest.

A financial panic would be just the opportunity the heavier depositors would welcome as a chance to re-invest their money at higher interest.

For instance, supposing six per cent X Y Z Railroad bonds were, by an incipient panic hammered down from \$100 to \$50, there would be such a rush of money from depositors in Postal Savings Banks into these bonds as would at once tend to ease the money market and send these bonds, and similar securities, soaring.

If our last panic was broken by the liberating one or two hundred millions of U. S. Treasury money in New York what panic would not be broken by the two billions of cash at the command of the people at every postoffice in the land?

Another useful possibility is the introduction of the postal check for small amounts payable to bearer.

That the Postal Savings Banks interfere little with general business of banking is easily proved by the rapid multiplication of commercial banks in Great Britain during the last 50 years.

EDWARD BERWICK,

Pres. Postal Progress League, Cal.,  
Pacific Grove, Cal.

#### Can Recommend It to Others.

Your Gombault's Caustic Balsam is very effective in curing troubles peculiar to horses. It has proved valuable to me and I can recommend it to others.—N. I. Nelson, Dwight, Kan.

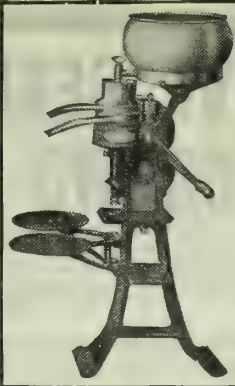
#### ORANGE SEED BED STOCK

We have a fine lot of stock grown from seed of the California sweet seedling or Tahite, and from the Florida Sour orange, the latter being resistant to gum disease.

Get your order in early, before we are sold out. Planting may begin now.

#### SOUTHLAND NURSERIES,

F. H. DISBROW, Proprietor.  
Both Phones. R. D. 1, Pasadena, Cal.  
Largest Citrus seedling nurseries in the State.



## NEW SMALLER SIZE DE LAVAL CREAM SEPARATORS FOR FAMILY USE

The new 1908 Improved De Laval Cream Separators are made in ten different styles and capacities. There is the proper size machine to be had for every dairy, from that of one cow to one hundred or more. In this connection special attention is called to the new smaller size De Laval machines, which are now offered for the first time, and have been designed for small family use where the milk of one or two cows only is to be separated, and also for hotel, restaurant and city home use, where purchased milk may be creamed or clarified to advantage. These little machines do just as good work as the larger ones and will save their cost in less than a year. The prices are, of course, in keeping with the sizes of these small machines, bringing them within the reach of all and removing all possible objections to the purchase of a first class separator on account of the cost. A postal card will bring our handsome new catalogue describing and illustrating these latest additions to the De Laval family. Write today, for every day you are without a separator you suffer an actual money loss, even if you own but one cow. At least let us show you the many important De Laval improvements that have been made. You are not obliged to buy and you may learn something to your advantage.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## MR. VINEYARDIST—DO IT NOW

Secure that rare article

### ABSOLUTELY RELIABLE GRAFTED VINES

by ordering NOW for next season. We finish grafting in two weeks.

We sold 200,000 grafted vines this season, every shipment giving satisfaction. Dozens of letters of commendation.

Just a few left—850 Black Morocco on St. George, and 1000 Thompson's Seedless on St. George—at rate of \$60 per 1000.

## JOHN SWETT & SON

Martinez, Cal.



## "Old Trusty" Incubators

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

### E. E. McCLANAHAN

711 So. Main Street

Los Angeles.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

High In Quality

Low In Price

## OUR SEEDS GROW

Vegetable, Flower  
and Farm Seed

### J. SEULBERGER,

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.





## YOU'VE SEEN A CROWD

in a doorway, when people were all coming out, getting along easily, everybody pleasant, the tide moving right along together.

You've seen the same sort of doorway when the outs were trying to get in and the ins were trying to get out—everybody

confused, uncomfortable, cross, and no progress.

The first doorway represents the Tubular bowl bottom—the milk flowing from the supply tube, in a smooth current, directly into the separation process, rising smoothly through the bowl, all going the same way to the discharge pipes.

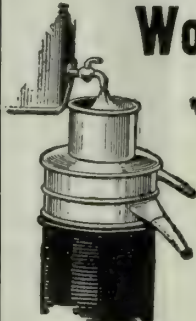
The second doorway represents the milk at the bottom of a top-feed "bucket-bowl" separator—at the bottom of all "bucket-bowl" separators. The supply of milk coming down from the top has to stop, reverse its current from down to up, and start into the separation process in conflict with what was previously in the bowl.



## The TUBULAR

WORKS WITH ITSELF

By Reason of Bottom Feed  
The Milk Entering a Tubular  
Bowl Has Unobstructed Passage.



## Working AGAINST Themselves

Is What All "Bucket Bowl"  
Separators Are Doing,  
Through Top Feed of Milk  
Into the Bowl—Inflowing  
Milk Meets Obstruction at  
Bowl Bottom and Its Flow  
Must Be Reversed.

## THE TUBULAR WORKS SMOOTHLY

The milk current starts upward without interruption, separation begins instantly and is uninterrupted in any way within the bowl, and the cream is discharged smooth and frothed. The milk supply works WITH the Tubular.

In "bucket bowls" the milk stops and starts, is somewhat frothed before separation begins, is further chopped and churned, by plates, discs, cones, wings and other bowl contents and can neither be well separated nor smooth. The top supply WORKS AGAINST the "bucket bowl."

This is one of the "reasons why" the Tubular skimming is cleaner than other separators will do, and far easier turning and the splendid butter that comes from unchurned, unwhipped, frothless, velvety cream.

Write for Catalogue No. 131 a new edition since January 1st, which tells the scientific and mechanical reasons for Tubular Superiority.

## THE SHARPLES SEPARATOR CO.,

WEST CHESTER, PA

Toronto, Can.

San Francisco, Calif.

Chicago, Ill.

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED  
Address  
Fancher Creek Nurseries, Fresno, California.

## The Dairy.

### The Dairy in Our Extreme Northeast.

Mr. H. Petersen of Lassen county, California, writes an account of his dairy work for Hoard's Dairyman, which will be interesting to those who have not heard of development in our distant county, which is now doing so many promising things:

I send you the record of my herd of 20 cows for 1907. It is not very big, but better than the average here. Our feed is good hay, worth \$6 per ton; we never feed any grain. Wheat is worth \$1.50 per cental and oats and barley \$2, so we just feed them hay.

I have kept a record for four years, with spring scale and Babcock tester. I just weighed the milk the 15th day in every month, then multiplied by the number of days in the month, and tested the milk four to six times per year. I know that is not what you tell us to do, but I get a close guess all the same. My best eight cows will come close to 300 lb. of fat per year.

I send my cream to a creamery, or rather the owner of the creamery comes and gets it, so there is no freight or other charge to pay, and no trouble with it except to skim it, and still we get a fair price for the butter fat. We would do better if the dairymen would try to do better, but some will skim only 12 to 15% fat in their cream and

then do not take proper care of it. They breed red cattle; doesn't matter what else, but they must be red, all purpose or no purpose, but red is the main thing.

I received net from the creamery for 1907 as follows:

January	\$117.69
February	92.86
March	94.35
April	53.76
May	97.50
June	80.24
July	64.92
August	116.18
September	137.98
October	143.02
November	151.25
December	139.94

Total \$1,289.69  
Average per cow 64.48

The cost of feed per cow did not exceed \$20, which leaves a net profit of \$44.48 from each cow as the average. As I said, I have 20 cows, but some aborted and some are only two years old, so the money question is all right, but I am not satisfied with the number of pounds of fat, as I want to average 300 lb. of fat per cow on good hay. So I just breed and weed out and hope I will get it in a few years.

Here is the record of the individual cows:

Name	Lb. milk.	Lb. fat.
Lilly	6,270	312.6
Sadie	4,990	251.4
Chara	4,260	225.4
Smoky	4,800	196.8
Paul	5,670	259.5
Daisy	4,700	238.8
Jersey	6,170	271.0
Blacky	6,180	299.0
Jennie	6,690	331.8
Elsie	5,600	296.0
Hatty	5,610	257.7
Cherry	5,510	225.0
Maud	7,440	305.0
Star	5,910	248.3
Ronnie	4,980	214.0
Minnie	6,680	313.9
Dolly	4,310	184.4
Topsy	7,260	319.3
Brenley	2,130	95.8
Baby	1,980	84.1

Total 107,140 4,918.8  
Average 5,357 245.9  
\*Two years old.

One cow went to the block and one died last summer; no record of those two, but the two-year-olds took their places.

## The Swineyard.

Pigs, Alfalfa and Peanuts.

Prof. F. R. Marshall, who had charge of Animal Husbandry at the Texas Agricultural College, gives the following sketch of pig growing upon materials grown in California.

In many parts of the southwest it is still profitable to handle hogs somewhat the same as steers; that is, they are turned out and allowed to roam until they have attained sufficient size to be put up for fattening. This system gives a cheaply made animal, but does not argue that by use of forage crops and exercise of more care, a greater number of hogs could not be so handled as to produce many times more profit from a fraction of the land.

With a spring farrowed pig to be converted into money before Christmas, a day without gain in weight is a loss to the owner. The means of securing maximum cost will vary greatly. With hogs to be satisfactorily marketed at the above mentioned age, the best of pastures are not of themselves sufficient. To have the grain appetite well formed before weaning, the use of soaked shelled corn in a pen from which the larger animals are excluded, is a practice not to be debated. Such mill feeds as rice polish, wheat and oat shorts fed in a not too thin slop are excellent for young pigs, whether fed direct or through the suckling dam. Given a good alfalfa pasture and cheap corn a young pig will go on well. The cold, green feed is too bulky to render an additional thin slop advisable, but puts the system in such a condition that the entire nutriment of the corn is returned as gain. It is at about this stage that the troubles from worms are likely to manifest themselves. To anyone familiar with the indications of worms it is a good investment to sacrifice one of the runty, dry-haired, piti-



ful looking ones that gets thinner each day, no matter how much they eat. The examination of the stomach of such a pig will impress the possibility of its being possible for a young pig to have within him worms of sufficient size and number to actually utilize the total digested substance, leaving the animal to literally starve. There are many good worm remedies on the market. The calomel and santonine mixture is effective though somewhat troublesome to administer. Than worms there is no other trouble that does more to hinder growth and favor disease. In a large bunch of young hogs there are always a few that need to be put by themselves until they are able to hold their own in the herd.

If pigs are to be marketed at eight months they may be allowed an acre of alfalfa to 15 or 20 head since the feed requisite for early maturity will preclude their grazing as extensively as they would if no grain were fed. For feeding on alfalfa pasture corn at a reasonable price is an excellent food. There is no time to first grow and then fatten a hog of spring farrow that is to make payments on the first of January; growth and fattening must go on simultaneously and these feeds combine well to supply the needs. On oats or sorghum pasture a larger allowance of grain is necessary and one that contains more elements of growth. Three four-acre pastures would be preferable to one 12 acre pasture for raising a carload of hogs, since they can be changed from one lot to another so as to always have clear, fresh ground to run over, which is very important in any season and especially when disease exists in the vicinity. Just what effect the feeding of salt mixed through corn cobs has upon the system we do not know, but the growing pig likes it and if he can depend upon always finding a supply near the feeding ground will appreciate it though not consuming large amounts. Soft coal allowed to soak in water a few days is also relished and probably answers the same purpose as charcoal.

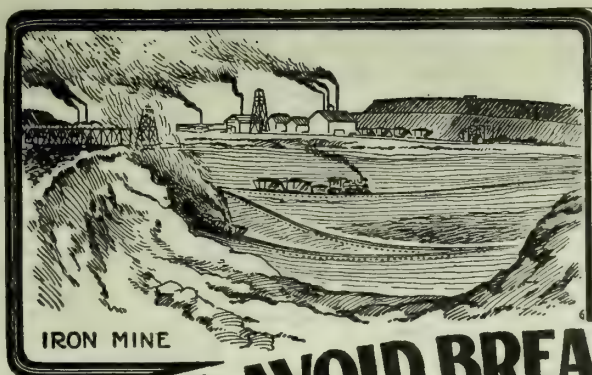
The amount of grain to be fed will be regulated by time at which it is desired to market. North Texas farmers who run fall farrowed pigs on winter wheat give from one to three ears of corn night and morning until the hogs weigh 150 pounds, at which time they are yarded for finishing. Others who finish on alfalfa in spring and early summer increase the grain and allow the hogs to pasture at will to within three or four days of shipping.

Sorghum, oats and wheat pasture are good and keep the system in fine condition, but do not produce the real gains that alfalfa and rape do. Rape, however, in the southwest cannot be relied upon for warm weather, but is an excellent winter pasture and will stand considerable frost if allowed to get a good start before cold weather comes.

The peanut crop is coming to be a very important one on light soils but should be regarded more as a finishing than as a forage crop. It is possible to have peanuts for the hogs to harvest from August to February and March. One acre of peanuts, the Alabama station says, will furnish food for 25 half-grown hogs one month.

In using this crop on a farm of diversified operations young hogs may be kept on alfalfa and very light grain unless very early maturity is desired, until time to turn on peanuts. Then allowing them the run of the peanuts in small lots, preferably divided off by movable fences, the alfalfa may be cured and harvested for feeding to horses or cattle.

With the possible utilization of green crops and cheaply grown finishing crops, all produced on low-priced land, there is no section that can compete with the southwest for lowness of cost and safety of pork production.



IRON MINE



SAW MILL

## HOW TO AVOID BREAK-DOWNS AND DELAYS AT HARVEST TIME

Every break-down at harvest time means time lost.

Every minute lost may mean grain lost.

Every bit of grain lost means profit lost.

You cannot afford to take chances on break-downs and delays with harvesting machines built of doubtful materials.

You don't have to.

Because the International Harvester Company has bought mines to get the best ore—built its own mills to produce the best iron and steel, bought timber lands and built its own saw mills—to give you material in your harvesting machines that you can always depend upon.

An individual manufacturing concern could not afford to take such precautions to protect you against poor materials, but the manufacturers of the

**Champion, McCormick, Osborne,  
Deering, Milwaukee, Plano,  
Harvesting Machines**

save you many dollars by putting always-dependable material into their machines.

The modern harvester is essentially a structure of iron and steel, and even as far back as the Mexican War time, the founder of one of the Company's plants, with only one factory turning out his machines, was compelled to join with two other manufacturers, in the erection of their own iron foundry so that they could give the farmers machines built of good iron.

Today, in order to give you the best materials in your harvesting machines, the International Harvester Company is compelled to own, in addition to its fourteen complete manufacturing plants:

—22,459 acres of coking coal lands in Kentucky

—100,000 acres of trees in Arkansas, Mississippi and Missouri, with a twelve-mile canal system, logging railroads, saw mills and other buildings

—40,000,000 tons of ore in Wisconsin and in the Mesaba Range with six standard gauge locomotives and steam shovels that strip the surface and heap a fifty-ton railroad car in ten swings

—a complete 93-acre steel plant with three blast furnaces, Bessemer steel mill, Blooming mill and

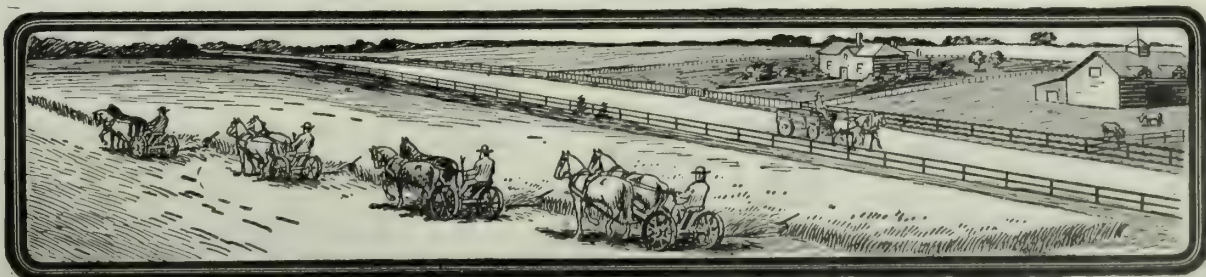
**WESTERN GENERAL AGENCIES—Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.**

### INTERNATIONAL HARVESTER COMPANY OF AMERICA (INCORPORATED)

Chicago,

U. S. A.

**International Line:**—Binders, Reapers, Headers, Header-Binders, Corn Binders, Corn Shocks, Corn Pickers, Huskers and Shredders, Corn Shellers, Mowers, Hay Tedders, Hay Rakes, Sweep Rakes, Hay Loaders, Hay Stackers, Hay Bales, Feed Grinders, Knife Grinders, Cream Separators, Gasoline Engines, Pumping Jacks, Manure Spreaders, Weber Wagons, Columbus Wagons, New Bettendorf Wagons and Binder Twine.



### FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address  
**P. O. Box 345, Vacaville, Cal.**

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

### PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.  
**DEWEY, STRONG & CO.,**  
1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address  
**W. A. Stewart,  
Rio Vista, Cal.**



## THE MARKETS.

San Francisco, March 25, 1908.

## WHEAT.

For several days past speculative business has shown more activity, and the price of May wheat has gradually advanced. The cash market has also shown some life, but prices remained unchanged for all grades. At present little is being sold, for while buyers are showing some interest in the market, supplies of several lines are running light, and sellers are holding up firmly. The millers are buying very little now, as the flour market is in a dull condition and large stocks are not needed. The shipping movement of wheat from this port has been of small dimensions, and is about over for the season, no sales of shipping grades having been reported for some time.

California White Australian..	1.65	@ 1.70
California Club.....	1.60	@ 1.65
California Milling.....	1.65	@ 1.70
California lower grades.....	1.30	@ 1.50
Northern Club.....	1.57 1/2	@ 1.62 1/2
Northern Bluestem.....	1.62 1/2	@ 1.65
Northern Red.....	1.57 1/2	@ 1.62 1/2

## BARLEY.

Barley is dull for the present, but everything is very firmly held, with all lines quoted at higher prices. Receipts have been small most of the time, and no offerings are being pressed for sale. There is some movement in all grades but chevalier, which continues nominal, choice feed selling up to \$1.42 1/2, and shipping at \$1.47 1/2.

Brewing.....	1.45	@ 1.50
Chevalier.....	Nominal	
Good to Choice Feed, per ctl..	1.40	@ 1.42 1/2
Common to Fair.....	1.35	@ 1.38 1/2
Shipping.....	1.45	@ 1.47 1/2

## OATS.

Oats are in a very strong position, after several weeks of weakness and neglect. Prices are from 2 1/2 to 5 cents higher than a week ago. Arrivals have been light, and offerings on this market are of small volume, with holders very firm in their ideas. Prices are rising in the northern markets, and a further advance is expected here within a few days. The market, however, is quiet, as there is no particular demand for most descriptions, and buyers show little interest.

Choice Red, per ctl.....	\$1.55	@ 1.62 1/2
Ordinary Red.....	1.47 1/2	@ 1.52 1/2
Gray.....	1.60	@ 1.62 1/2
White.....	1.55	@ 1.65

## CORN.

Corn remains dull on this market, with very little trading for local account, although there is some buying for interior points. California grades are unchanged and practically nominal, but all the western varieties have advanced, and are very firmly held. There have been no arrivals of any consequence for some time, and stocks are kept almost entirely cleaned up.

California Small Round Yellow, per ctl.....	Nominal	
Large Yellow.....	1.65	@
White.....	Nominal	
Western State sacked Yellow.....	1.65	@
White, in bulk.....	1.57	@
Mixed, in bulk.....	1.55	@
Brown Egyptian.....	1.37 1/2	@ 1.42 1/2
White Egyptian.....	1.60	@ 1.70

## RYE.

There have been small arrivals of rye this week, but the movement is small. While little interest is shown in this grain, the sales of the last few days have established a lower outside quotation for California rye.

California.....	\$1.47 1/2	@ 1.50
-----------------	------------	--------

## BEANS.

Beans in general are very strong, as the demand from Texas and the southwest is again making itself felt, and shipments are going forward on a larger scale than for several weeks. Some descriptions are growing scarce, particularly large whites, which are in most demand, and very firmly held at higher prices. Pea beans and reds are considerably higher, but bayos, limas, pinks, and red kidneys have eased off a little.

Bayos, per ctl.....	\$3.00	@ 3.10
Blackeyes.....	3.25	@ 3.70
Butter.....	4.50	@

Cranberry Beans.....	3.00	@
Garvanzos.....	3.75	@ 4.00
Horse Beans.....	2.25	@ 2.75
Small White.....	3.40	@ 3.60
Large White.....	3.50	@ 3.60
Limas.....	4.50	@ 4.60
Pea.....	3.75	@ 4.00
Pink.....	3.00	@ 3.10
Red.....	3.50	@ 4.00
Red Kidneys.....	2.75	@ 3.25

## SEEDS.

The scarcity of alfalfa seed is now making its impression on the market. There has been a considerable advance, all varieties being firmly held at 19 1/2 and 20 cents. The demand continues very strong, and supplies on hand are running very low. Other seeds still show some activity and are quoted as firm at former prices.

Alfalfa.....	19 1/2	@ 20 c
Broomcorn Seed, per ton.....	\$22.00	@ 25.00
Brown Mustard, per lb.....	3	@ 3 1/2 c
Canary.....	4	@ 4 1/2 c
Flaxseed.....	3	@
Hemp.....	4	@ 4 1/2 c
Millet.....	2 1/2	@ 3 1/2 c
Timothy.....	Nominal	
Yellow Mustard.....	Nominal	

## FLOUR.

Flour is very dull, with the jobbing interest locally buying only for immediate necessities. The situation as to shipping business is unchanged, the movement even down the Coast being light. Prices in this market are still firmly held up, and the millers are preventing any large accumulation of supplies by shutting down the mills part of the time.

California Family Extra, per bbl.....	\$5.40	@ 6.00
Bakers' extras.....	5.40	@ 5.65
Superfine.....	4.20	@ 4.50
Oregon and Washington, Family.....	4.75	@ 5.25

## HAY.

Hay continues to come to market quite freely and in quantities about equal to the arrivals of the preceding weeks. The total for last week was 3260 tons. The arrivals have been quite freely absorbed and the market continues in fairly good shape. At present the all-important question is that of rain. This is needed throughout the State, and at the present time this seems to be at hand. So far, the dry weather does not seem to have had much effect on prices, which remain about as before, but a few more days of drouth might affect prices.

Choice Wheat, per ton.....	\$15.50	@ 16.50
Other Grades Wheat.....	10.00	@ 15.00
Wheat and Oat.....	10.00	@ 15.00
Tame Oat.....	10.00	@ 14.50
Wild Oat.....	9.00	@ 12.50
Alfalfa.....	9.00	@ 13.50
Stock.....	7.50	@ 9.50
Straw, per bale.....	50	@ 90 c

## MILLSTUFFS.

Roller barley is slightly higher at the inside quotation, responding to the advance in feed barley. Bran, shorts, and middlings are still scarce, though shipments from the north are gradually increasing. The demand here is strong, keeping stocks well cleaned up, and receivers are holding firmly for former prices. Other feed-stuffs are about as last quoted, everything being firmly held.

Alfalfa Meal (carload lots) per ton.....	\$22.00	@
Jobbing.....	23.00	@
Bran, ton.....	30.00	@ 31.50
Broom Corn Feed, per ctl.....	90 c	@ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00	@
Jobbing.....	28.00	@
Corn Meal.....	34.00	@
Cracked Corn.....	35.00	@
Mealalfa.....	22.10	@
Jobbing.....	23.00	@
Middlings.....	33.00	@ 35.00
Mixed Feeds.....	26.00	@ 27.00
Oil Cake Meal, per ton.....	37.50	@ 38.50
Roller Barley.....	29.00	@ 30.00
Shorts.....	31.00	@ 32.50

## VEGETABLES.

Moderate arrivals of onions came from Oregon at the first of the week, into a bare market. Prices have been sharply advanced, nothing being offered below \$3.75. Asparagus is again weaker on larger arrivals, though a shipping demand has kept the market well cleaned up. Rhubarb, though in better supply, is quite firm and higher. Peas are plentiful, but clean up well. Green onions are now offered at 65 cents a box. Tomatoes are rather plentiful, and inclined to easiness.

Garlic, per lb.....	12 1/2	@ 15 c
Green Peas, per lb.....	4	@ 10 c
Chile Peppers, per lb.....	15	@ 17 1/2 c
Bell Peppers.....	15	@ 17 1/2 c
Cabbage, per ctl.....	40	@ 50 c
Onions—		
Yellow, per ctl.....	\$3.75	@ 4.00
New Green, box.....	60	@ 65 c
String beans, per lb.....	20	@
Tomatoes, box.....	1.25	@ 2.25
Marrowfat Squash, per ton.....	10.00	@ 15.00
Carrots, sack.....	75	@
Hubbard Squash, ton.....	10.00	@ 15.00
Celery, doz.....	35	@ 50 c
Rhubarb, box.....	1.50	@ 1.75
Asparagus, lb.....	4	@ 11 c

## POULTRY.

Eastern poultry has continued to arrive in considerable quantities, and while receipts from California points are extremely light, some descriptions have been in over-supply, resulting in somewhat lower prices. Other lines, however, have been in good demand all week, and are held at an advance. The arrivals consist mostly of hens and grown roosters, which are not much wanted. The demand runs mostly to young stock, such as broilers and fryers, which are quite firm at an advance of about 50 cents a dozen.

Broilers.....	\$6.00	@ 6.50
Small Broilers.....	4.00	@ 5.00
Ducks.....	4.00	@ 7.00
Fryers.....	7.00	@ 8.00
Geese.....	2.00	@ 2.50
Hens, extra.....	7.50	@ 8.50
Hens, per doz.....	6.00	@ 7.00
Small Hens.....	5.00	@ 5.50
Old Roosters.....	4.00	@ 4.50
Young Roosters.....	7.00	@ 9.00
Pigeons.....	1.00	@ 1.25
Squabs.....	2.50	@ 3.00

## BUTTER.

Butter picked up somewhat a few days ago, under urgent orders for shipment to the Puget Sound cities, but the market at present is very weak, extras being 1 cent below last quotations, and other grades correspondingly low. Stocks are considerably in excess of local needs, and there is no prospect of any further call for shipping stock before the end of the week. Packing stock is unchanged. Little trading is done for local account, as the consumptive demand shows no great increase, and all dealers are heavily stocked.

Cal. (extras) per lb.....	23 c	
Firsts.....	22 c	
Seconds.....	20 c	
Thirds.....	18 c	
Fresh Packing Stock, No. 1.....	18 1/2 c	
Fresh Packing Stock, No. 2.....	18 c	

## EGGS.

Eggs are firm at rising prices, most lines being about 2 cents higher than last week. Large quantities, it is said, are being stored at the shipping points, as well as by local speculators, and this is creating a shortage, as the regular retail demand is active.

California (extra) per doz.....	18 c	
Firsts.....	17 c	
Seconds.....	15 1/2 c	
Thirds.....	14 c	

## CHEESE.

Cheese is in rather better demand this week, and the prices on fresh California stock show a little more firmness, though there is no very decided change in prices. All California lines are 1/2 cent higher. Oregon storage also shows an advance.

Fancy California Flats, per lb.....	12 c	
Firsts.....	11 1/2 c	
New Young Americas, Fancy.....	14 c	
Storage, do.....	Nominal	
Eastern, New.....	17 1/2 c	
Cal. Storage, Fancy flats.....	13 c	
Oregon, Fancy.....	13 c	

## POTATOES.

The market has been liberally supplied with potatoes most of the week, but with a good demand there is greater firmness on choice lines. Oregon and Lumpoc Burbanks show a slight advance. River stock, however, is slow at old prices. New potatoes are again lower.

Oregon Burbanks.....	85	@ 1.00
Lumpoc Burbanks.....	1.10	@ 1.35
Burbanks, River, bag.....	40	@ 85
Early Rose, ctl.....	1.35	@ 1.50
Seed Potatoes.....	75	@ 90
Sweet Potatoes, per ctl.....	3.25	@ 3.50
New Potatoes, lb.....	8	@ 4

## FRESH FRUITS.

Prices were rather unsettled for apples, though former quotations are generally

obtained. Only the fanciest lots receive any attention, and they move only in small lots. Very few strawberries are arriving.

Apples, fancy.....	1.25	@ 1.75
Apples, common to choice.....	60	@ 1.00

## CITRUS FRUITS.

There is an active movement in the citrus lines, and prices in general show a further improvement, not only in oranges but in lemons and limes, the latter being scarce. A further advance has been made in oranges at shipping points, and the demand is good, owing to the continued warm weather.

Choice Lemons.....	\$1.75	@ 2.25
Fancy Lemons.....	2.50	@ 2.75
Standard.....	1.00	@ 1.50
Limes, repacked.....	7.00	@ 7.50
Oranges—		
Fancy.....	2.00	@ 2.25
Standard.....	1.25	@ 1.75
Tangerines.....	1.50	@ 2.00
Grape Fruit.....	2.50	@ 3.00

## DRIED FRUITS.

These goods are still quiet, and lower prices are quoted on some varieties. Some improvement, however, is noted in the demand for fruits, and it is believed that the period of dullness is about over. Raisins are weaker, and there is very little inquiry for them.

Evaporated Apples.....	6	@ 7 c
Figs, black.....	2	@ 2 1/2 c
do white.....	2 1/2	@ 3 1/2 c
Apricots, per lb.....	15 1/2	@ 17 c
Peaches.....	8 1/2	@ 9 c
Prunes, 4-size basis, 1907 crop.....	2 1/2	@ 3 c
Pears.....	8 1/2	@ 10 c

## RAISINS.

2 Crown.....	3 1/2	@
3 Crown.....	4	@
4 Crown.....	4 1/2	@
Seeded, per lb.....	5	@ 6 1/2 c
Seedless Sultanas.....	4	@
London Layers, per box.....	\$1.15	@ 1.20
London Layers, cluster.....	1.50	@ 2.00

## NUTS.

Very little business has been done in nuts for some time, and present sales are made at a somewhat lower range of prices than those heretofore quoted. Some recovery is expected, however, in walnuts before the next crop is available.

Almonds, Nonpareils.....	13 1/2	@ 14 c
IX L.....	13	@ 14 c
Ne Plus Ultra.....	12 1/2	@ 13 c
Drakes.....	11	@ 11 c
Langueoc.....	10	@
Hardshell.....	7	@ 7 1/2 c
Walnuts, Softshell No. 1.....	13	@
Softshell, No. 2.....	10	@
Italian Chestnuts.....	10	@ 12 c

## HONEY.

There is no movement to speak of in honey, as stocks are quite small, with little coming in, and the firm prices tend to limit the demand.

Water White, Comb.....	16	@ 17 c
White.....	15	@
Water-white, extracted.....	8	@ 8 1/2 c
Light Amber, extracted.....	7	@ 7 1/2 c
Dark Amber and candied.....	5 1/2	@ 5 1/2 c

## WOOL.

Some wool is now coming forward from the growers, but it is stated that the buyers here are only taking stocks on consignment. The market is almost at a standstill, quotations being largely nominal. Nevada clips show a decline.

Spring-clip, Humboldt and Mendocino, year's staple.....	20	@ 22 c
Fall clip: Northern free, mountain.....	7	@ 10 c
do, defective.....	6	@ 7 1/2 c
San Joaquin and Southern.....	5	@ 7 c
Fall Lambs, Northern.....	8	@ 10 c
Fall Lambs, Southern.....	6	@ 8 c
Nevada.....	11	@ 12 c

## HOPS.

The same prices rule for hops, and there is no sign of any immediate improvement. The market is inactive, neither buyers nor holders taking much interest under present conditions.

1906 crop.....	1 1/2	@ 2 1/2 c
1907 crop.....	4	@ 5 1/2 c
1908 (contracts).....	9	@ 10 c
3 to 5 year contracts.....	10	@ 11 c

## MEAT.

Mutton is slightly lower, but spring lamb is firm. Live cattle in general are higher, with an advance in dressed steers. Spring lambs are now quoted by the pound, but otherwise there is no change.



Beef: Steers, per lb...	7½ @ 8 c
Cows	6½ @ 7½ c
Heifers	6½ @ 7½ c
Veal: Large	6½ @ 8 c
Small	7½ @ 9 c
Mutton: Wethers	11 @ 11½ c
Ewes	10 @ 11 c
Lamb	12½ @ 13½ c
Spring lamb	14 @ 15 c
Hogs, dressed, heavy	7½ @ 8 c
Light	9 @ 10 c

LIVESTOCK	
Steers, No. 1	9 @ —
No. 2	8 @ —
No. 3	7 @ —
Cows and Heifers, No. 1	7 @ —
No. 2	6 @ 6½ c
Bulls and Stags	4 @ 4½ c
Calves, Light	5 @ 5½ c
Medium	4½ @ 5 c
Heavy	4 @ 4½ c
Sheep, Wethers	5½ @ 6 c
Ewes	5 @ 5½ c
Lambs, yearlings	6 @ 7 c
Spring Lambs, lb.	7 @ 7½ c
Hogs, 100 to 200 lbs	5½ @ 6 c
200 to 300 lbs.	4½ @ 5½ c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## The Garden.

### Vegetable Growing in Southern California.

By Mr. E. A. Curtis, general manager California Vegetable Union at the University Farmers' Institute at Whittier:

The great development of this industry has been during the past fifteen years, and now, during the shipping season, hardly a day passes without seeing a solid trainload of southern California vegetables started on its long journey east.

During the heavy shipping season—November 1 to May 1—southern California vegetables are found on sale in practically every important market in the United States and Canada, and I am pleased to say that our vegetables are looked upon with favor by the critical Eastern consumers. Cars were shipped which netted the growers nearly one million dollars. The celery is practically all from the famous peat lands of Orange county, 6,000 acres being devoted to this vegetable alone. The industry was started in 1890, but for the succeeding three or four years it was in the experimental stage, and in consequence it was well along to 1897 before any large quantity was shipped east in car lots. However, since the business was established on a solid basis, shipments have increased each year, and now California celery is a big factor commercially in all markets.

The industry from the standpoint of the grower has been profitable, and good celery land during the past few years has more than doubled in value.

Cauliflower is also grown in large quantities, but principally by the Chinese gardeners of Los Angeles county. Five hundred cars are annually shipped from November to April during each season, and the returns are of a very satisfactory nature. This year the Cudahy Ranch at Florence had 85 acres which turned off 50 cars, and finer flowers could not have been produced anywhere. The industry is on a solid basis and growing each year.

Southern California Early Winningstedt cabbage is the best grown in the world. It is an easy crop to grow, an excellent shipper, and usually commands good prices. Cabbage is produced in most all sections of southern California and is in market the year round. Last season over 1,900 carloads went East, which netted growers about \$18 per ton.

Fall and winter tomatoes for Eastern shipment are grown extensively and are profitable. They are ready October to February, and bring good prices. The principal sections are Whittier, La Habra valley and Fullerton. These tomatoes are shipped by freight in carload lots and are found in all Eastern markets, after the local crops have been nipped by the frosts. The California fall and winter tomato of the Stone va-

riety has no equal as a shipper. Four years ago no shipments were made in carload lots, but now several cars daily go out during the shipping season.

California Bermuda onions from Coachella and Thermal are one of the new features in the vegetable line. Heretofore the most of the Bermuda onions have come from Texas, but from now on the desert section must be considered. Last season 60 cars were shipped which netted the growers over two cents per pound on the entire crop. This year the crop is estimated at 300 carloads, and it will only be a few years when 1000 cars will be shipped. There is a very bright future for the Coachella and Thermal onion growers.

Early potatoes are ready for market during May, June and July, and come at a time when they are wanted. While southern California is not a large producing section for potatoes, still each year sees several hundred carloads shipped, and, generally speaking, at good prices.

In addition to the above, asparagus, artichokes, lettuce, bunch vegetables, green peas, string beans, and other small vegetables are grown on a very extensive basis, and most of them are to be had every day in the year.

The growers, having good land with plenty of water for irrigation and using ordinary intelligence in making the crop, are sure to have the balance on the right side of the ledger, but I am sorry to say that there are too many growers that do not know whether their crops made a profit or a loss.

Following the address Mr. Crone-



### Best Stock on the Coast Every Tree True to Name CITRUS

Any quantity in all of the leading Standard Varieties. All grown at Exeter, where they develop perfectly.

#### DECIDUOUS

The best of everything in all sorts, strong and healthy, will well developed roots. Properly packed and shipped promptly or when desired. Place your orders now.



We are sole propagators and disseminators

**Santa Rosa Plum**  
**Rutland Plumcot, Gaviota Plum**  
**Formosa Plum, Vesuvius Plum**  
**Royal and Paradox Walnuts**

Send 10c. for our valuable booklet, beautifully illustrated in colors, which tells all about these wonderful new creations.

#### GRAPEVINES

On their own roots and grafted on Phylloxera Resistant Roots.

**Callimyrna Figs, Ornamental Trees, Roses, Palms, Plants.**

Our large new catalogue sent free.

PAID-UP CAPITAL \$ 200,000.00



**Geo. C. Roeding Pres. & Mgr.**  
**Box 18 Fresno, California, USA**

Miller gave by request an account of the methods of the California Vegetable Union, which was organized to handle the celery crop of Orange county. The present condition of the cabbage market he attributed to several causes, among which is the unusually large acreage planted by growers of this district, between 4000 and 5000 acres, against which the union strongly advised. This, in conjunction with the mild weather conditions that have prevailed in the East and Middle West, which has glutted the market with old cabbage, and the exceedingly high freight rates of the West, has combined to ruin prices for California cabbage.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.,** Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH,** breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

### HOWARD CATTLE COMPANY.

**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### POULTRY.

**SANTA TERESA POULTRY FARM** can fill your orders for day-old-chicks. Eggs for hatching from best of White Leghorns, laying 75% now. Stock for sale. Send for prices. Wm. Hansam, Eden Vale, Cal.

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

**GEO. C. ROEDING,** Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, DUDOC HOGS,** Choice, thoroughbred Poultry. **William Niles & Co.,** Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

**POULTRY SUPPLIES**  
of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## 40,000 RED GUM in flats ready for planting

also other varieties

Fine trees. Larger trees in pots of Eucalyptus, Pepper, Acacia, etc.

**Leonard Coates Nursery Co., Inc.**  
Morganhill, Santa Clara Co., Cal.

**Eucalyptus**  
**Red Gum Sugar Gum**  
6 to 12 inches.  
In Flats F. O. B. \$15 to \$18 per 1000  
Packed and Prepaid to you by Express,  
\$2.50 per 100—\$23 per 1000  
**HENRY SHAW,**  
320 River St. Santa Cruz, Cal.

### BUFF ORPINGTONS

Eight years careful selection gives our COM-MONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

**W. SULLIVAN,**  
Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

**THE MAN WHO SWEARS BY THE FISH BRAND SLICKER**

is the man who has tried to get the same service out of some other make

Clean - Light - Durable  
Guaranteed Waterproof  
and Sold Everywhere  
at \$3.00

ILLUSTRATED CATALOG  
FREE FOR THE ASKING

A. J. TOWNE CO. DEPT. 10, SAN FRANCISCO, CAL.

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	201
Beckman, Geo. V.....	207
Bird & Co., J. A. & W.....	203
Blake, Moffitt & Towne.....	204
Bosanko Medicine Co., Dr.....	202
Breeders' Directory.....	207
California Fruit Exchange.....	208
Coates Nursery Co., Leonard.....	207
Covina Nurseries.....	208
Croley, George H.....	207
Cutter Laboratory, The.....	203
De Laval Dairy Supply Co.....	203
Deming Co., The.....	202
Dewey, Strong & Co.....	205
Dietz Company, R. E.....	201
Disbrow, F. H.....	203
Driver, E. S.....	207
Fancher Creek Nurseries.....	204, 207
Fresno Agricultural Works.....	—
German Kali Works.....	—
Hamlin School, The.....	200
Hart, Ed.....	207
Hess & Clark, Dr.....	202
Holcombe & Co., R. A.....	204
Howard Cattle Co.....	207
Hoyt's Tree Support Co.....	—
International Harvester Co.....	199, 205
Jackson & Co., T. W.....	208
Lawrence-Williams Co.....	198
Lister, Henry B.....	208
Lynch, John.....	207
McClanahan, E. A.....	203
Meacham, Frank.....	—
Mountain Copper Co.....	204
National Wood Pipe Co.....	208
Niles & Co., Wm.....	207
Oakland Poultry Yards.....	207
Orange County Nursery & Land Co.....	208
Oregon Nursery Co.....	208
Pacific Coast Business College.....	201
Pear Blight Remedy Co.....	208
Roeding, Geo. C.....	207
Santa Teresa Poultry Farm.....	207
Seulberger, J.....	203
Shaw, Henry.....	207
Sharples Separator Co.....	204
Shaw Plow Co., H. C.....	199
Silva & Bergthold Co.....	208
Simmons Hardware Co.....	—
Smith, Francis.....	—
Southern Pacific Railway.....	208
Standard Oil Co.....	199
Stewart, W. A.....	205
Stowe, C. A.....	207
Sullivan, W.....	207
Swett & Son, John.....	200, 203
Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	207
Trumbull Seed Co.....	20
Tuttle's Elxir Co.....	—
Van Der Nallien, A.....	205
Vermont Farm Machine Co.....	202
Wagner, J. B.....	207
Waite, Thos.....	207
West Coast Cresol Dip.....	208
Western Meat Co.....	198
Woodin & Little.....	—
Wright Brothers.....	208

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.





The Famous Mission Train California to Chicago in three days over the

## Sunset Rock Island Route

Sixty miles along the famous Salton Sea, 250 square miles of lake with background of the high San Jacinto Mountains.

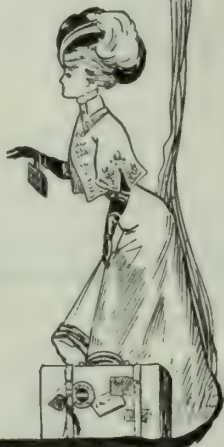
Drawing room sleeping cars. Dining service unsurpassed. Open air observation rotunda. Parlor car—library and cafe—Ladies lounging room—Gentlemen's smoking apartment.

ASK ANY AGENT

### SOUTHERN PACIFIC

OR CALL

884 Market St. 872 Market St.



## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Slave Pipe. Machine Banded Pipe. Bored Wood Pipe.

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

268 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.



## California Fruit Exchange

(INCORPORATED.)

Head Office:  
SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.  
SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

### TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

### SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.

Orna- **TREES** FOR STREET AND TRACT  
mental PLANTING A SPECIALTY

### NURSERY STOCK OF ALL KINDS

125,000 BLUE GUMS

50,000 SUGAR GUMS

25,000 RED GUMS

### Orange County Nursery & Land Company

FULLERTON, CAL.

## WEST COAST CRESOL DIP

Made of Coal Tar Creosote Oil. Great caution must be exercised with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless.

West Coast Dip is guaranteed to be made from Oil containing 25% Cresylic Acid. Permission was given by the U. S. Dept. to use our Dip for the treatment of Sheep Scab in the highest dilution ever allowed. When thus diluted it costs but a few cents.

For Sale by many Dealers. If not by yours, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

## PEAR-BLIGHT

We can CURE IT

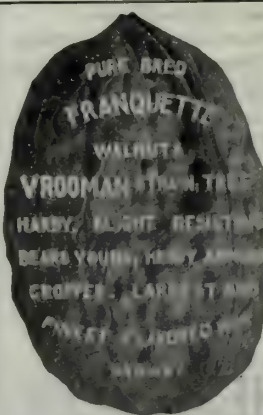
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

### OREGON NURSERY COMPANY

SALEM, OREGON.

Salesmen Wanted.

Eureka Lemon  
Valencia and Navel Oranges  
Eucalyptus Trees

Globulus, Rostrata, Rudis, and Tereticoorns

Phoenix Canariensis,  
Chamaerops Excelsa  
Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

### COVINA NURSERIES,

Covina, Cal.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 14.

SAN FRANCISCO, SATURDAY, APRIL 4, 1908.

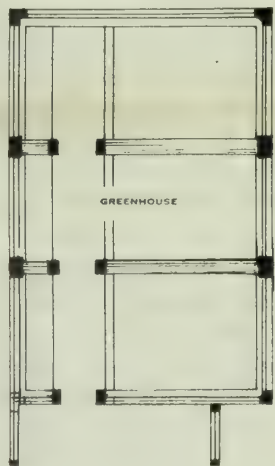
Thirty-eighth Year.

### SOUTHERN CALIFORNIA PLANT DISEASE LABORATORY.

Our current issues are emphasizing the interest and importance of the new facilities for the Agricultural Department of the University to do local research work in southern California, and setting forth some of the leading transactions at the dedicatory institute which marked the formal opening of the new branch of the University Experiment Station. It may therefore be timely to introduce the building at Whittier which was specially designed and constructed for a plant disease laboratory, and which is, if we mistake not, unique in that it is perhaps the best separate outfit for this particular branch of research in this country. As the picture upon this page shows, it is a very modest building, and yet a thoroughly good one and as well suited to its special work as expert planning could secure at moderate cost. The ground plans are not ornamental, but they do show the particular points about the concern better than an elaborate verbal description could present them. The main part of the building is 40 by 50 ft., with a plant shed and a greenhouse attached. The building has gas, water, and electricity throughout, and is well equipped with furniture, benches, and cases, microscopic and culture apparatus, glassware and supplies. It is in every respect a first-class, practical, up-to-date laboratory for its purpose. The greenhouse consists of three compartments with double glass walls and



Southern California Plant Disease Laboratory at Whittier.



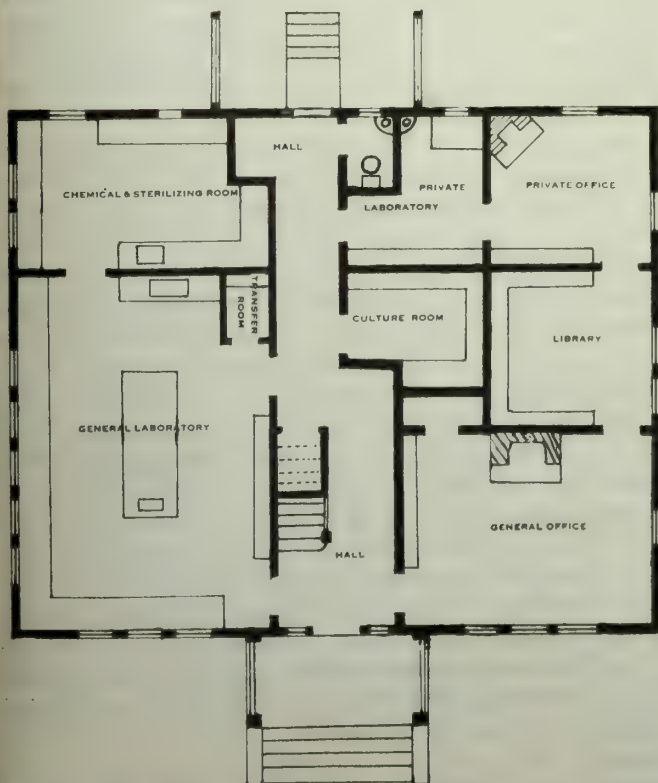
SHEO

air spaces between, and is intended for experimental purposes.

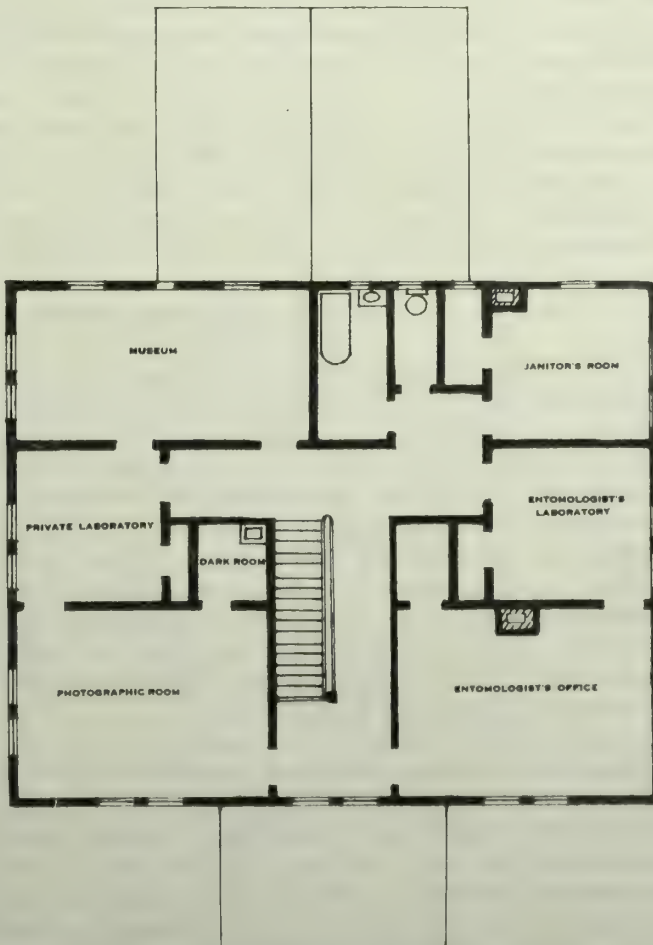
In a circular which has just been issued from the University Experiment Station at Berkeley the object and purposes of the Southern California branch are set forth by Prof. R. E. Smith, who has general supervision of the local station work in that part of the State. The intention is to make the Whittier laboratory a headquarters of investigation in plant pathology, including entomology, for southern California. The study of the various diseases and troubles affecting cul-

tivated plants will receive concentrated attention, both from a technical and practical standpoint. Collections, museum material, etc., will be prepared and the laboratory will be made an object of attraction from a botanical and horticultural standpoint, representing one of the most important extensions of the agricultural work of the University of California. The laboratory location is practically frostless, affording an agreeable climate and outdoor growth of most plants with slight protection all the year round. Local problems abound in plant pathology and entomology, and the conditions are unexcelled for cultural, life history, histological, ecological and other studies. The present work of the laboratory is centered largely on problems connected with walnut, citrus, and vegetable growing.

The Whittier laboratory is one of a twin creation for horticultural research provided for by the legislatures of 1905 and 7. The other of the promising pair is the Branch Citrus Experiment Station in Riverside, occupying 30 acres of good citrus land furnished by the Huntington Park Association and constitutes one of the features by which that enterprising association is dedicating the picturesque Mt. Rubidoux region of Riverside to public uses. The purpose of the Citrus Experiment Station, as conceived by its management, is to provide for the State Agricultural Experiment Station adequate facilities for the investigation of all subjects having important bearing on citrus production. For this purpose it will be made a center of investigations relating to the culture of citrus trees, and its activities will comprise broad investigations of specific problems as related to the citrus industry.



First Floor, Plant Disease Laboratory at Whittier.



Second Floor, Plant Disease Laboratory at Whittier.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.	-	-	-	PUBLISHERS
E. J. WICKSON	-	-	-	Editor
EDGAR RICKARD	-	-	-	Business Manager

## The Week.

We have beat about in the San Joaquin valley something like a thousand miles during the last fortnight, and have become deeply impressed with the new life and action in that vast area of productive land, and with new visions of its significance to the State at large. No part of the State compares at all with the San Joaquin in current speed of development. There are centers of energetic settlement elsewhere, but the San Joaquin is full of them, and they are attracting people by the thousands, while they can probably be counted by hundreds elsewhere. We chose slow day trains because the car-window landscapes can be studied in fuller detail, and because we thought we would escape the bustle of the through trains. We counted amiss: these trains were crowded, and they poured forth people at the stations as the trolley cars do at the baseball grounds. The quiet contemplation of the country which we sought was out of the question. Perched much of the time on the arm of a car seat, we sighed for the old time restful meditation of a San Joaquin journey, and caught only now and then a distant view of the mountains, foothills and remoter plains, because the foreground was so full of people, personal baggage, new lumber being beaten into structures of more or less dignity, while the fields were alive with teams and the roadways enclouded with the dust of flying automobiles. Even the cars themselves became portable offices for real estate transactions. Lands were pointed to from the windows with eagerness like that which tourists manifest in the face of "oh my" scenery. Even the real estate agents pressed us into service and exalted our connection with California agriculture, so that our cordial greeting of them and their customers might lend to the impressiveness of their selling outfits. But this was wholly unnecessary. We found the incoming purchasers already impressed with the glory of the land and anxious to become possessors of such fractions of it as their money would cover at prices thrice greater than the value of a decade ago. The San Joaquin is alive.

One point that impressed us as significant is that the present freedom of investment in the San Joaquin proceeds largely from Los Angeles. People are of course drawn from all directions, and advertisement by local agents and irrigation enterprises are making large returns in land-buying incomers, and yet the initiative proceeding from Los Angeles is very large, and that optimistic and courageous city is annexing the San Joaquin as an important increase of her own "back-country." The opportunity for this arises from two causes: The in-flow of eastern capital to Los Angeles seeks cheap land and water as a basis for subdivisional projects. There is little supply of these essential articles south of Tehachapi, except in the Imperial valley, which is of course being made use of, and the vast San Joaquin now receives a long-deserved recognition for vastness in area, in water-supply, and in variety of agricultural and horticultural adaptations. The result

is that capital via Los Angeles has been freely invested in land and water, and all that these resources can accomplish jointly and severally, all the way from Bakersfield to Stockton. The second source of opportunity for Los Angeles, or at least a reason why the valley is so freely open for Los Angeles enterprise, is found in the fact that San Francisco is almost wholly engrossed with her own rebuilding and is using all available capital and energy to that end. But for this, San Francisco would have had a much longer and larger knife in the cutting of the great interior melon than she now displays. But the development of the San Joaquin is a great affair. It is just beginning, in spite of the present attainment of the valley, and it will not be finished in a decade or in a generation. San Francisco may be expected to awaken to her rights and opportunities in that direction as soon as she has finished her own rehabilitation—in fact, as the metropolis is rebuilding on larger lines and is now receiving accessions which indicate notable increase in population and in business, it will be all the more essential that her relations to interior development shall be clearer and closer. San Francisco will not long be unmindful of the San Joaquin.

The present course of affairs in the San Joaquin will make strongly for State unity. Not long ago Los Angeles contended for climatic peculiarity and for industrial sentiment and ambition in the region south of Tehachapi unlike those of the greater areas of the State. Even God Almighty was appealed to as the author of some creative acts which made southern California different. This early conception of a reason for State division has faded away. Later there was a notion of State division on the basis of an imaginary line which crosses the State along the north boundaries of San Luis Obispo, Kern, and San Bernardino counties. Later still straight lines were forgotten, and any sort of a line which would throw Fresno with the south was talked about. As the Creator's mountain barriers were soon seen to enclose too little land for the ambitious and growing south, so the late political lines disclosed too little land and water and chance for enterprise. While the doctrinaires were contending for geographical lines across the San Joaquin, the real estate men of the south were investing and re-investing their money and effort much farther north—even afar into the Sacramento valley. Therefore the conclusion is that there is no line of climate or of industry which is rational as a basis for State division: California is a unit, alike throughout even in local variations, and is therefore indivisible. For this reason the State of California is an appanage of no single city, but is the field in which all cities and all aggregations of men with capital and energy can find free scope for their utmost efforts for proper personal and corporate profit and for commonwealth building. The present opportunity for development enterprises proceeding from Los Angeles becomes therefore not only a grand opening for the surplus money and energy of the south, but is also the means by which the south can demonstrate its own loyalty to State unity and an eager desire to know only California. The old has passed: the new is greater and better.

If the Washington people think that our Californian, David Lubin, conceived the idea of an International Agricultural Institute simply for the fun of the thing, and accepted a membership in it as the representative of this country simply for the glory of it, they certainly do not know our David. Mr. Lubin is one of the most intense men California has produced; deep and patient

in thought and irresistible in pleading, but when he has his commission or permission to act, he is simply lightning. The idea of Mr. Lubin going into conclave with the world's representatives to organize an effective world-wide agricultural movement and sitting with his thumb in his mouth or his face in his hat is exorcisingly funny to a Californian. Mr. Lubin could not do that even if the proceedings were in Sanskrit and he could not understand a word of it. Mr. Lubin is action and energy personified, and that is one reason why he succeeded in getting the crowned heads to pay attention to his unique plan for a world's institute of agriculture. And now it seems from the telegrams that Mr. Lubin has got into trouble for trying to do something to carry out the idea which the United States honored him for originating in the name of this country. The story from Washington is that Mr. Lubin went to Rome without definite instruction, and that, being very enthusiastic and imbued with the importance of the enterprise he had fathered, he outlined a programme which promised to commit this Government to a greater extent than was approved by the authorities. Ambassador Griscom therefore stripped the American commissioner of his power, but told him he could attend the convention, it is supposed, as a sort of unofficial delegate. Secretary Root is said to have intimated that the matter might be straightened out, but he admitted that neither State nor Agricultural Department was disposed to go into the new movement so fully as Mr. Lubin desired. We hope the Washington departments will fix up their arrangements so that Mr. Lubin can do something. He is capable of a great work and he will give his life or anything else he possesses to accomplish what he believes to be of service to the agricultural interest. To shear him of power to do this will not be regarded as a kindly act by the agriculturists of the United States.

President Roosevelt has apparently caught clearly the California contention as to the prohibition of sulphur in fruit curing. In his address at the first meeting of the Referee Board in Washington on March 26, the President is reported to have said that he did not wish to have the pure-food law destroyed by theoretical and technical objections, and that important industries must not be destroyed. There existed no compelling necessity for it. He told the board that it must appreciate the fact that there were great industries at stake, and that the policy should be to maintain rather than destroy them. He declared that nobody's prestige was at stake, that the question was broader than that. To show how absurd technicalities might be, he referred to the fact that the pure-food board had ruled against some form of saccharine. He knew of his own knowledge that it was harmless. This looks as though the question is to be carefully looked into by the board as an original proposition, and is not to be a whitewashing expedition of any kind. That is what the Californians have been contending for. They will also derive satisfaction from the report that the chairman of the Referee Board has said that no doubt the board would grant a hearing and go to California, as it was recognized that climatic effects were an element in the controversy, and the conditions of handling fruits had to be considered. Messrs. Briggs and Brailsford decided to come home and call a convention of fruit-growers to issue a formal and pressing invitation to the board to visit California during the season of fruit curing.

The weather has been fine for blossoming and for blossom festival day in Santa Clara valley,



even if it has not been very good for other agricultural purposes. Current reports say that on Saturday last between 10,000 and 15,000 people in holiday attire gathered at the ninth annual blossom day festival at Saratoga. Trains, electric cars, automobiles, carriages, motorcycles, and bicycles were pressed into service as modes of transportation to the country of the fruit blossoms. Seen from the heights above the town, the Santa Clara valley seemed covered with a vast carpet of green and white. The residents of the town and the committee in charge did their utmost to entertain the huge crowd, and the day was thoroughly enjoyed by all. Now that the festival is over and the fruit has probably set well, it would be fine to have two or three inches of rain all over the State, not all at once, but in measure for deep penetration. The dry winds have made things look a little dejected, and the weather should turn soon for the sake of the crops.

Speaking of blossoms and fruits, we are very sorry we cannot give much comfort to many who are writing to us about the work of thrips on fruit blossoms from different valleys in the central part of the State. The menace to the crop is great, and as yet no rational protective measures have been reached. Special work is proceeding, both under the entomological divisions of the United States Department and of the University of California, and there is full reason to expect that these agencies will indicate successful warfare against this as they have against other pests, but the end is not yet. Meantime it behooves all growers to give attention to the methods of attack of the pest and the results of its work. Such observations may prove of great value for consideration in connection with the systematic work which is going on.

While Pacific Coast hop growers are organizing to protect themselves against unprofitable surplus production, the English growers are agitating for protection against American aggression. A meeting of English hop growers at Worcester last week passed a resolution protesting indignantly against what was described as the "dumping of America's surplus hops in this country." Enormous quantities of hops are said to be due to arrive in England which are being offered at from 18½ to 25 shillings a hundredweight, which is less than half the English price. A committee was appointed to draw the attention of the Government to this condition as an argument against the present fiscal laws. Evidently all Englishmen do not like free trade.

Speaking about protection, it will be wise for California to take notice that political parties are now playing with tariff revision and promising to do something in that line—"not now but soon." Californians should be careful not to do anything which will weaken the protective policy which is now the foundation for our leading industries. Our fruit products, wool, lumber, and other things are protected, and we are certainly ready to undertake their production in competition with the world's cheap labor at present. Therefore it is time to organize and collect the facts upon which California can justly claim consideration. The best way to treat tariff revision at present is to prepare to meet the proposition in whatever form it may assume. Let us not be caught napping in this matter. It is not necessary to discuss tariff and free trade as general economic propositions except in debating societies, where they serve an excellent development process in teaching how to argue. The final issue will be made up on facts clearly supported and effectively presented.

## Queries and Replies.

### Spring Use of Bordeaux.

To the Editor: I have been advised to write you in regard to spraying peaches and apricots. The apricots are now coming into bloom; would it hurt the bloom to spray them? I also have about 70 Orange Cling trees that have had curl-leaf for the last two years. My trees are 10 years old. The orchard people up here do not spray, but the last two years I whitewashed the trunks of my trees for about three feet high, and it leaves the tree nice and healthy-looking.—Reader, Contra Costa county.

We recently wrote at length about the spring use of the Bordeaux mixture. Spraying for shot-hole fungus on the apricot ought to be undertaken just before the buds swelled, and now must be done a little later—that is, after the fruit has set, in order to protect it from the ugly, reddish-brown spots which this fungus causes. Spraying for curl-leaf should also have been done just before the bloom, and this too can be done after the fruit sets. When the spraying is done early, the leaves are generally protected entirely; when it is done late, the first leaves are considerably injured, but the newer leaves are protected. Whitewashing the trunk is an excellent thing to prevent sun-burn, but it has no effect whatever upon scales or fungus trouble on the upper part of the tree.

### Selling Persimmons.

To the Editor: In connection with your recent comments on the market for the Japanese persimmon, I desire to call your attention to the fact that commission merchants in San Francisco have had repeated calls from Hawaii for all the persimmons that they could obtain. Seattle likewise has asked San Francisco to ship them large quantities. The few that I grow I ship by express to New York, packing them 30 in a box (one layer), and get \$1.50 f.o.b. the depot here. I repeatedly receive telegraphic orders for more. Single trees of the large variety yielded as much as \$13.75, besides the culls. It seems the variety mostly inquired for is the Japanese Maru. New York has asked me to grade them next season and pack 34, 38, 42, and 46 in cardboard cartons same as are used for eggs. I have started to plant an entire orchard in persimmons, and will eventually experiment with every variety obtainable.—Gustave Ehrenberg, Auburn.

This is very interesting. We imagine the demand in the places named is from the constantly increasing population of Asiatics, chiefly Japanese. That is all right, however. It is better to bombard the Japanese with persimmons than with cannon balls.

### Why the Vines Failed.

To the Editor: Will you kindly give me the various reasons why rooted grape vines should die during the first year, aside from being killed by insects? I had 5000 vines planted in Merced county. The soil is very sandy, but is considered one of the best for grape growing. I found that one-fifth of my vines had died, while my neighbors lost very few. All came from the same nursery. I was assured before planting that very few rooted vines should die. I asked the man who contracted to plant and care for them what, in his opinion, was the reason. He said that it was hard to tell; he thought that possibly they had had too much fumigation before leaving the nursery. I would like very much to get at the truth of the matter. My own opinion is that they were not irrigated enough, and possibly had not enough cultivation, but I am not sure. Ought the vines to be allowed to bear grapes during the first year? Absent Owner, Los Angeles.

We are quite clear of the impression, from your description, that your rooted vines died from lack of moisture. This might be due to neglect in irrigation, or to insufficient cultivation, which is

undertaken for the purpose of retaining moisture in the soil. It is hardly likely that they were over-fumigated, because our large nurseries have quite a uniform system of treating their plants. Could you not find out, by inquiry among your neighbors, whether the treatment of your vines which failed was quite different from that on adjacent places which succeeded? Vines ought not to be allowed to bear grapes during the first year.

### Growing Orange Trees.

To the Editor: In taking seed for growing orange seedlings, does it make any difference whether it is from a large or a small sized orange? Are orange trees whose roots are sour stock any better than those that are just from the common seedling? What age should the seedling be before having it budded? To get a Valencia is it best to grow it from a Valencia seed, or to put a Valencia bud into a seedling stock? The same as to the lemon, is it best from the seed or a lemon bud put in orange stock? What is the best soil to plant the nursery trees in?—Beginner, Los Angeles county.

So long as the seed is large and plump, the seedling may be expected to be satisfactory, although the orange from which it is taken may not be a large one. Orange trees on sour stock are preferred by many growers, because the root of the sour, or Seville, orange is believed to be more resistant to root rot, gum disease, etc. The seedling should generally be two years old at the time it is budded. If you use a first-class Valencia bud it is not necessary, nor is there any advantage so far as anyone knows, of having the seedling from a Valencia seed. The lemon should be budded upon the orange stock, and not upon the lemon seedling. You cannot get a true Valencia tree nor any particular kind of a lemon tree from a seedling of these fruits. The orange nursery should be planted on a good loam which is heavy enough to retain moisture well and not so heavy as to render cultivation difficult.

### Summer Growth on Adobe.

To the Editor: What can I grow best on a heavy adobe which I can irrigate to some extent?—Subscriber, Sacramento valley.

The best forage plant to grow on adobe soil, if you can give it a little water once in a while during the summer time, is the Australian rye grass. Alfalfa will also do well on a pretty heavy soil, providing one is careful to irrigate so that the water does not stand on the surface after the sun becomes hot. By frequent irrigations in the later afternoon or evening one can grow alfalfa successfully on a clay soil.

### Rose Mildew.

To the Editor: Please advise me as to a remedy for mildew on roses, as I have some such trouble in my yards and an unable to cope with it.—Gardener, Sutter county.

The common mildew of roses is closely related to the mildew of the grape vine, and the same treatment is to be applied to it, viz: sulphuring. In addition to this, you must be sure that the plants are thoroughly thrifty, being properly pruned, fertilized, and watered as local conditions may require.

### Walnut Distances.

To the Editor: Kindly inform me what distance, in your opinion, English walnut trees should be planted from each other in order to gain best results.—Planter, San Mateo.

English walnut trees are usually planted from 40 to 60 feet apart, according to the richness of the soil and other conditions affecting growth, the greater distances, of course, in the richer soils and usually on the lower, moister lands.



## Horticulture.

### THE POSSIBILITIES OF WALNUT BLIGHT CONTROL BY THE USE OF IMMUNE VARIETIES.

By H. J. RAMSAY, Assistant Pathologist at the Southern California Plant Disease Laboratory at the University Farmers' Institute at Whittier.

The question of walnut blight control has been the great problem with nearly every grower of walnuts for the last half-score of years or more. Walnut blight has entered, and does today enter, into nearly every consideration or phase of the walnut industry. In figuring on probable returns, on walnut growing as an investment or as a means of livelihood, the great big question mark which always stands out in the foreground is that of the blight. It is always a factor, and perhaps the greatest factor, in reducing the profits to be derived from a walnut orchard, and is today the greatest drawback to walnut growing.

In spite of a great increase in acreage, the output, instead of increasing, is now actually less than it was three or four years ago, this decrease being due mainly to blight. However, blight alone does not by any means account for all the losses occasioned in the past.

The present bearing acreage of walnuts in the south today is composed, with but a very few exceptions, of seedling trees. These few exceptions, which happily there are, are the ones which have proved very conclusively the superiority of the grafted trees as compared with the seedling. They also go far to prove that if the day of the seedling orchard is not at an end, at least as far as future plantings are concerned, it should be. In a great many instances the losses which are popularly attributed to blight might have been materially lessened by more intelligent fertilization, cultivation, and irrigation. The old seedling walnuts have in many cases exhausted almost all of the soil's available fertility and are going back; due both to lack of soil fertility and because of old age. The English walnut root does not seem to be able in all cases to adapt itself readily and quickly to changing climatic and soil conditions. It is too subject to injury by frequent changes of temperature and the variable moisture content of the soil. While it may do well for a number of years, there come times when, because of peculiar climatic and soil conditions, the seedling tree fails to come up to the requirements.

The desirability of using grafted trees up to the present time has been recognized by but few walnut growers, though now they are commencing to realize more and more the advantages of the grafted tree as compared to the seedling. In light of our past experience with all fruit trees and with the walnuts themselves, it would seem almost useless to urge the planting of the grafted tree in preference to the seedling. The time will come when a person will no more think of putting out a seedling walnut orchard than he would of planting apple or orange orchard. The grafted trees insure one an orchard of walnuts all of one variety, and not of as many varieties as there are trees in the orchard. Different varieties, all of them good, when mixed will not command the price that each variety would if sold separately. Again, the grafted orchard will bear more uniformly, both as to quantity and quality, and will also come into bearing much earlier than the seedling.

**Grafting From Superior Seedlings.**—If one has growing in his orchard a particular tree bearing a variety of walnuts superior to all the others in his orchard, he will perpetuate that variety by grafting or budding from that particular tree. It will thus be possible for him to grow an orchard with every tree in it equal to the original tree from which he propagated. On the other hand, were he to plant the walnuts from this tree and by propagating thus by seedlings from this tree, he would find, as all have found, that instead of having an orchard of uniformly sized trees bearing a uniform quantity and quality of nuts of the same variety, he would have an orchard of the usual seedling type, with each tree a different variety, differing materially in season, size, quality and quantity of walnuts produced. It is largely a matter of chance as to what kind of an orchard

one obtains when planting seedlings, and whether or not one will obtain even a single tree equal to the parent tree.

The grafted trees, too, allow one a choice of roots as best suited to particular soils or conditions. There is no particular reason, if one would but select intelligently and carefully his variety, why one should not have a producing orchard bearing at least one hundred pounds of walnuts to the tree, instead of having but two or three such trees in the whole orchard.

It would seem then that from every standpoint the grafted tree is by far preferable, leaving out even the possibility of walnut blight control by means of immune varieties. It has often been said that there is nothing so bad but what there is a little good mixed in with it. While walnut blight has been the cause of enormous losses to the walnut growers, it has hastened the time when the grafted walnuts will displace the seedlings. By hastening this period of transition from the unscientific seedling epoch of the past to the more stable scientific era of the future, it has been the means of putting the walnut industry on the plane with the other great horticultural industries of our State. With sorrow in their hearts, many regret the passing of the good old days when the seedling walnut was in its prime, but they will hail with great joy the new era when they more fully realize the advantage of the change and the opportunities which it offers.

**Ways Out of the Blight.**—Ever since the blight has become such a serious menace to the business there has been an urgent demand that a remedy be found. While the cause of the blight has been quite fully worked out, no satisfactory method of control, at least by the use of chemicals, has yet been found. The great and popular demand has been for some simple and effective means of blight control, either by the application of some chemical to the soil, or of some spray on the trees, or even by the injection of some antiseptic into the sap of the tree itself. With the idea of finding some way of controlling the blight by means of a spray of some sort, the life history of the germ causing the blight has been fully worked out, with the hope of finding some stage in its life history when it could be most easily reached by some spray material. A number of different sprays have been tried out very thoroughly and carefully at different times during the season, but none were found to be effective in controlling the blight. Though the twigs were absolutely covered with the spray, the typical blight lesions would appear on these branches the same as they did on the unsprayed ones. As far as the amount of blight was concerned, it seemed to make but little difference whether the trees were sprayed or not and at the time of the year when the spray was applied. Owing to the great size of the trees the consequent cost of application and the difficulty in getting the tree thoroughly covered with the spray, the saving of walnuts would have to be considerable to make it a paying operation.

The idea of inoculating the tree with some antiseptic by boring holes into the trunk of the tree and injecting into the trunk of the tree certain chemicals has been exploited, chiefly for private gain by certain unscrupulous persons, both in walnut blight and pear blight. Even if it were possible in this way to make a tree immune to blight, the experience of those who have tried it does not extend much hope in this direction. It is hard for the popular mind to conceive of the fact that chemicals thus injected into the trunk of the tree would not exercise the same influence on the tree that it would on the human system. Injected into the trunk, the materials, whatever they may be, will be taken upward with the sap, carried to the leaves, where the elements that can be used by the plant as food are transformed into an organic form, while the others are left as waste products and may be very injurious to the plants. All the experimenting which has been done in a scientific way as regards the control of any fungous or bacterial disease by this means does not record a single instance where it has been a success.

As regards the application of chemicals to the soil in the hope of making the tree more or less immune, something has been gained in an indirect way. The possibility of making the tree immune or resistant by soil application, needs careful and extended observation and experimentation. However, we do know that judicious fertilization will

greatly increase the productiveness of a walnut orchard, to such a degree that in spite of the blight one can obtain remunerative returns. There is no question but what the heavy application of stable manure, supplemented by some fertilizer, strong in nitrogen especially, followed by some leguminous cover crop in the orchard during the winter, will make any walnut orchard a better investment. In connection with this, a late fall and winter irrigation will help to hold the trees back in the spring and make them less susceptible both to blight and frost injury. This treatment will tend to make the trees heavier bearers, due to increased vigor and to the fact that they will escape in a large measure the worst period of blight infection, early in the spring.

**Blight Resistant Varieties.**—Let us now consider especially the possibilities of blight control by the use of immune or resistant varieties. The question of obtaining an immune or resistant variety is not a vague dream of the future, but is a reality of today. We actually have varieties that have, to our own knowledge, completely escaped the blight year after year. There is no reason to suppose that this character cannot be perpetuated by either grafting or budding. After carefully considering all possible methods of blight control, we arrive at the ultimate conclusion that the use of immune varieties is the only rational method of blight control. Immune varieties are a thing of permanency, while spraying is but a temporary remedy at the best, an operation that will have to be performed year after year. We would consider ourselves very much remiss should we recommend any temporary, uncertain method of blight control by spraying, when there exists not only the possibility of obtaining immune varieties, but the actual realization of that possibility. We know today of at least half a dozen trees which, for all practical purposes, are blight immune. The question then arises, why and how are these blight resistant? From all that we can gather, most of these trees are immune or escape the blight because they are late in coming out in the spring and escape the worst infection period. There are a few exceptions where the trees come out as early as the average Santa Barbara soft-shell and still are practically immune. These are trees which truly can be said to be actually immune. The fact that experience has proved that these trees are immune, because of their lateness in coming out in the spring, should not in the least detract from their value for propagating purposes. What we want is that they escape the blight. While we require blight resistance, we also want trees that will produce a good quality and quantity of walnuts. It is also desirable that they mature in the fall as early as the average ordinary seedling, so that they can come into the market at a season when the demand for walnuts will bring the maximum price. Some of these immune trees not only produce from one hundred to one hundred and fifty pounds of nuts per tree, but are of a very desirable quality and come to maturity in very good season. So while requiring blight resistance we also ask that they meet the other requirements as to season, quality, and productiveness.

**Varieties.**—In Mr. Hale's orchard at Placentia there are a number of French seedling trees now about fifteen years old. Among these there is one particularly valuable tree. For a number of years, at least ever since it was especially noticed, this tree has borne a good quantity of nuts and, with the exception of a little twig blight, has been entirely blight immune. To all intents and purposes it is practically immune. It resembles in some respects the Franquette, differing from that chiefly in that the nuts are round and broad at both ends, instead of being broad at one end and pointed at the other. It is a good sized nut, well filled, quite firmly sealed and white meated. The walnuts come to maturity in time to go in with the rest of the soft-shell seedlings, and altogether, even laying aside blight immunity, they are very desirable walnuts.

Another tree, on the Stone place at Fullerton, is also a very desirable one from the standpoint of blight immunity, but is very much later, both in coming out in the spring and maturing in the fall. It bears fine shaped, smooth, firmly sealed walnuts that are well filled, white meated, and of a very desirable flavor. The tree produced this year nearly one hundred and fifty pounds of nuts. Nurserymen have been propagating for some



years from this tree and disseminating the grafted or budded stock under the name of "Eureka."

Mr. McNees of Whittier has a tree that really seems to be blight immune, even though it comes out fully as early as most of the seedling trees. The tree is a fair bearer of rather large but rough nuts; still the shape of the nut would not be a very serious drawback if the tree proves itself to be really blight immune and a good producer. One often hears it said that if one can produce the walnuts, even though they are not of very good shape or come to maturity late, they will take their chances on finding a profitable market for the same. We have under observation a number of other trees which are many of them more or less desirable and may prove in the end to be equal to or better than any of those mentioned. There is but little doubt that the ultimate solution of the walnut blight problem will lie largely along the lines of improved culture and the use of resistant stock.

[To Be Concluded.]

### GRAFTING OVER OLD WALNUTS.

From an essay on the Walnut Industry, by Mr. J. B. NEFF, at the University Farmers' Institute at Whittier.

If the trees are from three to five inches in diameter they may be cut off at about four feet above the ground and below the branches, then four or five scions may be placed in one stock, or three or four of the branches may be cut back to within 10 to 24 inches of the trunk and two or three scions placed in each. All other branches should be removed from the tree.

Old trees of 12 to 20 years should have the branches cut at places where they are from three to six inches in diameter, and from five to eight stubs left, which will be from three to six feet in length and have as many as six scions in each stub, the other branches being removed before the scions are placed.

The method is as follows: The operator marks the stubs that are to be left, by a small notch out of the bark at the place where the cut is to be made. All other branches are cut close to the trunk of the trees. Several trees are marked while the assistant is preparing the first tree. The operator places the scions and the assistant follows with hot wax and covers all cuts on both scion and stock.

In cutting large branches it is desirable to cut them off considerably beyond the final cut, to prevent splitting the stub.

The scions should always be of solid, mature wood, that is, with as small pith as can be had readily, and must have good living buds.

They should be about  $\frac{1}{4}$  inch in diameter and have at least two buds. The growth having the buds close together is best, as shorter scions can be used, which do not require so much moisture as the longer scions, and consequently are more likely to grow. When the stubs are prepared, use a heavy butcher knife and mallet to split down upon and into the edge, about  $2\frac{1}{2}$  to 3 inches deep, and open with an iron wedge  $\frac{1}{2}$  to  $\frac{5}{8}$  inch wide and thicker on one edge. Place the thick edge of the wedge toward the outside when opening the cleft. Trim the opening in the stub with a sharp knife so it will be smooth. Then cut the scion so as to fit perfectly and place it so the inner bark of both will be on the same line, or at least will cross twice, then remove the wedge and put hot wax over all the cut places of both stock and scion.

The work should be examined every few days to see that the wax does not crack and leave the scion exposed to the air when the tree begins to grow. Any cuts on the body not waxed should have a coat of heavy mineral paint and the body a coat of whitewash.

The wax is made of 1 pound beeswax, 5 pounds resin, 1 pint flaxseed oil and 1 ounce lampblack, melted together. The object is to get a wax that is soft enough to be pliable without running, and a little practice will soon show whether the wax needs more or less oil.

A good operator will place about 300 scions in old trees, and about 25 scions are needed in each tree to insure a stand, it being better to have more than is needed, rather than too few.

After the scions have made one foot growth it will be necessary to nail laths 1 by 2 inches by 8 feet long, of Oregon pine, on the tree in such a

manner that the shoots can be tied to them and the new tree formed as desired.

Do not take off any of the sprouts at first, except such as may be very close to the scions, but as the scions grow, some of the sprouts may be taken off. When the sprouts get to be two feet long they may be headed back. Let all the scions grow that will the first year, and never head back the growth from a scion while it is in a growing condition.

If some of the scions should fail so as to leave a stub without a growing scion, a sprout may be trained and budded the following August or September.

Trees that are 15 years old when top-grafted may reasonably be expected to have a spread of 30 feet in four years, and to be in full bearing. It is not at all unreasonable to expect an orchard to average 150 pounds to the tree, and trees that are 50 feet apart should produce an average of 200 pounds when well fertilized and well cultivated.

[The cut in the stock does not point to the centre. It is like taking a slab from a saw-log, but only one end of the cut is opened by the knife; the stock is not split across.—Ed.]

## Agricultural Science.

### CROWN-GALL OR ROOT-KNOT IS COMMUNICABLE.

Mr. George G. Hedgecock of the U. S. Dept. of Agr., scientific assistant in the investigation of the diseases of fruit trees, has just published a preliminary statement of his results with the cross-inoculation of fruit trees and shrubs with crown-gall. As other investigators have denied that the trouble is communicable, all planters, nurserymen, and county horticultural officers should give careful heed to this statement:

In another publication brief mention has been made by the writer of the identity of the forms of disease known as crown-gall occurring upon the almond, apricot, blackberry, cherry, peach, plum, prune, chestnut, and walnut. This identity has been fully established by subsequent experiments with nearly 5000 seedlings grown in sterilized soil, watered with sterile water, and inoculated in wounds with pieces of gall from the outer portions of gall taken from plants of the kinds mentioned.

In addition to these experiments, later and more extensive experiments with apple and pear seedlings, carried on both in the field and the greenhouse, with 15,000 carefully selected seedlings inoculated similarly with galls from the almond, apricot, blackberry, cherry, peach, plum, and rose gave results indicating that the soft galls occurring on the apple, pear, and rose are also forms of the same disease. Smith and Townsend have shown that galls on peach trees can be produced by inoculations with pure cultures of *Bacterium tumefaciens* Sm. & Town., the cause of the formation of the galls on the Paris daisy. Coupling this fact with the results of the writer's experiments, it is possible that the soft galls of these plants with which he has experimented are caused either by the same organism or by closely related forms.

**Experiments With Crown-Gall.**—Many of the writer's experiments with the soft form of crown-gall on apple and pear seedlings have given negative results. These experiments were usually small in extent. The results from three of the larger experiments are presented here.

In the most extensive experiments with the apple, healthy seedlings were carefully washed and divided into four lots of approximately the same number. The plants of one set were wounded by making a downward, slanting incision into the root, and then the wound was wrapped with thread in the same manner that grafts are wrapped, to be used as a control. A second control set was treated similarly, except that a chip or piece of clean, healthy apple root was inserted in the wound before wrapping. A third set was prepared like the first, except that a piece of soft apple gall was inserted in the wound. A fourth set was prepared similarly, except that a piece of hard apple gall was inserted. The seedlings in this and the following experiments were

prepared, planted, and grown under the personal direction and observation of the writer. The trees were dug after growing one season, with the following results.

Of 977 trees grown in the first control, wounded only, 1.4 per cent were diseased with crown-gall, chiefly of the hard form; of 920 trees in the second control, with healthy chips in the wounds, 1.5 per cent were similarly diseased; of the set of 851 trees inoculated with soft gall, 10.9 per cent were diseased with galls of the soft form and 2 per cent with those of the hard form; of the set of 821 trees inoculated with galls of the hard form, 2.1 per cent were diseased with galls.

These results, in the writer's opinion, show quite conclusively that apple crown-gall in its soft form is contagious, but that in the hard form it is either slightly or not at all contagious. Should it be shown later that the two forms are results of infection by the same organism it will probably follow in the case of the hard form that the apple tree has been able to resist and largely overcome the effect of the parasite by healing processes, which lower its vitality. That such may be the case is shown by the results from several large experiments with grafted apple trees where the percentage of galls on nursery trees decreased rapidly for three years.

Another experiment carried out similarly with healthy apple seedlings resulted as follows: Of the control set in which the trees were wounded only 0.8 per cent of 657 trees were diseased with galls, chiefly of the hard form; of the control set of 672 trees with inserted healthy chips, 1.2 per cent were similarly diseased; of 627 trees inoculated with chips of dead peach gall, 3.1 per cent were diseased with galls, nearly all of the soft form; of 640 trees inoculated with chips of dead raspberry gall, 3.3 per cent were similarly diseased; of 605 plants inoculated with chips of live rose gall, 3.5 per cent were diseased as before. Although the percentage of infection in this experiment is very low, the soft galls produced by the inoculations were so typical of those which occur on stone fruits and roses, even to the rotting away of numbers of them at the close of the growing season, that it is very evident that the disease is the same on the apple as on the stone fruits where the galls have the soft form.

In a third experiment 1600 healthy pear seedlings were prepared, planted, and grown as in the former experiments, inoculations being made with chips of gall from the following plants: Almond, blackberry, cherry, peach, raspberry, and rose. Galls from a number of other plants were used, with negative results, but those named gave positive results, as follows: Of the control in which the trees were wounded only, none was diseased with galls; of the control in which the trees were inoculated with healthy chips, 1 per cent was diseased with galls, about half being of the soft form; of the trees inoculated with almond gall, 4.2 per cent were diseased with soft galls. The other sets showed the percentages of plants diseased with soft galls to be as follows: Blackberry galls, 9.5 per cent; raspberry galls, 6.6 per cent; peach galls, 7.8 per cent; rose galls, 15.8 per cent. These positive results prove that the soft galls of the pear are identical with those of the stone fruits and the raspberry, the blackberry, and the rose.

**Summary.**—From the results obtained by five years' experimentation in the greenhouse with seedlings grown under carefully regulated conditions, the following facts are noted:

The soft galls from the almond, apricot, blackberry, cherry, peach, plum, prune, and raspberry have been transferred easily to seedlings of the almond, apricot, peach, and raspberry; less readily to those of the blackberry, cherry, plum, prune, and pear; and with great difficulty to seedlings of the apple, chestnut, walnut, and rose.

The soft galls of the apple, chestnut, walnut, rose, and pear, as a rule, have not been transferred readily to any of the plants mentioned. Evidence has been obtained of a wide range of susceptibility in different varieties of the same plant. This has been noted in varieties of the apple, blackberry, cherry, chestnut, pear, and rose.

The results of these experiments show that the opportunity presented for breeding and selecting races of plants resistant to this common and destructive disease is excellent.



War wanted to Give Satisfaction.

## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**  
A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind,  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Takes horse of Caustic Balsam sold is  
guaranteed to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

## The Poultry Yard.

### Preserving Eggs.

The following is by Mr. A. E. Vinson of the Arizona Experiment Station:

Preserved eggs may be substituted for fresh ones in many cases with profit. They may be scrambled and used in omelets; also for baking various cakes which do not require beaten whites. As a rule they are the equivalent of fresh eggs in any food where the yolk is broken; but only when specially preserved and when kept not too long are they suitable to serve fried.

The preserving material seals up the pores in the shell and thus prevents the entrance of bacteria and air, as well as of evaporation and consequent shrinkage of the egg contents. The old method of greasing the shell to make eggs keep better

depended on this fact. Such eggs cannot be boiled because the impervious shells do not permit the escape of the enclosed air, which expands when heated and bursts open the egg. By serving the commoner purposes the preserved egg economizes the fresh egg, for which there is an ever-increasing demand for use as raw food in the treatment of certain diseases. The high prices for fresh eggs prevailing in the southwest during fall and winter months makes this an especially profitable locality for preserving eggs for family use.

When eggs are to be kept for a short time only, one of the usual methods of packing is sufficient. For this purpose they are imbedded in some fine material, such as dry bran, oats, sawdust, or salt. Care must be taken that the packing material is perfectly dry and free from must. There is always danger of losing the eggs by the growth of mould on the inside of the shell, as the writer has frequently observed. A better way is said to be the use of egg shelves. These are arranged in a cool dry place and are provided with holes so that the eggs may be stood on end. Handled in this way, eggs are said to keep better than when they are packed. Preserving in some chemical solution is, however, a much safer method for general use.

Before recommending any formulas to the public the writer has given has given several of them a critical study to determine exactly what can be expected under our conditions. The various lots of eggs were preserved in June, when they could be purchased at about 30 cents a dozen, and were used in November, when fresh eggs were selling at 70 cents. Thus they were carried through the excessive heat of June and found to be usable in the fall.

There are two solutions commonly used for preserving eggs, each of which has its advantages and disadvantages.

**Lime-water Method.**—The commonest and oldest preservative is lime-water. A few lumps of quicklime are slaked in a large vessel of wa-

# BEEF SCRAPS

Guaranteed 65 per cent Protein

# RAW BONE

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

ter, and after the excess of lime has settled out the clear liquid is poured over perfectly fresh eggs in a clean jar. A very small amount of the slaked lime may then be added to replace the lime which will be separated out by the action of the air. After a few days a thick crust will form on the surface, which should not be disturbed, for it prevents evaporation and excludes the air. Some add salt to the lime-water and claim it improves the quality of the eggs. Lime-water preserved eggs will keep well and are serviceable for all purposes except to fry, the yolks not holding up well and the eggs being apt to become mussy. There is a great tendency for the white to become watery, but this does not render the egg unwholesome. They are just as serviceable for baking and for other purposes as fresh eggs, excepting that the whites cannot be beaten. The great advantage of this method is the ease with which lime may be obtained, as it is readily accessible in the most remote places.

**Water-Glass Method.**—The other common preservative is water-glass. This is diluted with from ten to twenty parts of water, but even greater dilutions will serve when the eggs are to be kept for a short time only. We have observed that the stronger the water-glass solution the less apt the yolks are to break when fried. Water-glass gives better results than lime-water, but is difficult to obtain and quite expensive away from commercial centres. It should be given the preference wherever available, although very fair results can be obtained with lime-water. One lot preserved in five per cent water-glass solution was still in very good condition the following March.

It is absolutely essential that eggs for preserving be perfectly fresh. They should be preserved within twenty-four to thirty-six hours after being laid. It is not safe to preserve eggs whose history is not known, such as those obtained from dealers. By following one of these formulas a fall and winter supply of cheap eggs may be had which is fully as serviceable for most purposes as high priced fresh eggs, and which will not have that peculiar stale taste so characteristic of shipped cold-storage eggs.

### SITUATION WANTED

Stud Groom or Coachman; thoroughly experienced with Hackneys and Polo Ponies. Highest references from well known English breeders. Thoroughly understands Brood mares, young stock and entries. Steady, reliable and active. Apply Palmer, 118 Union Street, Napa, Cal.

## Patrons of Husbandry.

### Dairying in Tulare County.

To the Editor: Tulare Grange held its regular semi-monthly meeting on the 21st. After opening and reading minutes of the previous meeting, the Worthy Master declared an open meeting, and several visitors were admitted.

The committee to organize a tree-planting club, with the assistance of the Tulare City Board of Trade, the assistance being promised, made a partial report and more time was given. A resolution was formulated endorsing the Parcels Post and requesting our Representatives and Senators in Congress to support the same. It passed unanimously. The parcels-post bill has been indorsed, years ago, by Tulare Grange, the California State Grange, and the National Grange of Patrons of Husbandry.

The subject of the day, "Is Dairying Profitable in Tulare County?" was opened by Bro. Barber reading an interesting paper written by Bro. W. B. Cartmill, manager of the Co-operative Creamery of Tulare, which will be published.

Brother Barber also spoke on the subject, and said there are 13 creameries in Tulare county, selling over \$200,000 worth of butter and cream per month. Brother Barber has from youth been connected with dairying, in Iowa, Nebraska, and in California, and the possibilities for profitable dairying in Tulare county equal the best and exceed most places in this or any other State where he has been. He gave an instance of one dairyman who had a dairy herd of 40, employed all the labor, and in ten years netted \$10,000.

Mr. H. G. Brown of the Oak Dale Colony, in the past year has milked from 6 to 20 cows, the average being 12, half of them heifers with first calves, has kept a record of the yield in milk, the amount consumed in his family and the amount delivered to the creamery from January 15, 1907, to January 15, 1908. He received in checks \$956.89, and estimating at the same rate the value of the amount consumed in his family, \$77.98, equals \$1033.87, or a little over \$86 for each cow, half of them being heifers. All the requirements which make dairying profitable, except one, are found to a marked degree in Tulare county. It has salubrity of climate. At no

## Tuttle's Elixir

### The Horse Remedy of the Age

No stable is now well equipped without this incomparable liniment on the shelf. It has cured more blemishes and made more horses clean limbed than any other remedy in the world. It never fails to locate lameness.

### \$100 Reward

Our offer is always open. Some cases have passed the curable stage. But whenever a cure is possible we will pay \$100 for any failure of Tuttle's Elixir to cure Spavin, Curb, Splint, Sprain, Colic or Lameness.

It is the main dependence of Veterinaries, Express, Livery and Transfer Stables as a



## Leg and Body Wash

Beware of all blisters; they give only temporary relief, if any.

Tuttle's Hoof Ointment, Worm Powders, Condition Powders, White Star Liniment and Family Elixir are other excellent specifics. "Veterinary Experience," an infallible guide for horsemen, is free. Every disease and symptom made plain. Write for copy. Postage 2c.

## Tuttle's Elixir Company,

33 Beverly St., Boston, Mass.

Montreal: H. A. Tuttle, Mgr., 32 St. Gabriel St.  
So. Farmington, N.S.: C. H. R. Crocker, Mgr.  
Chicago: C. F. Tuttle, Mgr., 311 East 63d St.  
Los Angeles: W. A. Shaw, Mgr., 1921 New England Av.



COFFIN REDINGTON CO., 625 Third Street, San Francisco, California.



## THE DEAD LINE

Beware of the "dead line" in the poultry business. When your hens are droopy and your chickens dying because of lice, it's time to reorganize and take a fresh start. Lice cost poultry-men thousands of dollars a year—dollars that might easily be saved by a simple resort to a sure remedy.

## Instant Louse Killer

Kills lice so thoroughly and effectually that one application will most likely end your trouble. Instant Louse Killer is the formula of Dr. Hess (M.D., D.V.S.), and destroys lice on horses and cattle, ticks on sheep, cabbage worms, rose slugs and bugs on melon, squash and cucumber vines. It is also an excellent disinfectant and deodorizer. Comes in shaker-top cans, hence easy to apply, because you can dust it over roosts, nests and platforms in a few moments' time. See that the word "Instant" is on the can—none other is genuine.

Sold on a written guarantee.

1 lb. 35c. 3 lbs. 85c.

If your dealer cannot supply you, send your order to us.

Manufactured by

DR. HESS & CLARK,  
Ashland, Ohio.

THE PETALUMA INCUBATOR COMPANY  
Petaluma, Cal. Pacific Coast Distributors.

time of the year has stock to be kept up by reason of severe weather. It has a depth of rich fertile soil rarely equaled, never excelled. It is rich fertile soil to the water. It has a great diversity of nutritious forage crops, the leading one being alfalfa, which yields four good crops a year, which sends its roots to the sub-surface water, 10 to 20 feet, and draws its nutritive properties from the full depth of the soil and not alone from the surface, as most grain and forage crops do, thus exhausting the surface soil while the subsoil retains its virgin fertility, and it is this salubrity of climate, with abundance of nutritive forage crops, which conduce to the development in Tulare county of best and choicest breeds of dairy stock.

In the marketing of its dairy products Tulare county has north and south of it the very best markets in the State, and notwithstanding the immense amount of dairy products it now sends out in cream, butter, and cheese, the supply is not equal to the demand. The only advantage any other dairy location has over Tulare county is the difficulty of getting reliable labor, and the high wages that has to be paid for it.

Mr. I. N. Wright gave some interesting statements of his experience. He has this winter milked 32 head, which yielded, each, one month \$10.31, one month \$10.30, and one month \$10.33. Brother Wright keeps the milk strain Durham, with some Jerseys. Some of his Durham cows yield now as high as 18 gallons of milk a day. He allows his Durhams to go dry two months in the year, during which time the percent of Jersey milk is higher without, to him, increasing the percent of butter fat. When he first commenced pasturing on alfalfa he lost 10% from bloat, but of late years has had no

loss from that. He keeps salting troughs in his pasture, well supplied with a mixture consisting of 1 pound bicarbonate of soda to 6 pounds of salt. He believes in keeping only the best breed of stock and in giving them the best care. Better, he says, pay \$200 for a thoroughbred animal than use an inferior one, though a gift.

W. R. McIntosh, agricultural editor of the Fresno Morning Republican, was present and, being called on by the Worthy Master, made an interesting address on the importance of careful selection and breeding in animal and vegetable propagation and improvement.

This brought out the consideration of selection in other matters as well as in animal and vegetable products, and brought out the consideration of the usefulness of the publications from which we get our information, on which we base our opinions. This brought out a resolution endorsing the Fresno Morning Republican and commending it to the support of the people of the San Joaquin Valley.

A resolution was passed endorsing the bill now before Congress, providing for a parcels post, rural delivery, and requesting our representative in Congress to support it.

A resolution was also passed to hold with Dinuba and Orosi Granges, between the 15th and 30th of April, a joint basket picnic, those Granges to select the location and the day.

The question was asked as to the truth of reports sent from here that business has been diverted from Tulare by reason of closing the saloons. The report of all present was that more business has been done during the months the saloons have been closed than for the same months any year before, and that since the closing of the saloons not one disorderly case has been brought before the City Recorder. No friend of Tulare sends out a report to the contrary.

J. T.

### Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.  
THE DEMING COMPANY  
585 Depot St., Salem, Ohio.  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.

High In Quality

Low In Price

## OUR SEEDS GROW

Vegetable, Flower  
and Farm Seed

J. SEULBERGER,

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

### ORANGE SEED BED STOCK

We have a fine lot of stock grown from seed of the California sweet seedling or Tahiti, and from the Florida Sour orange, the latter being resistant to gum disease. Get your order in early, before we are sold out. Planting may begin now.

SOUTHLAND NURSERIES,  
F. H. DISBROW, Proprietor.

Both Phones. R. D. 1, Pasadena, Cal.  
Largest Citrus seedling nurseries in the State.

### SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding, or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada., Pa.

# DE LAVAL CREAM SEPARATORS ALWAYS IN THE LEAD

From the invention by DE LAVAL of the first practical cream separator in 1878 the DE LAVAL machines have been always in the lead.

The first "hollow" bowl cream separator; the first factory cream separator; all of the several first styles of hand separators; the first steam turbine separator; the first "disc" bowl separator, and the first "split-wing" or distributing tubular shaft separator—were each and all DE LAVAL inventions, each marking periods of advancing evolution in the usefulness of the cream separator.

So too were the first "tubular" shaped bowl separator; the first bottom feed separator; the first vertical "blade" bowl separator; the first interior cone construction bowl separator, and numberless other types of construction, each and all DE LAVAL inventions, though found so impractical or comparatively inferior, from one reason or another, that they were never put into commercial use in the DE LAVAL machines.

Every would-be competing cream separator on the market today merely utilizes some patent expired or abandoned DE LAVAL construction, and if any one of them should make pretense of denying it the patent evidence may be easily produced showing the falsity or evasion of such denial.

The new 1908 DE LAVAL cream separators mark another great evolution in cream separator construction, being new and remodelled in practically every detail, and place a still wider margin of superiority between the DE LAVAL and even the best of imitating separators.

The DE LAVAL main factories in the United States and Sweden are the largest and finest of their kind and have ranked for ten years among the model shops of the world; their equipment is the best that mechanical science and money can make it; the twenty smaller DE LAVAL factories, assembling, and repair shops, in as many different countries, are relatively superior; the DE LAVAL inventors and experimental engineers are the best of the men who have shown practical separator genius in every country, and a large staff of them is kept constantly at the betterment of the DE LAVAL machines, while the shop employees generally are the most competent and best paid in their various classes.

THE GREAT OBJECT EVER KEPT BEFORE EVERY MEMBER OF THE DE LAVAL PRODUCTIVE ORGANIZATION IS THE MAKING OF THE BEST CREAM SEPARATOR POSSIBLE AND EVER THE MAKING OF IT BETTER THIS YEAR THAN LAST YEAR.

These are the reasons why the DE LAVAL machines began in the lead and have kept it from 1878 to 1908, excelling all attempted imitation and competition in even greater degree today than at any past time.

The new 1908 DE LAVAL catalogue—affording an education in separator knowledge—is to be had for the asking.

## De Laval Dairy Supply Co.

108 So. Los Angeles St.  
LOS ANGELES

42 E. Madison Street  
CHICAGO

74 Cortlandt Street  
NEW YORK

General Offices:

101 DRUMM STREET

SAN FRANCISCO

107 First Street  
PORTLAND, OREG.

1016 Western Avenue  
SEATTLE

Box 1052  
VANCOUVER, B. C.



## The Home Circle.

### The City That Is to Be.

I dwell within a city where  
Self-seeking thousands throng the  
streets,

Too busy at their tasks to care  
How I may hear my sore defeats;  
They crowd each other and forget  
That joy is in the country lanes,  
That there are peaceful dreamers yet  
Who rush not after golden gains.

I dwell within a city which  
Roars on forever, day and night,  
Where men, determined to be rich,  
In profits find their one delight;  
Where children are deprived of all  
The rights God gave them at their birth,  
Where they that lag are doomed to fall  
And kindness has little worth.

I dwell within a city made  
Unlovely for the sake of greed,  
Where trust and friendship are betrayed  
For profits that are poor, indeed;  
Where eager men forget that still  
A God may reign who sees and knows,  
And that, at last, they, too, must fill  
Poor graves arranged in silent rows.

I dwell within a city where  
The righteous man is seldom heard,  
Where vice is bred in many a lair,  
And "money," "money," is the word;  
But day by day the wrongs grow less,  
And day by day they labor well  
Who shall at last spread loveliness  
Within the city where I dwell.

—S. E. Kiser in Chicago Record-Herald.

### The Man From the West.

The man from the West greeted the lady in a manner that gave no intimation that he was impressed by her social superiority. He was cordial and quite unaffected, and called her Laura as if he had known her for years. During the dinner hour he and Jared talked about the father that neither of them had known very long, but the Westerner said very little about himself.

Once he happened to mention the sheriff period in his career.

"I'm proud of my share in civilizing our camp," he said. "That was before the day of Edith and Emily, and I was young and reckless. Things had reached a bad pass when the boys elected me sheriff. But back of me was a nery vigilance committee, and in two months we had the wickedest camp in the Rockies as quiet as a Philadelphia suburb. It took lots of nerve and hard riding, but we did it, and did it well."

He caught Jared's admiring glance.

"Laura," he said, "this good man of yours needs a change of scene. He's tied too close to that law office of his. Let me take him away with me for a while."

The lady smiled coldly.

"Mr. Andrews appears to be enjoying his usual state of health, and he has business interests that can't be neglected."

"Bother the business interests," said the Westerner. "When a man gets to be as old as Jared he has a right to show his selfishness. But that's the way with you Easterners. Grubbing along until you can reach that eventful day when you mean to take a rest—and then passing in your checks." He looked around abruptly. "See here, Sister Laura," he cried, "you will go with us. We'll make a party of it and I'll do the planning."

A frown gathered on the lady's aristocratic face. Her husband saw it.

"Where did you plan to take us?" he hastily asked. "Arizona?"

"Never you mind," said the visitor. "All in good time. Wait till

I spring my prospectus. Don't either of you shake your heads at me. It's a sure go." He went on before the lady could interrupt. "This means that I'm going to stay here a little longer than I expected. I made up my mind that if I didn't like you I'd leave tomorrow. But I like you both, and I'm going to stay."

The lawyer glanced from his wife to his half-brother.

"I'm very glad you found us, Jim, and you may be sure you are welcome."

"That's all right, Jared," said the Westerner with a quick laugh. "I'll make myself welcome. I only wish I'd found you sooner. I'm sorry, too, that Emily couldn't have stopped here on her wedding tour. She came East."

What the lady thought of this escape she did not say. Her husband's abrupt relative grated on her sensitive feelings. He was too vigorous, too self-confident. What would the coming guest think of him?

After dinner the brothers went out for a little stroll and smoked their cigars in a most amicable manner.

"Jared," said the Westerner, "I like your wife. She doesn't like me, but she will. That's all right," he added, as the other man tried to protest. "She considers me wild and woolly—and so I am. I don't blame her. It's the feminine sense of caution. She's afraid I'm going to compromise her social dignity in some way. That's right, ain't it?"

Jared Andrews laughed.

"You're an observant fellow, Jim. I guess you must have some realization of the burden these society people have to carry. It's a heavy load."

The Westerner nodded.

"Put me on my guard a little, Jared."

The lawyer laughed again.

"All right," he said. "We are going to have a distinguished visitor tomorrow. This is strictly confidential, of course."

"Of course."

"He's making a flying visit to this country on a matter of business. Our law firm happens to represent the English syndicate in which he is interested, and so he is coming here to stay with us for part of the very brief time he will spend in America. He is a man of title, and in order not to attract attention will be known as Mr. Rowland."

The Westerner softly whistled.

"And may I ask, in strict confidence, of course, what his title is?"

The lawyer lowered his voice.

"He is the Earl of Suffield."

Again the Westerner whistled.

"A live earl, eh?"

"Yes, but don't betray the fact that you know it."

"I'll be careful. And so this is the rock against which I may split." He softly laughed. "A live earl. Well, well."

"Don't laugh, Jim. It's very serious."

"And how long does he stay?"

"It depends on a man he is to meet here. Some Western mine operator, I believe. If there is no delay the earl—Mr. Rowland—will return almost immediately."

"Yes. That gives me an idea, Jared. Suppose you and Laura and I go back with him?"

"Jim, Jim!"

"Leave it all to me, Jared. I'll fix it."

"Jim," he said, "if you don't stop your fooling, I'll have you taken into custody."

The Westerner laughed unroariously.

"A live earl," he chuckled. "Oh, I'm scared to death already."

That night in the privacy of their room Jared Andrews turned to his wife.

"Laura," he said, "that half-brother of mine is the most delightful fellow I ever met. I haven't laughed so much for years. But I'm afraid of him, too. He always seems to be planning impossibilities."

"You warned him about our visitor?"

"Yes. I told him who it was."

"Did you? Was he impressed?"

"He chuckled."

"I don't suppose he knows what an earl is."

Jared Andrews shook his head.

"Jim knows a good deal more than I supposed he did."

"Well," said the lady, "I suppose he knows enough to behave properly while our guest is here."

"I hope so," said Jared.

The next day the Westerner entertained himself. At least, he didn't make his appearance at the Andrews home until close to dinner time. Jared Andrews was busy at the law office, where he met the English visitor at noon, and when he reached his home in company with his guest, his brother Jim had just gone to his room.

Leaving the guest in the library, after presenting Mrs. Andrews, his host went up to Jim's room.

"You needn't dress for dinner, Jim," he said. "Our visitor wants everything informal."

"Then he arrived all right."

"Yes."

"Good. Tell him I'll be down in a minute."

And he chuckled softly as Jared hurried away.

The Englishman was tall and of military erectness, a man of fifty, had dropped into a somewhat stiff perhaps, but looking younger. He form of speech, led on no doubt by Laura Andrews' extremely formal manner, when Brother Jim appeared in the doorway.

Jared Andrews suddenly arose, and his wife turned about a little impatiently.

The distinguished visitor looked up.

"Let me introduce my—" Jared began. But he got no farther.

The tall guest suddenly arose and met Brother Jim half way with outstretched hand.

"Jim!" he cried.

"Colonel!" cried Jim. And they gripped hands with tremendous energy.

"How's Emily?"

"Well and happy."

"And the baby?"

"A credit to both his grandfathers."

The two men shook hands again and smote each other playfully.

And the lady hostess looked at her husband in blank amazement, and her husband looked at the lady with a dazed smile.

Then Brother Jim turned around.

"You'll have to excuse us," he said. "But when a pair of old friends—grandfathers of the same baby—see each other for the first time in five years—well, you notice what happens. Let's sit down, colonel, and let my brother and his good wife in on this mysterious business. It is mysterious to them, because I haven't explained a word of it—I wanted to surprise them, you know."

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

So they seated themselves, and the colonel seemed to have dropped all his stiffness. He looked at the husband and wife, and nodded smilingly.

"I will add my excuses to Jim's," he said. "It was such a great pleasure to meet him again—and it's a great pleasure, too, to learn that you are his relatives. Go on, Jim."

"It's a short story," Jim began. "The colonel came out on the plains ten years ago and we went hunting together. Great sport, that first year, eh, colonel?"

The tall man nodded.

"Jim got me away from a too affectionate grizzly," he said.

"Nonsense," cried Jim. "Then the colonel came again, and again. Then he sent his boy Arthur. Of course Arthur's quite well, colonel? Yes. Well, Arthur came for the hunting his dad had recommended, but he found game of another sort. My little Emily was home from Vassar, and—well, that finished Master Arthur. I didn't like it at first. It wasn't quite fair to his old dad here. But the colonel's boy is one of these obstinate beefeaters that are ready to move mountains to have their own way. And the upshot was that he and Emily were married. I'm not quite sure that the colonel has forgiven me for trapping his hopeful."

And he threw a laughing glance at the dignified guest.

"Pooh, pooh," the latter cried. "Lady Emily is the sweetest little woman in all England."

Brother Jim actually winked at his dignified sister-in-law. And his dignified sister-in-law laughed aloud.

"Lady Emily," he repeated. "Did you catch that?" He suddenly arose and threw back the lapels of his coat and put his thumbs in the armholes of his vest. "I'm a good American citizen, all right," he said, "but I'm willing to confess that when I've got a baby grandson over on the other side who will some day be an earl—why, it's a pretty comfortable feeling, and I'll own up I'm not ashamed of it."

Whereat he shook hands all round, and then, taking Laura Andrews' hand, again he turned to the earl.

"Colonel," he said, "I want these relatives of mine to go across and see that grandson of ours. Suppose we all go together?"

"Very good," said the Colonel quickly. "Barham Towers will cordially welcome you all."

"Then that's settled," said the man from the West.—W. E. Rose, in Cleveland Plain Dealer.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### Useful Hints.

Bathing in salt water tones up the skin and gives it a fresh, wholesome color.

Egg spoons that are stained should be rubbed with damp salt before polishing.

For corns take equal parts of lard and quinine, mix thoroughly. Apply at night.

For a sprained ankle the whites of eggs and powdered alum made into plaster is almost a specific.

Hot water is better than cold for bruises. It relieves pain quickly and will prevent discoloration.

If a bedstead creaks at each move of the sleeper, remove the slats and wrap the ends of each in old newspapers.

One should be cautious about entering a sick-room in a state of perspiration, as the moment you become cool your pores absorb.

Have a small horseshoe magnet fastened to the end of a tape or ribbon of sufficient length so that it can be dropped to the floor to pick up scissors and needles.

Turn your coffee-mill down very tightly, fill the hopper with granulated sugar, grind it through once or twice, or even three times, and you have an excellent powdered sugar.

To clean a carpet without taking up, take a cup half full of cornmeal mixed with salt and sweep well. When spots are left, take oxgall or ammonia. Both are very good things to make the carpet as bright as a new one.

To shampoo the hair oftener than once every four weeks, no matter how "oily" it may be, is a mistake. When greasiness exists it means an abnormal condition of the scalp glands, and treatment is required. Shampooing, instead of aiding, will increase the trouble.

A cup of hot water drunk as soon as getting up in the morning will hurt none and is positively beneficial to many persons. It is one of the simplest aids to digestion. An abundance of fresh air is essential to a good complexion, and there should be plenty of ventilation in the sleeping-room.

### The Price of a Wife.

Governor Vardaman of Mississippi tells an amusing instance of the negro's attitude toward matrimony, according to Harper's Weekly. A darky clergyman in the State named had married two negroes, and, after the ceremony, the bridegroom asked: "How much yo' charge fo' this?" "I usually leave that to the bridegroom," was the reply. "Sometimes I am paid \$5, sometimes \$10, sometimes less."

"Five dollars is a lot o' money, parson," said the bridegroom. "Ah'll give yo' \$2, an' den ef Ah finds Ah ain't got cheated, Ah'll give yo' mo' in a monf."

In the stipulated time the bridegroom returned. "Parson," said he, "dis here arrangement's a kind o' speclashun, an' Ah reckon youse got de worst of it. Ah figgers that yo' owes me \$1.75."

### Pointed Paragraphs.

A soft answer catcheth a soft person.

Some men would rather be followers than leaders.

The next day a man wonders why he let it worry him.

Many a woman advances step by step until she becomes a step-mother.

Listening to the average man's troubles is almost as bad as listening to his jokes.

Many a man's reputation for wisdom is due to his ability to keep his mouth shut.

No man's life is one grand sweet song if he is married to a woman who only thinks she can sing.

Sometimes a woman is unpopular with her neighbors because she never does anything that they can gossip about.

It pleases a man to be told he is in his prime, but say the same thing to a woman and her feathers begin to ruffle.

### Garlic for the Grippe.

Garlic eaten raw will cure a cold in the head, grippe or influenza in the first stages, but in cases where prejudiced people refuse to test its virtues, Irish moss lemonade made after the well known flaxseed lemonade and recipe and taken for both meat and drink stands next on the list. Pineapple juice will relieve inflammation of the throat in the most advanced and chronic cases, and will cure all ordinary attacks. In both membranous croup and diphtheria, pure pineapple juice, either raw or from the canned fruit, will cure when the entire apothecary shop has been tried and found wanting.—National Magazine.

### Good for Burns.

Equal parts of linseed oil and lime water mixed and poured over the burn. A cotton or linen cloth may be wrung out of the mixture and laid upon the wound. If this preparation is faithfully used it will be found to remove pain and give a great deal of comfort. Pure glycerine is a most excellent remedy also. When first applied it causes smarting, but this soon ceases and the actual pain from the burn is much relieved. Glycerine is said to favor rapid healing. The sooner it is applied after the accident the quicker good results will be obtained.

Wife—I claim that the story you told me last night when you came home was a deliberate lie.

Hub—And I say it wasn't. I never thought up one more quickly in all my life.

"Doc," declared the bibulous patient, "I can't sleep."

"Try counting sheep."

"But, doc, I don't see no sheep."

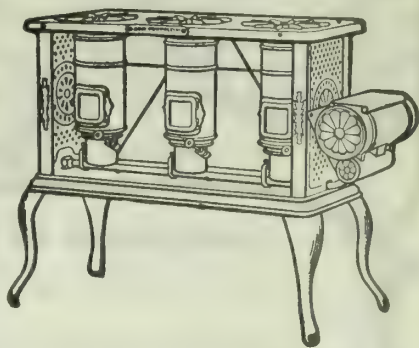
"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## Put This Stove in Your Kitchen

It is wonderfully convenient to do kitchen work on a stove that's ready at the instant wanted, and out of the way the moment you're done. Such a stove is the New Perfection Wick Blue Flame Oil Cook-Stove. By using it you avoid the continuous overpowering heat of a coal fire and cook with comfort, even in dog-days. The



## NEW PERFECTION Wick Blue Flame Oil Cook-Stove

is so constructed that it cannot add perceptibly to the heat of a room; the flame being directed up a retaining chimney to the stove top where it is needed for cooking. You can see that a stove sending out heat in but one direction would be preferable on a hot day to a stove radiating heat in all directions. The "New Perfection" keeps a kitchen uniformly comfortable. Three sizes, fully warranted. If not with your dealer, write our nearest agency.



The **Rayo Lamp** is the ideal lamp for family use—safe, convenient, economical and a great light giver. If not with your dealer, write our nearest agency.

**STANDARD OIL COMPANY**  
(Incorporated)



The Famous Mission Train California to Chicago in three days over the

## Sunset Rock Island Route

Sixty miles along the famous Salton Sea, 250 square miles of lake with background of the high San Jacinto Mountains.

Drawing room sleeping cars. Dining service unsurpassed. Open air observation rotunda. Parlor car—library and cafe—Ladies lounging room—Gentlemen's smoking apartment.

ASK ANY AGENT

## SOUTHERN PACIFIC

OR CALL

884 Market St. 872 Market St.



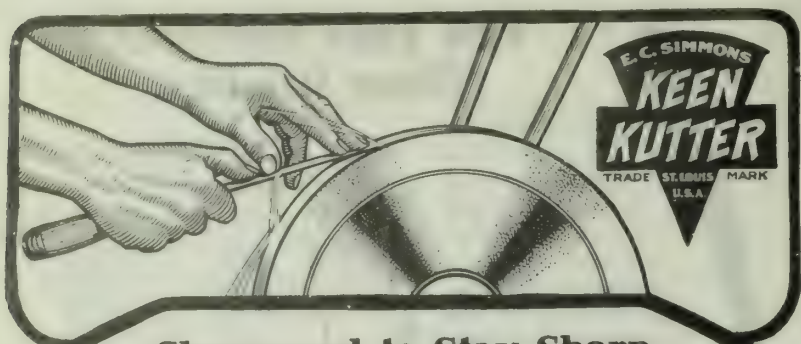
**FRANCIS SMITH & CO.,** Manufacturers of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Coating all sizes of Pipes with Asphaltum.





### Sharpened to Stay Sharp

Tools for use in the home or on the farm must have lasting edges and fine temper, for they are called upon to do all kinds of work and do it well.

The most satisfactory tools for the home or farm—tools that seldom need grinding, tools whose adjustments are right and stay right—are

## KEEN KUTTER

### Tools and Cutlery

the only complete line of tools under one name, trademark and guarantee.

To remove all chance from tool buying, ask for Keen Kutter Tools and look for the trademark on each tool.

Keen Kutter Tools include Saws, Chisels, Bits, Drills, Gimlets, Awls, Planes, Hammers, Hatchets, Axes, Drawing-knives, Screw-drivers, Files, Pliers, Glass-cutters, Ice-picks, and a full line of Farm and Garden Tools—Forks, Hoes, Scythes, Trowels, Manure-hooks, Lawn-mowers, Grass-shears, Rakes. Also a full line of Scissors and Shears, Pocket-knives and Table Cutlery.

Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

*"The Recollection of Quality Remains Long After the Price is Forgotten."*  
Trademark Registered. —E. C. Simmons.

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U.S.A.



## NOW READY

### The Vermorel Torpille Knapsack Sulphuring Machine

We could not supply the demand last season so would advise you to

**PLACE YOUR ORDERS NOW**

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring EASY WORK AND saves sulphur. Recommended by users as the MOST effective sprayer used for the purpose.

SOLD BY

# THE H. C. SHAW CO.

## Stockton, Cal.

General Agents for the United States.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded

Patent Continuous

### WOOD PIPE

Made from California Redwood

Selected Puget Sound Yellow Fir.

404 Equitable Savings Bnk. Bdg.  
Los Angeles

268 Market St., San Francisco

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

## AGRICULTURAL REVIEW.

### BUTTE.

On an average, about 50 carloads of oranges are being shipped daily from Palermo and Oroville to the eastern markets. There was a slump in the orange market a month ago and the second pick was consequently delayed by the growers in order to allow the prices to increase, which they have done.

A giant traction engine was unloaded from the cars and taken under its own steam to the Balfour-Guthrie ranch northwest of Gridley where it will be used to plow 3000 acres of land which will be planted to sorghum and Egyptian corn this spring, and next fall to wheat and barley.

### FRESNO.

It is stated that a Chinese gardener who owns a small truck farm near Fresno has made the announcement that he has produced an odorless onion. After years of experiment, he says, he has developed an onion which has all the taste and other qualities of a normal vegetable but is free of the disagreeable odor.

### GLENN.

San Francisco men while here made arrangements with W. H. Johnson, the alfalfa expert, to plant 500 acres of their Boggs tract to alfalfa.

### MONTEREY.

Pajaronian: In the past five weeks at least 30,000 sacks of potatoes have been moved out of the valley, and a portion of the year's crop has been sold but not yet moved. At the beginning of the season local growers wanted \$1.50 and were holding at that figure, but the price took a tumble. Then the visit of the fleet made a great difference. It was known that there would be a demand. A contract had been let by the Government to furnish all of the food supplies needed by the fleet while in San Francisco bay. But as the vessels would be some time in reaching the bay, a later contract was offered for potatoes for the fleet at Magda-

lena bay, to be delivered at San Diego bay f.o.b. The amount wanted was 780,000 pounds, or more than 6000 crates. The contractor purchased upward of 300,000 pounds in Pajaro valley.

### PLACER.

The orchardists near Alta fear the apple crop will be a failure this season. The unusually warm weather recently is bringing the trees out rapidly, and a couple of weeks more will bring them to a proper condition to get caught by a cold spell along in April.

### SACRAMENTO.

At a meeting of the Sacramento Valley branch of the Pacific Hop Growers' Union a resolution was adopted calling for the decrease of hop acreage this year by 30 per cent. Members of the union state that the brewers are so alarmed at the spread of the prohibition movement that they will not buy any of the heavy surplus of hops now in California warehouses, and absolutely refuse to discuss the purchase of this season's crop.

### SAN BERNARDINO.

Citrograph: Shipments of oranges are going forward at a merry pace. Already there have been shipped from southern California 11,174 cars of 362 boxes each, which is 1804 more cars than were shipped up to the same time last year. It now becomes apparent, what the Citrograph has said all along, that the claims of the boosters of 30,000 cars was entirely too high. In fact, we are beginning to think our estimate of 24,000 cars as an outside limit, was too high. Prices are not satisfactory, yet the growers continue to crowd an unwilling market. We may look for better prices from now on, but the returns will not be as great as last year. Very nearly one-half the crop is shipped.

### SAN DIEGO.

Union: Eight thousand men will be needed to harvest the cantaloupe crop in the Imperial valley, according to advices from Calexico. It is estimated that 8800 acres have been

## THE BEST AND THE CHEAPEST

When Arsenate of Lead came into use three years ago it was widely advertised as a spray that would kill the worms and never burn the foliage. This statement was true in many interior valleys, but in our foggy coast sections there has been serious injury by burning.

We guarantee our BEAN SPRAY ARSENATE OF LEAD to contain not less than 12% Arsenic Oxide, so it is SURE TO KILL; and not over 50% of water (instead of the customary 52% to 55%), which gives THE MOST FOR YOUR MONEY, and at the same time it is an "ortho" or NEUTRAL LEAD and CANNOT BURN even the most delicate foliage.

Our California Agricultural Station does not furnish analysis for publication, but we are pleased to submit the following to verify our statements:

### OREGON STATE EXPERIMENT STATION.

OFFICE OF C. E. BRADLEY, Assistant Chemist,  
CORVALLIS, Oregon, March 21, 1908.

The Bean Spray Pump Co., San Jose, California.—Gentlemen: I herewith submit analysis of the sample of your lead arsenate which Professor Cordley received from you some days since:

Moisture.....	42.17%
Total lead oxide (PbO).....	42.04
Total arsenic oxide (As <sub>2</sub> O <sub>5</sub> ).....	12.83
Soluble arsenic oxide.....	0.17
Soluble impurities.....	0.96
Insoluble ".....	2.00
Total.....	100.17%

Your guarantee of not less than 12% arsenic oxide and not over 50% water is thus substantiated by our analysis. Our results also show this to be a neutral or ortho-arsenate.

Very truly yours,

C. E. BRADLEY.

Notwithstanding the fact that we have a better and a stronger Arsenate of Lead than ever before, the PRICE IS LOWER.

Write for quotations or send in your order if in a hurry. You will get the same price either way—and prompt shipment.

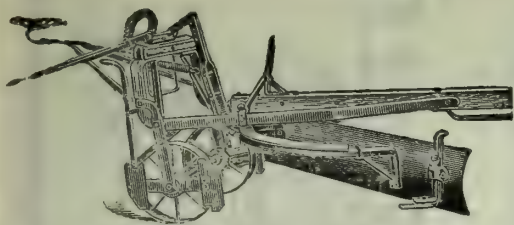
### EVERYTHING FOR SPRAYING

## Bean Spray Pump Co.

163 W. Santa Clara St. San Jose, Cal.



## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machine have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

planted this year. This is four times the amount planted a year ago. One man for each acre of melons is the estimate given by growers of the amount of labor required to handle the crop.

### SOLANO.

Woodward Island, in the river delta country bordering on eastern Solano county, is now the seat of the largest asparagus farm in the world, there being 1600 acres planted to that food delicacy. The island will soon have the largest asparagus cannery in the State. What is believed to be the largest head of cauliflower ever grown has just been harvested on the island. It weighs 18 pounds and is 14 inches across.

### SISKIYOU.

The fruit growers in the vicinity of Weed have been complying with the ordinance of the Board of Supervisors whereby all orchards must be sprayed. The result of last year's work proved so satisfactory that those who strenuously objected at that time to going to the expense of spraying are among the most ardent supporters of those concerned in the improvement of the local horticultural industry. The fruit growers are fully awakened to the fact that in order to compete with the rest of the State in the fruit industry, they must give considerable attention to the care and culture of their orchards.

### TULARE.

The sheepmen of Tulare, Kings, Kern, and adjoining counties have commenced dipping for the year. This is a little early in the season, but the weather allows such a course. One wool grower in Tulare has commenced dipping a bunch of 50,000 sheep.

### YOLO.

The pure white bull calf, Baden Duke LXXIII., probably the finest Shorthorn of his age in California, was shipped by express to Krupp, Wash. The shipment of such stock to Washington is certain to be a big advertisement for Yolo county.

### YUBA.

Owing to the fact that there has been no high water this winter on Bear river, and but few days when ranchers could not work, a large acreage on both sides of the river has been cleared and sowed to alfalfa. The prospects at present point to a very successful year with the ranchers who are cultivating low land. It is thought that high water will do but little damage, even if the new alfalfa fields should be overflowed during the spring.

### WASHINGTON.

One thousand dollars in gold will be awarded as a special prize to the grower of the best single apple exhibited at the National Apple Show in the Spokane State Armory, December 7 to 14. The competition is open to the world. In addition, prizes aggregating \$14,000, and numerous trophies, medals, banners and ribbons will be hung up for exhibits in other classes. Growers in all parts of the United States and Canada, as well as Europe, will be invited to send exhibits for competition, and there will be displays in contests between the Pacific and the Northwestern States and Provinces and the various districts in Washington, Idaho, California, Montana, and British Columbia. The prize list will be the largest ever offered in competition for growers of apples. The purpose is to encourage the industry, not alone in the Pacific Northwest, but all over the continent and throughout the world.

## The Dairy.

### Cows and Grasses in Ireland.

Readers who have noticed the replies which we have had to "two Irish questions," submitted by one of our Alameda readers, will be interested in answers submitted to the same questions through the Breeders' Gazette by Mr. Robert Bruce of County Dublin, Ireland, which sustain the positions which our own contributors have taken:

I must tell your correspondent that the "Irish gentleman" who told him that the cattle grazed and fattened on the Meath and West Meath pastures "furnish the prize beef in the London market" must have "kissed the Blarney Stone" before leaving Ireland. Cattle fed on the Meath and West Meath pastures do not produce a quality of meat to make the best price in London. Of this there can be no question, but at the same time those pastures would doubtless be capable of doing so were the animals grazed on them of a class qualified to produce the highest quality of meat. This leads me to say that the great majority of those pastures are stocked by cattle reared by small landholders in poorer western districts of Ireland. As a rule they are sold by their breeders when twelve to eighteen months old, and after passing through several hands reach the rich fattening counties when two or three years of age.

A large proportion of the land in the West of Ireland is of very poor

U S U S U S U S U S U

# THE 1908 IMPROVEMENTS

KEEP THE

# U. S. CREAM SEPARATOR

Far in Advance of all Competitors.

Combines the thousand and one recognized superior features (over all other makes) with new and marked improvements in construction, which make the handling of milk still easier, quicker and more profitable. Since tests with the leading makes of separators of the world have proven the U. S. to

**Hold World's Record for Clean Skimming**

for fifty consecutive runs, what more is necessary to prove to the doubtful purchaser on what machine to decide?

Write to-day for "Catalogue No. 148" and any desired particulars

**VERMONT FARM MACHINE CO.**

Bellows Falls, Vt.

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N.Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

**PROMPT DELIVERY ASSURED** CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

## WEST COAST CRESOL DIP

Made of Coal Tar Creosote Oil. Great caution must be exercised with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless.

West Coast Dip is guaranteed to be made from Oil containing 25% Cresylic Acid. Permission was given by the U. S. Dept. to use our Dip for the treatment of Sheep Scab in the highest dilution ever allowed. When thus diluted it costs but a few cents.

For Sale by many Dealers. If not by yours, send direct to us for Trial Offer. **SPECIAL PRICE AND FREIGHT PREPAID.**

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

## MR. VINEYARDIST—DO IT NOW

Secure that rare article

### ABSOLUTELY RELIABLE GRAFTED VINES

by ordering NOW for next season. We finish grafting in two weeks.

We sold 200,000 grafted vines this season, every shipment giving satisfaction. Dozens of letters of commendation.

Just a few left—850 Black Morocco on St. George, and 1000 Thompson's Seedless on St. George—at rate of \$60 per 1000.

## JOHN SWETT & SON

Martinez, Cal.

quality, and is held by small farmers owning a very inferior class of cows. Much is being done by the government to improve the cattle owned by those small farmers by introducing pure-bred bulls. The results have been most encouraging, but as the wants of many thousands of small landholders have to be met, it must take long and continued effort on the part of the Department of Agriculture before much general improvement can be looked for.

The grasses found in a turf cut out of a field in County Meath were, stated in percentages: Lolium perenne 61, Dactylis glomerata 28; Agrostis sp. 9, Cynosurus cristatus, Anthoxanthum Oderatum, Poa trivialis, Festuca ovina, Holcus lanatus, 2—

total 100. A small proportion of leguminous herbage was all Trifolium repens. The Meath and West Meath pastures are never broken up, and many of them have been down for hundreds of years.

[It is interesting to note that the first grass mentioned is the plant we are growing as "Australian rye grass," and the second is "Orchard grass"—both of these grasses being the ones we often commend for moderately dry places in California, although they will not survive the dry season on our hill slopes and valley plains.—Ed.]

### For Sale: Jerusalem Artichokes

THE GREAT WINTER HOG FEED

Address  
Fancher Creek Nurseries, Fresno, California



# SUGAR BEETS

Heaviest yields per acre and largest sugar contents are secured by the liberal use of

## POTASH

It is essential that the fertilizer contain at least 10% Potash.

Send for "Farmer's Guide," a book which we shall be glad to send you free. You will find it packed with money-making information. Address

GERMAN KALI WORKS

New York—93 Nassau Street, Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

FERTILIZE WITH

## Nitrate of Soda

May be purchased in large or small lots from

**R. A. HOLCOMBE & CO.**

50 Clay Street, San Francisco, Cal.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

THE BEST

## SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.  
SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

**TRUMBULL SEED COMPANY,**

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

**GREENBANK**

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## Forestry.

### Wild Horses in the Forest Reserves.

Wild horses by the thousands are overrunning the government national forests of Nevada and neighboring States, and the authorities at Washington are besieged with petitions from stockmen and farmers begging them to put a stop to the nuisance. A recent dispatch from Reno conveyed the intelligence that there are fifteen thousand of the untamed beasts upon the Toiyabe, Toquima, and Monitor forest reserves in Lander county alone, and that orders have been received by the forest rangers to begin a systematic war of extermination upon them. This dispatch, although twisted as to facts, does not exaggerate the number of horses now supposed to be roaming at large in the districts mentioned. As a matter of probable truth, there are a good many more than fifteen thousand wild horses in Nevada and the neighboring States, and every herd is a pest to the owners of vegetation and domestic stock.

The part of the Reno telegram which is not true is that relating to the orders sent from Washington. Neither the forest rangers nor any other employees of the Government have been told to destroy the horses, and unless they do receive such orders they will confine their energies to fencing crops from the trespassing animals or rounding them up when they appear and threaten damage to the range. Indeed, if half the stories brought to the capital are true, all the rangers in Uncle Sam's service would have little chance of destroying the big herds that are roaming over the Western States.

Within the last few years they have increased to such an extent that in many localities they are classed as "varmints," with wolves, wildcats, and grizzlies, and every man's rifle is turned against them. No fence is strong enough to stop these horses and when they appear in force they have even been known to knock down and kill cows and calves. After each visitation from a herd the ranchman is likely to mourn the loss of his domestic horses, and it requires only a few days' association with their new companions for the best broken animals to become as wild as their nomadic comrades.

A study of the wild horse problem brings to light many interesting facts about the animals. The legislature of Nevada, it seems, passed a law many years ago specifically allowing hunters to shoot wild horses and to sell their hides for what they could get in the open market. The law opened the way to a new and unusual industry, and many men found the killing of wild horses very profitable. Besides, the work was exciting and gave the business the added zest of sport.

As time went on and the business of killing these "outlaws" (as the wild horses were often termed) on the ranges assumed greater and greater proportions, stockmen found that the professional hunters were, in many cases, abusing their rights and were killing branded and shod horses. This put an end to the business, for on complaint of the stockmen the Nevada legislature promptly repealed the law. It is estimated that 15,000 animals were killed during the time that the law was in



You make yourself unnecessary expense for repairs every time you use

a poor wagon grease or allow an axle to go dry.

An occasional application of

## MICA Axle Grease

removes two thirds of the trouble and cost of keeping a wagon. Try "Mica" next time you go for a load—you'll see the difference and the horse will feel it.

Mica Axle Grease is almost as good as roller bearings. Ask the dealer for it.

**STANDARD OIL COMPANY**  
(Incorporated)

force. This figure gave the basis for last week's story.

The report, however, had good basis of fact, for the wild horse question has grown to be as serious in the last few years as it was when the Nevada legislature was forced to enact the old law. The United States forest service has not given orders for the killing of a single horse, because it has no right to do so. The forest officers of the Nevada national forests realize how bad conditions are, and will do anything to assist the stockmen to put down the nuisance.

Anyone who finally discovers an effective method to settle this problem will have done a great service for the stockmen of every State west of the Missouri river. As an old and experienced stockman, now in the employ of Uncle Sam, said of this wild horse problem: "Theoretically, it seems a very simple matter to handle, but practically it is quite the reverse." On the ranges of many of the national forests the supervisors have been at their wits' end for several years trying to devise a method to meet the difficulty. Apparently an entirely satisfactory method can not be found because of the inadequate estray laws now enforced in the different States. Under the circumstances, the following plan has been recommended to meet the conditions in the national forests:

"If the presence of the horses is seriously damaging the national forest range and public sentiment favors such action, the supervisors may, upon petition of a majority of the permittees of a grazing district, allow the horses to be gathered and disposed of according to the State or Territorial laws. In such cases the forest service will, upon recommendation from the supervisor, co-operate in the construction of corrals or



fences for the purpose of capturing the horses.

Forest officers may drive unpermitted horses from the national forests at any time, but if the owners of the horses are known and ownership acknowledged, the owner should be allowed to adjust the matter by paying the grazing fee. If he refuses to apply for a permit, then a trespass charge should be brought against him and the case conducted according to instructions.

"Unbranded horses may be handled according to the State stray laws, but forest officers can not be allowed to gather such horses for the purpose of using or selling them, nor can they be allowed to collect any remuneration from any person for corraling unclaimed horses. The policy of the forest service will be, therefore, to co-operate with stockmen of the State or Territorial authorities when they take the initiative in disposing of wild horses in the national forests, but the present laws and regulations do not admit of independent action by the forest service.

The wild horse problem is only one of the many which stockmen have to contend with which the Government is trying in one way or another to solve on the ranges of the national forests. Predatory animals, such as wolves, coyotes, mountain lions, and wild-cats, do thousands of dollars' worth of damage to stock each year in all parts of the country. On some ranges forest officers have to contend with rustlers, who sometimes succeed in stealing the greater part of the stock which the predatory animals do not kill. Poisonous plants are another nuisance which give the stockmen considerable trouble in many parts of the country.

Uncle Sam has always shown a disposition to co-operate with the stockmen in combating these nuisances; in fact, he is doing better than merely meeting the stockmen half way in the work. On many of the national forest ranges for the last year rangers and guards have been assigned to the work of hunting and trapping, with the sole aim of killing off the animals that prey upon stock. The work has met with marked success, and hundreds of wolves and coyotes have succumbed to the bullets and poison of the hunters. Each animal killed means a decided saving to the sheep industry, for it is estimated that one wolf averages about \$1000 damage each year.

Forest officers are co-operating with the stock associations to stop the stealing of livestock and run the rustlers out of the country. The war on poisonous plants has been carried on for more than a year by the forest service, in co-operation with the bureau of plant industry, and while the investigations have just been begun, it is already seen that their growth can be checked in many States.

If it is possible to check the wild-horse nuisance as easily as the other troubles which have bothered the stock interests, both the stockmen and forest officers will find the western ranges rid of another serious drawback that helps to retard progress in the business.

#### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address  
W. A. Stewart,  
Rio Vista, Cal.

## Tons Of Energy In Pounds of Feed

Working energy in the horse is much like steam in an engine—both are developed by economical fuel consumption. If, then, the digestive apparatus of the horse extracts from its food the full amount of nutrition which can be assimilated, he is certainly in the best nurtured and most vigorous condition for hard labor. Now digestion in the horse may be easily deranged, because he possesses a small stomach and high-strung nervous system. Hence heavy feeding requires judgment and instant correction of the first wrong symptom.

Horses receiving regular small doses of Dr. Hess Stock Food show best as drivers or workers. It corrects a tendency toward indigestion and strengthens the organs up to a point where the largest amount of ration may be assimilated. It increases appetite so that the horse takes food with a relish. This is especially important in the case of a beef animal, and experience shows that a Hess-fed steer will eat more roughage and fat on less grain than an animal not so handled.

### DR HESS STOCK FOOD

makes good digestion and good digestion saves nutriment which would otherwise go to the manure heap. The ingredients in Dr. Hess Stock food are endorsed by Professors Winslow, Quitman and Finley Dun, our most noted medical writers. It holds iron for the blood and nitrates to cleanse the system. It makes cows give more milk and shortens the time necessary to fatten a market animal. It is the prescription of Dr. Hess (M. D., D. V. S.) and is sold on a written guarantee.

100 lbs. \$7.00; 25 lb. pail \$2.00

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal preparation and this paper is back of the Guarantee.

FREE from the 1st to the 10th of each month—Dr. Hess (M. D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time by asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.

Also Manufacturers of Dr. Hess Poultry Pan-a-cia and Instant Louie Killer.

INSTANT LOUIE KILLER KILLS LICE.

THE PETALUMA INCUBATOR CO., Petaluma, Cal., Pacific Coast Distributors.



## California Fruit Exchange

(INCORPORATED.)

Head Office:  
SACRAMENTO, CALIFORNIA

A growers' organization maintaining its own  
exclusive selling agencies for

### DECIDUOUS FRUITS

## PEAR-BLIGHT We can CURE IT

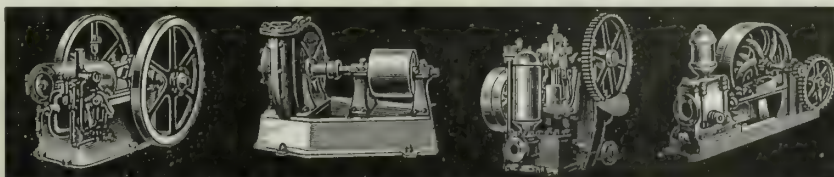
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



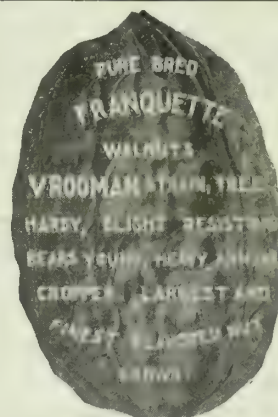
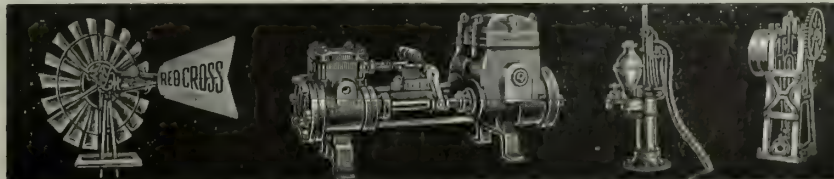
WOODIN & LITTLE, 70-72 FREMONT STREET, San Francisco, California

DEALERS IN PUMPS FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITWASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS, PUMPS FOR ANY CONCEIVABLE USE.

WIND MILLS, TANKS, HORSE POWERS.

IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES 2 TO 50 HORSE POWER.

Send for Complete Catalogue—Mailed Free.



Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

OREGON NURSERY COMPANY

SALEM, OREGON.

Salesmen Wanted.

Eureka Lemon  
Valencia and Navel Oranges  
Eucalyptus Trees

Globulus, Rostrata,  
Rudis, and Tereticornis

Phoenix Canariensis,  
Chamaerops Excelsa  
Loquats, Roses, Etc.

We are contracting now for the growing of  
Eucalyptus trees for next season's planting.

Write us for prices.

COVINA NURSERIES,  
Covina, Cal.

## 40,000 RED GUM

in flats ready for planting

also other varieties

Fine trees. Larger trees in pots of  
Eucalyptus, Pepper, Acacia, etc.

Leonard Coates Nursery Co., Inc.  
Morganhill, Santa Clara Co., Cal.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE MARKETS.

San Francisco, April 1, 1908.

## WHEAT.

It is reported that some of the eastern mills have closed down for lack of wheat, but the market in Chicago is weaker. Locally, the speculative market has gone back to the former lifeless condition. May prices are unchanged, and as a rule there is no trading at all. The spot grain is becoming rather scarce, and up to a few days ago all holders were very firm in their ideas, though buyers as a rule were holding off from the market. Now, however, quotations given for cash grain are lower than those which have ruled for some time past. Even at the decline there is little movement, as few offerings are of choice quality, and flour is so dull that millmen's requirements are small.

California White Australian..	1.65 @ 1.70
California Club.....	1.60 @ 1.62½
California Milling .....	1.62½ @ 1.65
California lower grades.....	1.30 @ 1.50
Northern Club.....	1.57½ @ 1.62½
Northern Bluestem.....	1.62½ @ 1.67½
Northern Red .....	1.57½ @ —

## BARLEY.

Shipping grades are again nominal, as the demand for them in this market has dropped off. Cash business is quiet, or even dull. A sharp decline in futures at the opening of the week brought about an easier feeling in the cash grain, feed grades being now about 5 cents lower. Most buyers show some unwillingness to bid up to the present prices, but holders are firm. Brewing is still moving at former figures.

Brewing .....	1.45 @ 1.50
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.35 @ 1.40
Common to Fair .....	1.30 @ 1.32½
Shipping.....	Nominal

## OATS.

Reserve stocks of oats throughout the country are much smaller than normal, and it is computed that feed grades are likely to be very short, and higher prices are looked for. Locally stocks are very small, arrivals during the week being of little consequence, and offerings are gradually being reduced by a light movement into consumption. The demand, however, is not strong, and while everything is firm, there is no advance. Gray are nominal, as scarcely any are offered.

Choice Red, per ctl .....	\$1.55 @ 1.57½
Ordinary Red .....	1.47½ @ 1.52½
Gray .....	Nominal
White.....	1.55 @ 1.65

## CORN.

Corn is in a firm position, with stocks rapidly decreasing. There is none of any consequence arriving, and spot offerings are practically cleaned up. The local demand, however, is not of much importance at present, and the market remains in its former dull and featureless condition. Prices asked are very firm, but no further advance has been made.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.65 @ —
White .....	Nominal
Western State sacked Yellow .....	1.65 @ —
White, in bulk.....	1.57 @ —
Mixed, in bulk.....	1.55 @ —
Brown Egyptian.....	1.27½ @ 1.42½
White Egyptian .....	1.60 @ 1.70

## RYE.

Scarcely any rye has arrived since last report, and local prices show no further change. The demand is confined within narrow limits at present, with very few transactions in this market.

California .....	\$1.47½ @ 1.50
------------------	----------------

## BEANS.

Lima beans show a wider range of prices, inferior stock bringing \$4.40 or less, while choice goods are quoted up to \$4.65. The advance is due to the dry weather in the south, which has stimulated the demand. There is little movement of blackeyes, and the outside price is considerably lower. Whites show no further change in price, but are scarce and in general firmly held, with a good demand for shipment to the southwestern States. Other varieties are as last quoted.

Bayos, per ctl.....	\$3.00 @ 3.10
Blackeyes .....	3.25 @ 3.50

Butter .....	4.50 @ —
Cranberry Beans .....	3.00 @ —
Garvanzos.....	3.75 @ 4.00
Horse Beans .....	2.25 @ 2.75
Small White .....	3.40 @ 3.60
Large White .....	3.50 @ 3.60
Limas.....	4.40 @ 4.65
Pea .....	3.75 @ 4.00
Pink .....	3.00 @ 3.10
Red .....	3.50 @ 4.00
Red Kidneys.....	2.75 @ 3.25

## SEEDS.

Seeds are comparatively quiet, but the market on most lines is in a good position for sellers, with limited supplies and prices firmly held. Canary is a little easier, and hemp a little stronger, but otherwise former quotations prevail. Alfalfa remains the firmest feature.

Alfalfa .....	19½ @ 20 c
Broomcorn Seed, per ton .....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3½ c
Canary.....	4 @ —
Flaxseed .....	3 @ —
Hemp.....	4½ @ 4½ c
Millet .....	2½ @ 3½ c
Timothy .....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

The dullness in the flour market continues as marked as ever, with no shipping business of any consequence, and the local jobbing trade abnormally small. Prices for California and northwestern brands remain at previous figures, but the Kansas and Dakota mills have made a sharp advance.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras .....	5.40 @ 5.65
Superfine .....	4.20 @ 4.50
Oregon and Washington, Family .....	4.75 @ 5.25

## HAY.

Arrivals of hay which had been maintained at somewhat over the 3000-ton mark for several weeks, decreased during the last week to 2330 tons. This dropping off in shipments was just in time to check an unexpected drop in prices. As it is, prices are now fairly well maintained at the old figures. The local consumption seems to have increased slightly. The crop outlook is not of the best just now, as rain is badly needed in many sections, and in some sections actual damage has been done, though a good rain within a few days would probably save most parts of the State.

Choice Wheat, per ton .....	\$15.50 @ 16.50
Other Grades Wheat .....	10.00 @ 15.00
Wheat and Oat .....	10.00 @ 15.00
Tame Oat.....	10.00 @ 14.50
Wild Oat.....	9.00 @ 12.50
Alfalfa .....	9.00 @ 13.50
Stock .....	7.50 @ 9.50
Straw, per bale.....	50 @ 90 c

## MILLSTUFFS.

Handlers of millstuffs report a rather dull market, in contrast to the former brisk demand. Prices, however, instead of easing off, have advanced about 50 cents a ton on all these lines, and are firmly held. This is entirely due to the scarcity, spot offerings being almost entirely cleaned up, with very little arriving. It is difficult to get even enough stock to supply the small demand that normally exists here at this season. Rolled barley shows no further change, and miscellaneous feedstuffs are without any special feature.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing .....	23.00 @ —
Bran, ton .....	30.00 @ 32.00
Broom Corn Feed, per ctl.....	90 c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @ —
Jobbing .....	28.00 @ —
Corn Meal.....	34.00 @ —
Cracked Corn.....	35.00 @ —
Mealalfa.....	22.00 @ —
Jobbing .....	23.00 @ —
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	26.00 @ 27.00
Oil Cake Meal, per ton.....	37.50 @ 38.5
Rolled Barley.....	29.00 @ 30.00
Shorts.....	31.00 @ 33.00

## VEGETABLES.

The local canners began to take on asparagus a few days ago, making some good sized purchases at 5 or 6 cents for first class stock. The regular jobbing market is about as good as usual, but there is no shipping demand at present, and with largely increased arrivals prices are weak. Rhubarb and green peas are in about the same position, both showing a

material decline. Green peppers are scarce and high. Garlic is higher again. Yellow onions were advanced to \$4.25, but that was more than the market would stand, and \$4 is now the top.

Garlic, per lb.....	15 @ 20 c
Green Peas, per lb.....	5 @ 8 c
Chile Peppers, per lb.....	15 @ 17½ c
Bell Peppers.....	35 @ —
Cabbage, per ctl.....	40 @ 50 c
Onions—	
Yellow, per ctl.....	\$4.00 @ —
New Green, box.....	60 @ 75 c
Tomatoes, crate.....	1.50 @ 2.00
Marrowfat Squash, per ton.....	10.00 @ 15.00
Carrots, sack.....	75 @ —
Hubbard Squash, ton.....	10.00 @ 15.00
Celery, doz.....	35 @ 50 c
Rhubarb, box.....	1.00 @ 1.50
Asparagus, lb., extra.....	8 @ —
Asparagus, No. 1.....	6 @ 7 c
Asparagus, No. 2.....	3 @ 5 c

## POULTRY.

The poultry market is rather easier than it was a week or two ago, but is in a fair position to recover quickly. The only change in prices is a reduction in broilers, though fryers are also weak. These lines, which were the firm feature last week, have arrived in considerable quantities. So far little eastern stock has been received, and some left-over fowls have been disposed of at good prices. More are expected shortly. There is hardly any movement of native poultry at present, the receipts being about as small as the demand.

Broilers .....	\$5.00 @ 6.00
Small Broilers.....	3.00 @ 4.0
Ducks.....	4.00 @ 7.00
Fryers.....	7.00 @ 8.00
Geese .....	2.00 @ 2.50
Goslings.....	3.00 @ 3.50
Hens, extra .....	7.50 @ 8.50
Hens, per doz.....	6.00 @ 7.00
Small Hens .....	5.00 @ 5.50
Old Roosters .....	4.00 @ 4.50
Young Roosters .....	7.00 @ 9.00
Pigeons .....	1.00 @ 1.25
Squabs.....	2.50 @ 3.00

## BUTTER.

The local butter market seems to go through about the same performance every week, with reduced prices at the opening, and more firmness as the shipping demand increases. The general tendency, however, has been downward. Arrivals have been heavy for the last few days, and as there is no shipping demand just now prices are weak. Extras opened the week at 21 cents, and are now a cent higher, but a cent lower than last week. Lower grades show a corresponding decline. Packing stock is moving well at former figures. Trading on the exchange is lively, and there is a good local jobbing demand.

Cal. (extras) per lb.....	22 c
Firsts.....	20½ c
Seconds .....	19 c
Thirds .....	—
Fresh Packing Stock, No. 1 .....	18½ c
Fresh Packing Stock, No. 2 .....	18 c

## EGGS.

While eggs are still firmer than a few weeks ago, prices are about ½ cent lower than last week, the ruling prices in producing districts being around 16 cents. Arrivals are extremely large, but most receivers are storing, and show little desire to sell. This, with a lively demand from the retailers, gives the market considerable strength, in spite of the low prices.

California (extra) per doz.....	17½ c
Firsts.....	16½ c
Seconds.....	15½ c
Thirds.....	15 c
Dirty, No. 1.....	15 c

## CHEESE.

Cheese shows little activity this week, and with plentiful stocks, prices are easy again on local stock. California flats are ½ cent lower. New York storage, however, is back to the former figure, 18 cents, and fancy Oregon storage brings 13½ cents.

Fancy California Flats, per lb....	11½ c
Firsts.....	11 c
New Young Americas, Fancy.....	14 c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	18 c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	13½ c

## POTATOES.

The potato market is steady now and shows little feature. Arrivals of choice

stock are limited, and with considerable activity in buying there is little accumulation. Oregon Burbanks are a little stronger at \$1.05, and new potatoes are lower, as plentiful supplies are now on hand.

Oregon Burbanks.....	85 @ 1.05
Lompoc Burbanks.....	1.10 @ 1.35
Burbanks, River, bag .....	40 @ 85
Early Rose, ctl.....	1.35 @ 1.50
Seed Potatoes .....	75 @ 90
Sweet Potatoes, per ctl. ....	3.25 @ 3.50
New Potatoes, lb.....	3 @ 3½

## FRESH FRUITS.

Apples are in the former dull condition, at unchanged prices. Arrivals of strawberries are increasing, and are of rather better quality. Some of the apricots in neighboring districts are said to have suffered from frost, but the cherries are doing nicely.

Apples, fancy .....	1.25 @ 1.75
Apples, common to choice....	60 @ 1.00
Strawberries, crate .....	1.50 @ 2.00

## CITRUS FRUITS.

Oranges are quite active, with a good demand from both peddlers and retailers, but supplies are heavy, and the recent advance at shipping points has not yet appeared here. Stocks in other lines are moderate and the demand is fair. Limes are lower, on account of recent arrivals.

Choice Lemons.....	\$1.75 @ 2.25
Fancy Lemons.....	2.50 @ 2.75
Standard .....	1.00 @ 1.50
Limes.....	6.50 @ 7.40
Oranges—	
Fancy.....	2.00 @ 2.25
Standard.....	1.25 @ 1.75
Tangerines .....	1.50 @ 2.00
Grape Fruit .....	2.50 @ 3.00

## DRIED FRUITS.

Dried fruits in general remain quiet, though some trading is reported in evaporated apples. Pears and apricots are easier but peaches and prunes are well sustained. Raisins in general are neglected by the trade, though no further reductions are noted.

Evaporated Apples .....	6 @ 7 c
Figs, black.....	2 @ 2½ c
do white.....	2½ @ 3½ c
Apricots, per lb.....	14 @ 17 c
Peaches .....	8½ @ 9½ c
Prunes, 4-size basis, 1907 crop..	2½ @ 3½ c
Pears .....	7½ @ 10 c

## RAISINS.

2 Crown .....	3½ @ —
3 Crown .....	4 @ —
4 Crown .....	4½ @ —
Seeded, per lb.....	5 @ 6½ c
Seedless Sultanias .....	4 @ —
London Layers, per box .....	\$1.15 @ 1.20
London Layers, cluster.....	1.50 @ 2.00

## NUTS.

With very fair prospects for the new crop of almonds, there has been some selling of these nuts by growers at concessions, though most packers are still quoting former prices. The demand is small. Walnuts are dull, but firmly held in view of the shortage.

Almonds, Nonpareils.....	13½ @ 14½ c
I X L .....	13 @ 14 c
Ne Plus Ultra.....	12½ @ 13 c
Drakes.....	11 @ 11½ c
Languedoc.....	10 @ —
Hardshell.....	7 @ 7½ c
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12½ c

## HONEY.

Honey is dull and shows little feature, all supplies being strongly held at old prices. Stocks are small. It is reported that some new crop honey is being gathered in some parts of the State.

Water White, Comb .....	16 @ 17 c
White .....	15 @ —
Water-white, extracted .....	8 @ 8½ c
Light Amber, extracted .....	7 @ 7½ c
Dark Amber and candied .....	5½ @ 5½ c

## WOOL.

The wool market is dull and featureless, with buyers taking little interest in offerings. There is hardly any movement to the east, as there has been no improvement in the demand.

Spring-clip, Humboldt and Mendocino, year's staple.....	20 @ 22 c
Fall clip: Northern free, mountain .....	7 @ 10 c
do, defective .....	6 @ 7½ c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @ 10 c
Fall Lambs, Southern.....	6 @ 8 c
Nevada .....	11 @ 12 c



## HOPS.

Hops are moving slowly, with very limited demand. Prices remain as unsatisfactory as ever to the producers. The buyers show little interest, and the growers are not disposed to sell at the current figures.

1906 crop .....	1 1/2 @ 2 1/2 c
1907 crop .....	4 @ 5 1/2 c
1908 (contracts) .....	9 @ 10 c
8 to 5 year contracts .....	10 @ 11 c

## MEAT.

Meat has changed very little during the week. Dressed wethers and spring lamb are a little easier, and mutton in general is inclined to weakness. Beef is firm, and hogs are steady as last quoted

Beef: Steers, per lb. ....	7 1/2 @ 8 c
Cows .....	6 1/2 @ 7 1/2 c
Heifers .....	6 1/2 @ 7 1/2 c
Veal: Large .....	6 1/2 @ 8 c
Small .....	7 1/2 @ 9 c
Mutton: Wethers .....	10 @ 11 1/2 c
Ewes .....	10 @ 11 c
Lamb .....	12 1/2 @ 13 c
Spring lamb .....	14 @ 15 c
Hogs, dressed, heavy .....	7 1/2 @ 8 c
Light .....	9 @ 10 c

## LIVESTOCK.

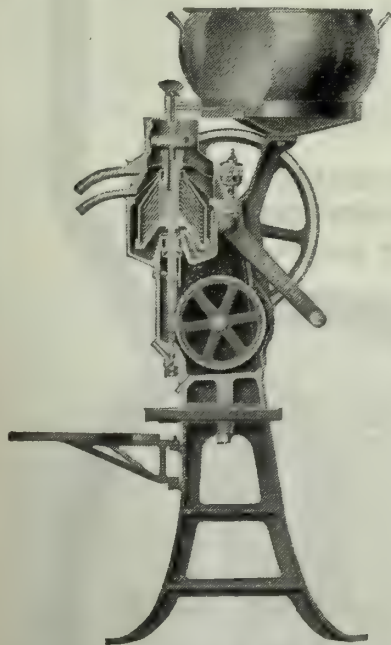
Steers, No. 1 .....	9 @ —
No. 2 .....	8 @ —
No. 3 .....	7 @ —
Cows and Heifers, No. 1 .....	7 @ —
No. 2 .....	6 @ 6 1/2 c
Bulls and Stags .....	4 @ 4 1/2 c
Calves, Light .....	5 @ 5 1/2 c
Medium .....	4 1/2 @ 5 c
Heavy .....	4 @ 4 1/2 c
Sheep, Wethers .....	5 1/2 @ 6 c
Ewes .....	5 @ 5 1/2 c
Lambs, yearlings .....	6 @ 7 c
Spring Lambs, lb. ....	7 @ 7 1/2 c
Hogs, 100 to 200 lbs .....	5 1/2 @ 6 c
200 to 300 lbs .....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## CREAM SEPARATOR EVOLUTION.

The evolution of the cream separator from its crude beginning to its present high estate is one of the most striking illustrations of advanced mechanical design and construction as applied to agricultural processes.

As a matter of fact, however, this wonderful implement, productive of so much profit and convenience to the dairy farmer, has from the very beginning, some 25 years ago, reached its remarkable de-



SECTIONAL VIEW OF DE LAVAL CREAM SEPARATOR.

velopment through constant evolution from one stage of capacity, completeness of separation, lightness of running, durability, and general excellence into another, always quite in advance of the previous standard.

Hence it is a little less surprising than would otherwise be the case to note the many and novel changes found in the new 1908 De Laval machines, and still less so perhaps from the fact that the De Laval machines were first in the beginning and their makers have spared no effort or expense to maintain their position in the separator trade. Explicit information concerning details can of course be secured by correspondence with the manufacturers, according to their advertisement in this paper.

## Cutter's Anthrax and Blackleg Vaccines

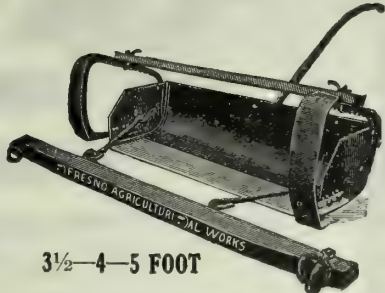
are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

## THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

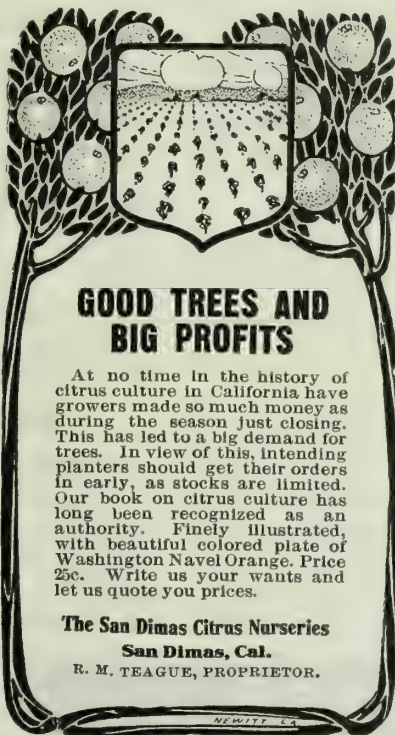
## The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.



## GOOD TREES AND BIG PROFITS

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

The San Dimas Citrus Nurseries  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

## Red Gum and Sugar Gum

for April and May.

\$2.25 .....	per 100
\$10 .....	per 500

Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

HENRY SHAW,  
320 River St. Santa Cruz, Cal.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1884. Send for circular.

THE CEREALS IN AMERICA.—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author that whom no one is better qualified. The subject-matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 460 pages. 5 1/2 by 8 inches. Cloth. \$1.75

## Another Ostrich Ranch.

We have noticed the development of ostrich raising in this State with considerable interest, and note with gratification that it seems to have been reaching a point where we may predict that it will ultimately become of considerable importance.

The largest of the farms is located near Whittier, which is not far from Los Angeles. It belongs to Edwin Cawston, who has about five hundred ostriches on it. Another two hundred are kept on a show farm at South Pasadena, which is visited by many thousands of tourists each season. As indicating the growth of the industry, we note that Mr. Cawston is now looking for another ranch, primarily an alfalfa ranch, for alfalfa forms part of the staple diet of the ostrich.

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal., Breeders and Exporters. Established 1876.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

## POULTRY.

SANTA TERESA POULTRY FARM can fill your orders for day-old chicks. Eggs for hatching from best of White Leghorns, laying 75% now. Stock for sale. Send for prices. Wm. Hansam, Eden Vale, Cal.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE, POLAND-CHINA, Duroc HOGS. Choice, thoroughbred Poultry. William Niles & Co., Los Angeles, Cal. Established 1876.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls

Stock for Sale Dept. 31, 320 McAllister St., S. F.

## BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

W. SULLIVAN,

Agnew, Santa Clara County, Cal. Stone's throw from depot.

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts., San Francisco.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco Established 1860.

**MADE FOR SERVICE**  
and guaranteed absolutely **WATERPROOF**  
TOWERS FISH BRAND  
**OILED SUITS, SLICKERS AND HATS**  
Every garment guaranteed Clean - Light - Durable  
Suits \$3.00 Slickers \$3.00  
SOLD BY BEST DEALERS EVERYWHERE  
CATALOG FREE FOR THE ASKING  
A. J. TOWER CO. BOSTON, U.S.A.  
TOWER LANSBURY CO. LIMITED TORONTO, CAN.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The .....	219
Bean Spray Pump Co .....	218
Beckman, Geo. V. ....	223
Bird & Co., J. A. & W. ....	—
Blake, Moffitt & Towne .....	221
Bosanko Medicine Co., Dr. ....	215
Breeders' Directory .....	223
California Fruit Exchange .....	221
Coates Nursery Co., Leonard .....	221
Covina Nurseries .....	221
Croley, George H. ....	223
Cutter Laboratory, The .....	223
De Laval Dairy Supply Co. ....	215
Deming Co., The .....	215
Dewey, Strong & Co. ....	223
Dietz Company, R. E. ....	217
Disbrow, F. H. ....	215
Driver, E. S. ....	223
Fancher Creek Nurseries .....	219
Fresno Agricultural Works .....	223
German Kali Works .....	220
Hamlin School, The .....	216
Hart, Ed. ....	223
Hess & Clark, Dr. ....	215, 221
Holcombe & Co., R. A. ....	220
Howard Cattle Co. ....	223
Hoyt's Tree Support Co. ....	—
International Harvester Co. ....	—
Jackson & Co., T. W. ....	220
Lawrence-Williams Co. ....	214
Lister, Henry B. ....	223
Lynch, John .....	223
McClanahan, E. E. ....	—
Meacham, Frank A. ....	—
Mountain Copper Co. ....	220
National Wood Pipe Co. ....	218
Niles & Co., Wm. ....	223
Oakland Poultry Yards .....	223
Oregon Nursery Co. ....	221
Pacific Coast Business College .....	217
Pear Blight Remedy Co. ....	221
Roeding, Geo. C. ....	223
Santa Teresa Poultry Farm .....	223
Seulberger, J. ....	215
Shaw, Henry .....	223
Sharples Separator Co. ....	224
Shaw Plow Co., H. C. ....	218
Silva & Bergthold Co. ....	220
Simmons Hardware Co. ....	218
Smith, Francis .....	217
Southern Pacific Railway .....	217
Standard Oil Co. ....	217, 220
Stewart, W. A. ....	220
Stowe, C. A. ....	223
Sullivan, W. ....	223
Swett & Son, John .....	219
Teague, R. M. ....	228
Temple Pump Co. ....	—
Tower Co., A. J. ....	223
Trumbull Seed Co. ....	220
Tuttle's Elixir Co. ....	214
Van Der Naillen, A. ....	223
Vermont Farm Machine Co. ....	219
Wagner, J. B. ....	223
Waite, Thos. ....	223
West Coast Cresol Dip. ....	219
Western Meat Co. ....	214
Woodin & Little .....	221

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.



# Before He Bought a Tubular

**This Man  
Used to Carry  
Half Ton of  
Butter  
to His Hogs  
Every Year**



**T**HAT'S what Mr. McKerrow did for twelve years previous to 1903. Then he bought a **Tubular**. When he discovered how wasteful he had been with cream, he says that he felt like "kicking himself." Listen to him:

Herkimer, New York.

Gentlemen:—Did you ever feel like kicking your own self? I have felt like that every time I think of what I have been throwing away for the last twelve years. **Six tons of butter carried to the hogs in that time!** I made 315 pounds per cow in 1904, deep setting; 368 pounds per cow in 1905, using Dairy Tubular. 53 pounds per cow for 20 cows makes 1060 pounds; this, at 28 cents, makes about \$300.00. I guess the Tubular has paid for itself all right. Skim-milk worth double too.

Wm. McKERROW.

This is not an isolated case. Thousands of thankful families all over the globe are rejoicing in the possession of this profit-bringing, cream-saving machine. It seems like a friend ever after the first week. Even one day's lack of use makes the dairyman or farmer miss it **tremendously**.

## Ten Things a Tubular Surely Does.

- 1—Runs daily for months and months without a hitch. One man writes that in three years he paid out 40 cents for repairs.
- 2—It skims so clean we guarantee it to leave only one-half of that left by any other machine.
- 3—It turns easily requiring one-half the power needed by other machines.
- 4—It will run one-half longer without clogging than any other machine.
- 5—It delivers one-half less froth in cream than any other separator.
- 6—Needs only a tablespoonful of oil twice a week.
- 7—It requires little attention from the operator because every part is thoroughly tested and inspected by experts at our factory before shipping.
- 8—It requires one-tenth the time in washing required by any other separator.
- 9—The receiving can is lowest of them all and most convenient to clean and adjust.
- 10—A Tubular causes you no worry, fuss or muss. It's just a tried and true workman that is always on time; always sober.

## A Tubular Will Pay for Itself

We don't care where you live. If you own eight or ten cows you can use a Tubular and pay for it in cream saved in a year. Buy the easiest machine to fill, to turn, to wash. A separator that skims clean, needs next to no repairs and saves you fuss, worry and trouble. It would pay to sell one of the cows and buy a Tubular.

## Putting in Milk

No high lifting, no slipping milk pail and lost profits with a Tubular. The waist-low can solve the problem. Skimming is fun for the whole family from the six year-old up. It is a pleasant anticipation because the exercise is not exhausting and the operation is without fatigue.



This is the way one man views the "high up" kind: "Gentlemen:—To say that we are pleased with our Tubular is putting it mildly. We have used a disc-filled, bucket bowl for several years. We find that we have been losing quite a percentage of cream besides 'climbing up to the top of the house and pouring the milk down the chimney.' For ease of operation, rapidity, and thoroughness of separation there is no comparison between the two."

# SHARPLES TUBULAR SEPARATOR

## Turning a Tubular

All working parts run in oil. Every part is adapted so perfectly to the other that once got in motion it's a joke to keep the bowl spinning.

The oil compartment cannot possibly leak nor at any time allow the oil to spatter on or contaminate cream or milk. The machine takes care of itself and does not worry anyone with clogged oil holes or leaking bearings. Thus your cream and butter are free from the remotest possibility of ever being rejected because of machine-grease, odor or suggestion of rancidity. This one feature saves you much worry.



## Washing a Tubular

Only three pieces in the bowl to wash, all easily gotten at. Nothing to rake and scrape your knuckles nor skin your wrists and fingers.

One man who owns a "bucket bowl" machine allows it to stand idle in his dairy house. That means \$225 rusting! He uses a Tubular instead. Why? "Not for all the money in the Universe" says he "will I break my wife's back, ruffle her temper or spoil her digestion by requiring her to wash twice a day those 35 'pie plates' 365 days in the year."



## Fill Out the Coupon

We have asked you questions which we suspect you are willing to answer. If you will fill out the coupon and forward to us we will see that you get just the treatment that will make you a lasting friend of ours. We shall not force ourselves upon you to make you feel unpleasant and under obligations. All we ask is for you to give the Tubular a reasonable trial along side of as many other separators as you wish, or alone. If it does not perform as we claim, you needn't keep it.

**THE SHARPLES  
SEPARATOR CO.  
WEST CHESTER, PA.**

Toronto, Ontario  
Chicago, Illinois  
San Francisco  
California

## Application for More Information About a Tubular

THE SHARPLES SEPARATOR CO.

Gentlemen:—I would like to know more about your Tubular Separators. In order that you may treat me intelligently I will answer the questions below which I deem proper.

1. How many cows do you milk?.....
2. Have you a Separator?.... What style?.....
3. Have you ever seen a Tubular skim?.....
4. Are there any of your neighbors who use a Tubular?.....
5. Is there a local agent near you who sells Tubulars?.....

6. How far are you from a railroad station?.....

What is its name?.....

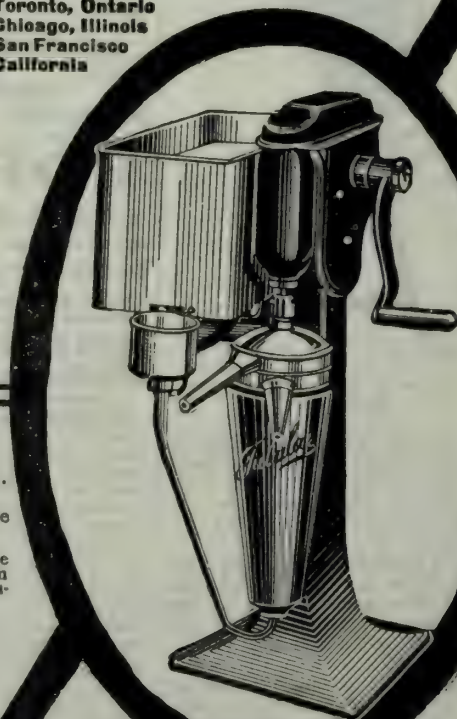
7. Send me your catalog No. 131, and other free literature explaining all about the Tubular.

I understand that this coupon with my signature attached does not obligate me in any particular. I am filling out this coupon to obtain information about Tubular Separators.

Name .....

Address .....

Town.....State.....





# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 15.

SAN FRANCISCO, SATURDAY, APRIL 11, 1908.

Thirty-eighth Year.

## SURVIVAL OF THE UNFIT IN MEXICO.

In our sister republic on the south there are to be found many instances of the persistence of agricultural types which are almost as foreign to the spirit and purpose of the present as any to be found anywhere in the world. We say almost, because we are not informed if anywhere in Mexico the primitive plow, hewn from a forked branch, still persists, as it does in Syria and Egypt. There is, however, enough in Mexico to testify to the fact that the common ways are much farther from the best ways than in countries which can be counted agriculturally progressive. The illustrations on this page establish that fact. The ox-cart caught by the camera is perhaps one remove from the primitive, because it has a wheel manifesting constructive design, and is more complex than the cross-section from a saw-log which preceded it. It turns, however, upon a wooden axle, and the music of its movement would literally beat the band.

The second picture also verges upon the primitive, and shows a mule lifting water by the operation of a lantern-gear wheel. The rudeness of such pumping has passed from the manners of any progressive people, but it is of interest that one very old thing shown in the picture has never been improved upon as a method, and that is the distribution of irrigation water through a cement flume. Although the cement aqueduct and its smaller brother, the flume, have been used so long that modern people wonder what their cement was made of, cement irrigation structures are still unsurpassed for service and long-distance economy. It is interesting then to see this ancient but up-to-date cement ditch taking water from a pump which is certainly a sur-



*Transportation Which Defies the Interstate Commerce Commission.*

vival of the unfit, except perhaps that it befits the tastes and aspirations of the operator.

Regarding these scenes more broadly, we find them in a sense typical of the life of the Mexican, and therefore very interesting as a humanitarian study. In his "Journeys of Observation," from which the pictures are borrowed, the traveler-author Mr. Rickard makes many notes of the people he saw, and the transcript of a few of these notes will enable the reader to realize more fully the unique character of the population which can be content to hold any industrial undertaking

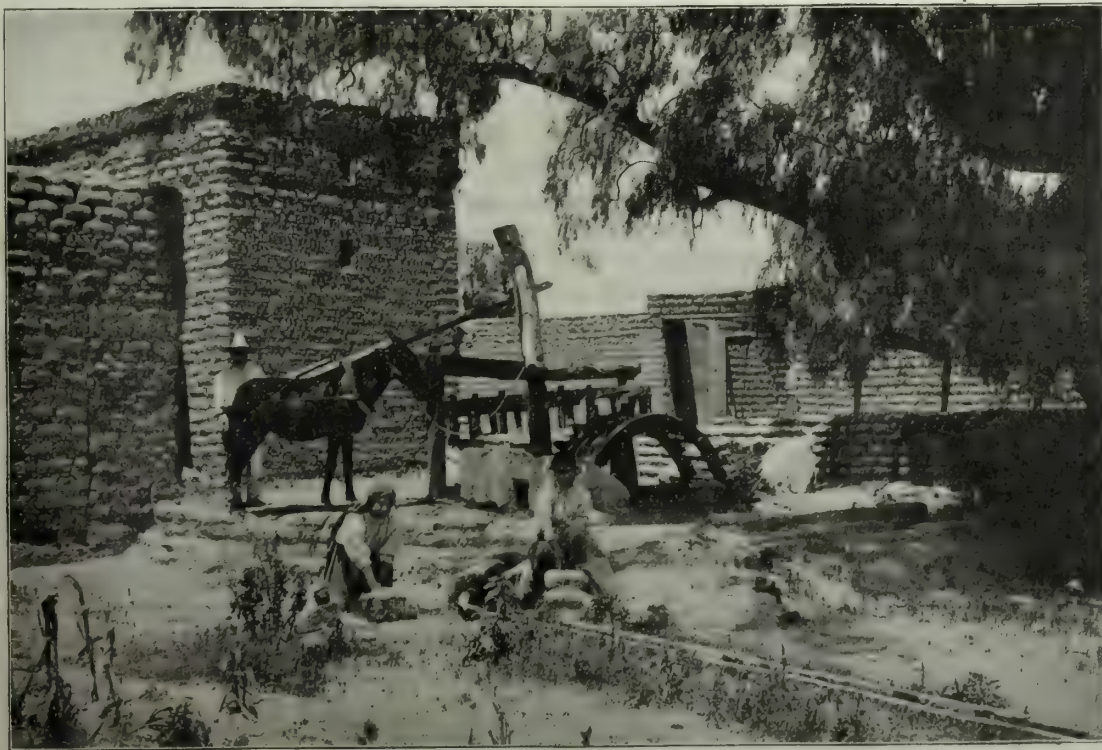
upon the basis of such appliances as the pictures show. Here is a glimpse at the highways:

"Yellow scrub fringes the road and enhances the value of the purple in the distance. A flock of sheep, a string of patient donkeys laden with charcoal from the forests, other burros coming from the valley and laden with pigskin bags inflated with their burden of pulque; some sad-faced Indian women trudging up hill, one of them with a baby slung in her reboso, another walking patiently while her man rides alongside on his mule; then a cavalier with wide sombrero and gaily caparisoned saddle, a serape thrown over the silver-mounted pommel, and riding his horse superbly; a wagon heavily laden with sacks of ore, its brakes crunching noisily, drawn by ten mules, with silver bells, and driven by a brigand-like muleteer; all these are part of the stream of life that we pass or meet on this road."

While the beauty of the scenery and the picturesque coloring of the people are spoiled by the evil smells due to the filthy habits of the peones, the Anglo-Saxon visitor brings from Mexico some experiences which are a joy to the memory. Mr. Rickard writes:

"I have recollections of multi-colored facades, of sunlit walls and cool patios, the sound of bells and the cracking of whips, cries of cerveza and frijoles, conical hats and hooded women, a stream of chocolate-colored humanity, a politeness that gave dignity to the commonplace, a squalor that soiled romance, and a sunshine that glorified everything; and then, like a refrain of a song that we love, the kindness of the men of my own race, and the hospitality of women, who make every abiding place a home."

It is not the first time that a traveler has found the best people in a foreign land to be those of his own race.



*Ancient Wheel-Pump and Irrigation Flume of Cement.*



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO.	-	-	-	PUBLISHERS
E. J. WICKSON	-	-	-	Editor
EDGAR RICKARD	-	-	-	Business Manager

## The Week.

We commented last week upon the necessity that Californians should keep close watch upon the outcome of the various promises of tariff revision which the several political parties are now indulging in, as is to be expected during a presidential election year. The printers made us say in one sentence: "We are certainly ready to undertake production in competition with the world's cheap labor," etc. We wrote that we were certainly **not** ready to make such an undertaking. The context shows that such was our claim, but we desire now to make a direct statement that California is not ready to do so, and does not propose to try any such experiment at the risk of all the capital and effort which is now being employed to develop the industries which are progressing in an encouraging way under adequate protection.

The ease with which Californians have recourse to original and capacious machinery for growing crops on a large scale on level land which welcomes such contrivances is seen again in the experience of S. J. Murdock & Son of Westminster, Orange county. These enterprising growers propose to put in a large acreage of seed to produce onion sets, which is a peculiar business which no one should undertake without satisfactory California experience. It is different from the onion-growing for a bulb crop, which Mr. Murdock describes in another column of this issue. The point about machinery which he had in mind to emphasize is the fact that the younger Murdock has worked over an old automobile into an onion-seeder, and proposes to put in this year's crop by the chug process. To find young Mr. Murdock sowing onions by automobile rather than the wild oats which young men generally put in with this vehicle, is at least creditable to the rising generation of Californians.

The markets of the United States are being pushed each year nearer to the realization of the continuous cantaloupe. This delicious breakfast fruit or esculent is a most salutary substitute for the starchy resurrections of millers' by-products which are constantly being urged upon the people as "breakfast foods." The carbohydrates of the cantaloupe are contrived by the Creator to minister to human needs and functions in a very gracious and grateful way, and morning indulgence in them brightens the day and quickens the faculties. For these reasons we rejoice in the advancement of the fruit, and we rejoice also because, owing to length of growing season and frost freedom, California must be the leading producing district of continuous cantaloupes. The newest point in our progress in this line is that there is an uncovered period between the earliest of all in the Colorado desert district of Riverside and San Diego counties (much of which now comprises the new county of Imperial) and the readiness of the Rocky Ford product of Colorado. Many regions are preparing to follow the Imperial product, and it is not yet clear which will win,

perhaps, but the greatest present promise is seen in the new Modesto-Turlock irrigation district of Stanislaus county. From the Turlock section last year about 350 cars of cantaloupes were shipped, and attracted such attention that cantaloupe growers have come in from other districts, buying and leasing land and bringing seed and planning to double the product the present year if everything goes well. Upon the fine loams of that district the cantaloupe seems to be fully at home, and there will be interesting news coming during the next few months. We have always believed that, in time, the winter cantaloupe, of Persian origin, would advance in popularity and constitute an important product to follow the American summer varieties. As it looks now, there may come a time when California people will be either planting or eating cantaloupes every month in the year, somewhere within the borders of the State.

Some of the radical social reforms which are now being achieved promise to unsettle agriculture somewhat. This will, however, be only temporary, for this ancient art quickly readjusts itself to new conditions. The wave of prohibition which is covering the United States promises to strike the hop interest pretty hard, for hops are primarily and almost exclusively beverage-timber. Less effect will be produced upon the whisky grains, for a very small fraction of the cereal crop has ever been distilled, even when whisky flowed most freely. What the effect will be upon wine is still to be ascertained by experience, but producers are apprehensive. It may act as promotive of wine instead of repressive, because wine figures but little as a saloon commodity; it is too low in alcohol for the hard drinkers and too high in price (except in the countries where it is made) to serve as a stomach-drencher like beer. As a home and hotel table beverage, wine may be promoted by the closing of the saloons. The tobacco growing interest seems to be unsettled by some of the undertakings of the reformers. It is telegraphed from Kentucky that because of warning letters and visits from night riders many farmers in nearly all of the forty-two counties in the White-Flint tobacco district are destroying their tobacco beds, and at the present time less than one-third of the number usually planted have been started. In many counties huge signs have been erected on buildings and in high places near by, declaring the intention of the farmer not to raise a crop this season. Realizing the difficulty in making a living for their families in case the decision to raise no tobacco is adhered to, many tenant farmers are preparing to move to other States, while many farm owners have placed their property on the market with the avowed purpose of leaving Kentucky. We do not see how a reform movement can justify recourse to night-riding, intimidation and lawlessness. Probably it will not attempt to do so, and the present scare in Kentucky may be a temporary local phase of action due to some social conditions which, at this distance, we are unable to understand.

We do not recall such a stretch of north wind as we have had this spring, although there may have been others just as bad. Fortunately they do not come often and can therefore be easily forgotten. California has gone as dry as the sunny south, but in a different way. Our shortage is in water, not in its substitutes, which are still plentiful enough to draw population from all the thirsty States. It now looks as though some lines of production might be sharply shortened, even though good rains should come in time to

carry others in good shape. Winter-growing grains and grasses are short and thin, and in some places losing verdure. Frosts have stricken vegetation here and there, and have probably made some reduction already in the tender deciduous fruit class, although no wide loss is yet noted. Most things which may now look unpromising would brighten wonderfully with a good rain. To stop the dry winds and send the clouds would be a great boon to California agriculture.

The thing which is best served by the short grass is the held-over hay, of which there is a large amount in the State. Some will perhaps make as much by having a market for the held-over as they could from a new crop mown in the face of it. To use hay as a measure of State growth is novel and interesting. Somers & Co. of this city do it in this way: "It is rather gratifying to learn that stocks of hay are being rapidly reduced throughout the country, for in spite of the recent depression most of the principal hay centers report rather free shipments to many points throughout the interior. This is good evidence that the State is steadily growing and that many districts that a short time ago produced hay have now become consumers for this particular product. The aggregate demand from these interior towns has been considerable, and has assisted materially in relieving the San Francisco market of what might otherwise have proved a most burdensome oversupply of hay." It is logical to draw comforting conclusions in this presidential election year from "straws," but the statistical value of hay has, we believe, just been discovered.

The Sonoma county egg producers, whose enterprise in arranging for direct trade was recently mentioned in these columns, seem to be demonstrating the wisdom of their undertaking and their ability to carry it. At a meeting held in Santa Rosa last week it was announced that the establishment at that point would soon be paying a premium above quotations on the eggs delivered to them. The store has paid top quotations net from the time it was opened, in addition to having paid all the running expenses and to having placed a sum in bank. The association is now shipping a carload of eggs each day, many going to Nevada and other somewhat distant points. A market has been found for more eggs than the association controls, and the poultrymen of adjacent regions are to be organized into branches of the association at once. If there is anything which ought to go direct to consumers, it certainly is eggs.

Another interesting item in producers' direct marketing is found in the shipment of the first trainload of California oranges ever marketed direct in the Middle West, without first going to the distributing center at Chicago. The train consisted of 20 cars for consumption within the State of Iowa. The shipment has been definitely ordered by Iowa dealers, and is therefore in no sense a speculative shipment. The order is a result of a systematic campaign of publicity carried on by the California Fruit Growers Exchange, which controls the marketing of about two-thirds of the total product of the State, and of the Southern Pacific Railroad. Posters describing the excellence of California oranges and the moderate price at which they could be delivered have been liberally placarded throughout Iowa for the last two or three months. This is all very good business.

The grape growers of California are organizing



against the prohibition wave. They do not seem disposed to take any chances about the effects of saloon closing. As a rule they favor temperance and oppose prohibition, and are multiplying testimony in support of that contention. At a meeting in Fresno the other day a Cumberland Presbyterian declared that he believed in giving wine men a chance to make good the assertion that the use of wine instead of strong drink will further the end of temperance. He cautioned the wine men not to become entangled with the saloon question, stating that in his opinion the open saloon is doomed, and rightly so. It strikes us that the Fresno preacher gave pretty good advice. Knock out the saloon. What the saloon costs in loss of time by pedro-farmers has never been figured out, but it is vast. Economically it is probably greater than the cost of the gin they consume. Morally it results in degeneration quite apart from the alcoholic equivalent. The grape men are sincere in the claim that the use of light wine as a household beverage is promotive of temperance and opposed to heavy and destructive alcoholism. It seems strange to those who do not know what are claimed to be the facts of wine-drinking countries, that intoxication is rare and demoralization less than in saloon countries. The proposition to give a chance to prove this in California doubtless will attract much attention in this State, and the anti-saloon cause can be strengthened. At all events, the grape interest should not accept fellowship with the saloon interest. It is stronger by itself.

## Queries and Replies.

### Sowing Alfalfa.

To the Editor: Will you give instructions how to sow alfalfa? Is there a way to prepare the seed? If so, please give me facts, and how to go about getting the preparation, if there is any to get; also whether to sow oats with the alfalfa or before the alfalfa is sown. Then the best way to cover the alfalfa after the oats are up, in case latter is to be sown first; also your opinion as to sowing alfalfa between fruit trees 15 feet apart. What grasses might take the place of alfalfa?—Farmer, Dutch Flat.

Do not sow any oats, or anything else, with alfalfa seed. Get your land into the best condition possible by deep plowing and thorough harrowing and cross-harrowing. Use the seed at the rate of 20 pounds to the acre, and then go over the field with a brush drag, which will put only a very light covering upon the seed. Alfalfa should be sown as soon as you think the sharp frosts are over for the season. The alfalfa plant will stand some frost, but not hard freezing. It is not, as a rule, necessary to resort to any preparation of the seed to get a good stand in California soil.

Alfalfa can be successfully grown between fruit trees, providing plenty of irrigation is employed for both the trees and the alfalfa. The objections to it are that you may get so much water in the soil that the fruit tree roots will rot, or the alfalfa may attract so many gophers that they will eat the roots of the trees. Fruit trees 15 feet apart are too near anyway, and it would be better to give them good cultivation and all the land to themselves. You may be able to do quite as well with red clover as with alfalfa, especially if your soil is not very deep, because red clover is a surface rooter, and is an excellent plant in the foothills where irrigation is employed.

### Growing Egyptian or Kafir Corn.

To the Editor: I am desirous of planting some Egyptian corn and would like to know how to plant, whether in rows to be cultivated or sown broadcast; when to plant, how to harvest, and how much seed to sow to the acre. If in rows,

what kind of a planter is best to use? Also how early in the fall can it be harvested? I wish to take it off and prepare the land in the fall to sow alfalfa. I am preparing the ground now, but presume it should be plowed or worked again if we get a good rain, as I understand it is too early to plant.—Reader, Solano county.

Although Egyptian corn and other varieties of sorghum are grown by broadcasting in a constantly moist soil with abundant heat, such as they have in the Imperial valley, in southeastern California, in most other parts of the State the plant is grown just as Indian corn is, either in hills or in rows sufficiently far apart for good cultivation. This is almost essential where it is expected to get anything by rainfall. If you wish to grow sorghum for forage it should be sown thickly in the row and cut before the stalks become too dry; if for grain, it should be more thinly sown, or planted in hills, in order that the individual plants may have better opportunity to develop. The land can be laid off with an ordinary corn marker, or with a shallow plowed furrow, dropping the seed in the furrow more or less thickly according to the purposes in view. The amount of seed per acre is therefore variable. As to frost, sorghum is quite as sensitive as Indian corn, and maturity of the crop requires about the same length of time. If sown as soon as you are out of danger of frost, it ought to be possible to clean up in time for fall working of the land for alfalfa.

### Use of Night Soil in the Garden.

To the Editor: I am planning to do gardening in the Imperial valley, and have had the ground already plowed and furrowed as they do down there for irrigation. I plan to use an earth closet. Would it be injurious to the garden vegetables to pour the contents out in the ditches and let it be diluted with the irrigation water and thus applied to the roots and not to the tops of the vegetables? We shall have a box of dust or soil and shovel in dust enough to cover and soak up all liquids.—Reader, San Diego county.

It might do to introduce the material into the irrigation water and distribute it in that way were it not that such introduction would be apt to render the water courses offensive, and such distribution by water should certainly not be undertaken except where the water is wholly used upon your own ground. The method which would render the material least offensive in all ways would be to use plenty of dust as an absorbent of liquid and effluvia, and then cover the material under the soil and not use it as a surface application, either in water or as a dry material.

### Crab-Grass.

To the Editor: Under separate cover I am mailing to you a sample of grass that seems to be killing out and taking the place of white clover and blue grass, will you kindly tell me the name of the sample, and whether there is any danger of it becoming a pest like our Bermuda and Johnson grasses?—Enquirer, Reedley.

Dr. H. M. Hall, botanist of the Experiment Station, identifies the specimen as crab-grass (*Panicum sanguinale*). This is a perennial which has creeping stems that root from the nodes, and is therefore difficult to eradicate. It is not so bad, however, as Bermuda grass, and is sometimes killed out by continued drought. It revels in low, moist ground.

### To Smother Morning Glory.

To the Editor: I have read in the paper about a new grass which would smother morning glory, and I wish to get some for a lawn on a morning glory patch. Can you tell me where to get it?—Reader, Haywards.

We regret that we do not know of any such

grass as you inquire about. As you saw notice of it in the papers, we would suggest that you write to the same paper, that they may indicate to you the source of their information. There are lots of fairy stories about plants in the newspapers. We do not know any way to subjugate the morning glory except by constant cutting off of the shoots under the surface with a weed-cutting cultivator, but this, of course, is not practicable in lawns or in field practice, except for constantly cultivated crops. On land suitable for alfalfa and where enough water is used to secure a very dense summer growth of alfalfa, this plant will come nearer to smothering out morning glory than any other plant we know of.

### Nitro-Cultures Not for Celery.

To the Editor: I have been experimenting with nitro-culture on several plants and have had good results in most cases, especially with beans. I intend to plant some 200 acres to celery this season—from June to August. I am fixing up the seed-beds now. The soil is a mixture of well worked up peat and sediment, and raises rich crops of cereals, beans, etc., but small trials with celery show that there is something missing. Would nitro-culture work a change, or what kind of fertilizer would you advise me to use?—Planter, San Joaquin county.

Nitro-culture germs would have no direct effect on the growth of celery, because the celery plant is not leguminous. The only way in which they might benefit the celery crop would be indirectly; that is, they might promote the growth of a leguminous plant which might be plowed under and thus add to the humus of the soil and enrich it for celery, but if you are operating on peat and sediment soil there would seem to be abundant humus already present. Experiments with the addition of phosphoric acid and potash would seem to be more rational. No one can give you any very valuable theoretical advice on this subject. You should undertake trial applications and note the growth of the plants upon them. You certainly should not undertake to grow 200 acres of celery without having a pretty good demonstration that the growth of the plant will be satisfactory. If there is evidently something missing, you ought to ascertain that before undertaking such an investment.

### Sainfoin Not for California.

To the Editor: I write to ask for information about a plant called sainfoin, or esperset, or asparset, which is well known in Europe. On light soil on hillsides it is a problem to know what will grow. Any information as to the habits of growth of this plant would be helpful. Where could the seed be obtained in quantity?—Farmer, French Corral.

This plant has been introduced into California several times, but has not succeeded. It certainly is not adapted to dry hillsides, for it has been tried in such situations in different parts of the State and has always failed. It may yet have a place in California, which favors so many plants, but it will not be a dry place.

### Carob and Algaroba.

To the Editor: Referring to an article published recently in your paper on "The Carob Tree," will you kindly advise whether this tree is the same as the Algaroba tree of Hawaii?—Reader, San Francisco.

The Carob and Algaroba are two very different plants. The Algaroba is *Prosopis juliflora* and the Carob is *Ceratonia siliqua*. The Algaroba is botanically the same as the mesquite which grows in the desert of Arizona, but is a glorified form of it, produced by more favorable tropical conditions of moisture, etc.



## Horticulture.

### THE POSSIBILITIES OF WALNUT BLIGHT CONTROL BY THE USE OF IMMUNE VARIETIES.

(Concluded from last week.)

By H. J. RAMSAY, Assistant Pathologist at the Southern California Plant Disease Laboratory at the University Farmers' Institute at Whittier.

In any consideration of walnut blight control by the use of resistant stock, there are always two phases, the present and the future. The control of blight in the orchard to be planted in the future, we feel sure will be practically accomplished by the use of resistant stock. This phase of the matter lies largely with the alert, progressive, and honest nurserymen, and has been fully discussed this morning. Suffice it to say that it is well to go a little slow at present, until the resistant qualities have been more thoroughly tested, and until there shall be available for commercial distribution grafted trees from known and tested resistant stock.

The budded trees from the "Eureka" tree at Fullerton have up to date been sold largely to one or two large growers, and as they have taken all the available supply of these trees for the last three years, they have not been generally sold or distributed.

**The French Varieties.**—There has been much talk about using French stock, especially the Franquette and Mayette, in the south, as they are more or less resistant, largely because of their lateness in coming out. The popular and general opinion seems to be that they are rather shy bearers, at least here in the south, though I am not sure that it is based on facts. There are very few bearing Franquette and Mayette trees in southern California, in fact, hardly any worth mentioning, nor enough to base an opinion on one way or the other. They need to be given a fair trial before we can fairly judge as to their productiveness.

The method, which unfortunately is being used by some disseminators of grafted stock, of going into a seedling orchard and procuring scions from prunings or from a great number of seedling trees, without any or much regard to character of trees, procures only the benefit of perhaps a good root, as the top will vary in nearly every respect as much as seedling trees. The very thing for which one is working is in this way defeated. There should be more careful selection of scions from known trees, and especially if the trees be seedlings, should the scions from one tree be kept separate from another, as in no case is one seedling exactly like another. Of course if one is taking scions from a grafted orchard, where the trees are without fail of the same variety, then this does not apply so strongly. Nevertheless, in order to get the best results, one should be exceedingly careful in his selection of his stock and know something of its parentage.

**Pollination.**—Again, in the planting of an orchard, it would undoubtedly be a good investment to set out at least two varieties, for the sake of better pollination. In most orchards at the present time the staminate calkins come out and have nearly all fallen before the pistillate blossoms are out. If in the orchard there were planted a second variety where calkins come out later, there would be a greater chance for pistillate blossoms to become pollinated.

There is but little doubt that there is a great reduction in the crop by non-pollination, and the interplanting of a second variety coming out later would increase the yield considerably.

**Grafting.**—The problem, however, which today concerns the walnut grower who has a seedling orchard is that of how to increase its productiveness, either by better cultural methods or by top grafting, or both. There arises then immediately the question of whether it is profitable and practical to graft over large trees and thereby increase production. Can an old seedling orchard be successfully top-grafted or not, and if so, why cannot each tree be made to bear one hundred pounds or more of walnuts? This phase of the problem involves the practicability of top working these old seedling trees to immune or resistant varieties. As the stock will in no wise influence the blight resistancy of the top that is put on it, the question then becomes one of degree of success in grafting or budding old trees.

Every walnut grower has in his orchard one or more trees that have been continuously good bearers, and trees of such desirability that he would be satisfied to have a whole orchard of that kind of trees. If he could successfully work over his poorer trees from year to year, and still not lose much from decreased production, as he would take the non-paying trees first, the grafted ones would be coming into good bearing again in three or four years. In that way a man could gradually work over his old trees and soon have a uniformly good producing orchard.

Top grafting, at least in the south, has never been considered practical or very much of a success, though but very little has ever been tried. From careful and extended observation throughout the central and northern portions of the State, we are pretty well convinced that top grafting is a success and practical. There are a great number of trees in the northern portion of the State that have been successfully grafted, even though they are extremely old and the limbs large. As far as we can gather, no special method can be said to be the favorite and most successful method, unless one would group all the variations of the cleft graft under one method. Most of the top grafting in the north has been done by some variation of the cleft method, and in some cases the bark or sap graft has been used. One will find almost as many so-called different methods of grafting as there were men doing the grafting, and equally as many theories. It did not seem to be so much a question of method as of care exercised in doing the work. One hears all kinds of theories advanced and numberless reasons for failure, and they all have the secret which is essential to success. Some will tell you that you must use only terminal buds, some again would discard these and use only the firmest and least pithy wood at the base of last year's growth. Still others maintain that the cut in the scion should be in the two-year-old wood, the buds being in last season's wood. Again others will tell you that the secret lies in the time of the year when the operation is performed, or in the kind of wax that is being used, etc. Some would do the grafting early in the spring before the sap starts, others as late as when they are leafing out. And what is more, we find that all of these people have had more or less success.

Sometimes a man, who perhaps never grafted any kind of tree in his life, will go out and make a success of the operation, while an expert may ignominiously fail. The whole proposition of top grafting at present is in a very uncertain state. There is a great deal of uncertainty about this phase of the problem which must be eliminated before top grafting can be pronounced an unqualified success. Most of the successful top grafting in the north was on California Black stock, and it may be that the difficulties are even greater on English stock. At any rate, all the different

methods of grafting aim at one and the same thing; they are all efforts to effect the best possible union between the two cambiums of the stock and scion. No matter what the method, it is always essential that the cambium layer of the stock be made to cross the cambium of the scion, and that they be firmly held together so as to keep them from drying out and to facilitate the rapidity of union. The cambium layer, which is found immediately between the bark and the wood, is the growing and living portion of the tree. In this layer are found the vessels which carry down the elaborated or organic food materials manufactured in the leaves, while the vessels carrying the upward flow from the roots are found chiefly in the wood. By always getting these two layers to cross, the sap will flow to and from the scion soon after the union is partially effected. The cambium cells are excited to activity by the first flow of sap and soon callus over, and are always the first ones to start the union. One thing is certain, that without a crossing of the cambium layers the operations will be a failure.

In theory, at least, the operation that combines the largest surface of cambium for crossing in both cambium and scion should be the most successful, providing they are firmly held together. According to that, the sap or bark graft, which is used to some extent in walnuts, should be very good. In this case the bark is either split down a little way, or else a V shaped portion is cut out of the bark and the scion, being cut on a slant, is inserted between the bark and cambium, the fresh slant cut being placed evenly and firmly against the wood. Where the bark is only split down, the scion is held quite firmly by it, but it leaves a cavity on either side, which gives it a chance to dry out. Where the V is cut out this objection is partially eliminated. This method has this drawback, that it sometimes makes a very one-sided union that does not heal over readily, especially on old large limbs.

Another method which has been used to some extent and with some degree of success consists in cutting out with either a saw or knife, or both, a V-shaped portion of the stock to be grafted. Instead of cutting out only a V-shaped piece of bark, the cuts extend into the wood until they finally meet. The scion is cut off to fit the cut made in the stock, and where properly performed makes a very good union, and usually gives a good percentage of growing grafts.

As before stated, the usual method of top grafting now in vogue in the northern sections is a modification of the cleft graft, the method employed this year by Mr. Neff, of Anaheim, and explained by him. (See last week's RURAL PRESS.) Instead of splitting down through the middle of the cut limb, and straight across, several cuts may be made on one limb by cutting across and down on the sides, as if one were to slice off a portion of the limb. The scion is cut in a wedge shape and carefully inserted, after the split has been pried apart and held by an iron wedge and the two surfaces that will hold the scions have been smoothed and cut away a little with a knife. The wedge being removed, the two split portions tend to come back to the original position and firmly hold the scion. Cutting so close to the outside, the scions are not crushed so much, as sometimes happens where the split is made straight across the limb. The scions are either cut so that the pith shows on both cut sides, or else so that the pith is reached on but one side. It is the great amount of pith in a walnut that makes it so difficult to graft.

**Weinshank's Way.**—The method which has been used in the south with the best degree of success is a modified whip graft, originated by



Mr. Weinshank, of Whittier, and used by him with especially good success on nursery stock. This method is certainly a success on nursery stock, as he obtained on the average an 85% stand, and often almost a perfect stand. This method works well on trees five or six years old, where the limbs to be grafted are less than three inches in diameter. We tried some last year and every graft grew. At the same time Mr. McNees tried the method on old trees, where some of the limbs were fully five or six inches across, and also on sprouts on an old tree that had been cut back. The ones grafted in the sprouts nearly all grew, while in two of the older trees in the old wood none grew. In a third tree, also an old seedling tree, they all started but made little growth, due to the fact that the remaining two thirds of the limbs, which were left on, took all of the sap and nourishment. This tree bled but little, whereas the others, where none of the grafts grew, bled profusely and killed out the grafts. The bleeding of a tree will always be quite a factor in determining the time or season for top grafting.

The method employed by Mr. Weinshank, and used by him in nearly all of our experimental work this year, as regards walnut grafting, differs from a whip graft chiefly in that instead of cutting the stock clear across obliquely as in a whip graft, only a portion of the bark and wood on the side is cut away, enough to expose quite a layer of cambium. A lip is now cut in the stock by making a downward cut from the top between the bark and wood, usually a little into the wood, making a lip, so to speak, of wood cambium and some bark. The scion is cut the same as for a whip graft and so cut as to leave a bud near the lower end of the outside lip. This bud will help materially in starting growth, as it is virtually an individual with all the characteristics of the parent tree. The scion is left with two or three buds, and is usually taken from the base of last season's growth. Even two-year-old wood can be used, providing it has some good buds. The terminal buds are never used.

**Waxing.**—In grafting large limbs, sometimes as many as four grafts are placed in a limb, and these are then firmly tied by tightly wrapping string around the limb and seeing that it is placed on the outside of the scions, so as to hold them firmly against the stock. The grafts are now waxed, all the cut surface being waxed both on stock and scion, and especially the cut surfaces around the scion. We have used chiefly wax used largely by Mr. Leib at San Jose, made in the following proportion: Resin 5 lb.; beeswax 1 lb., linseed oil 1 pint, flour 1 pint. The flour must be added slowly and carefully after the other two ingredients have been boiled together and the liquid is partially cool. Mr. Neff used practically the same formula and substituted lamp-black for flour, either one of these being added to give plasticity; the wax, of course, being applied in liquid form to the wounds at the time of grafting. It is generally conceded in all operations of grafting, either walnuts or other trees, that it is desirable to have the sap of the stock a little more advanced than the sap of the scion, and consequently the practice of cutting the scions three or four weeks, or even earlier, before the time of grafting. The scions in the meantime are buried in moist, cool sand. However, a number of men have had good success in cutting the scions the day they were to be used.

We have extended our experimental work over a period of two months, from February first to April first, expecting to get some light on the question as to what is the best season for doing the work. The ideal time would seem to be just

before the sap starts and they can be grafted without having them bleed. When grafting after the sap starts the trees must be allowed some time to bleed out. If it should be proved that there is a period of two months during which time top grafting can be successfully practised, it would give one an opportunity to work over a number of trees during the season. While if there should be but two weeks or less, one would be extremely lucky to get many done during that period.

When top grafting we cut back the whole tree, to give all the scions an equal chance. We usually cut the limbs pretty well back, so that they will take not more than twenty-five grafts at the most, and leave from three to eight limbs to be grafted. If one were to go out and graft limbs where they are only two or three inches in diameter, the expense, time and amount of scions would make it impractical. The limbs must be cut twice to prevent their splitting down below the place where one wants to make the final cut. A second and final cut must nearly always be made on a very large limb, because no matter how one cuts it or how careful he may be, the great weight usually causes the limb to split down quite a long way. If a number of the limbs were left without being cut back, they would take all the sap and rob the scions of their share.

If one does not succeed in getting the desired stand this spring, there are still two more chances during the year. However, if one out of two, three, or four which are usually placed on a limb, grows, that one is all that is needed. If they all grew, it would give a chance for selection. The sprouts which are sure to grow out can be budded again in the fall, in case the grafts fail. If after these two trials there still remains some that have failed, the sprouts can be grafted the coming spring, and with every assurance that they will grow. In fact, it is a question whether or not it were more practical to simply cut back the trees this spring and graft the sprouts a year hence. The expense involved in the uncertain operation of grafting into old wood would be eliminated, and expense incurred only where there is every assurance of success.

Whether grafting into old wood or suckers by this method, all the scions must be tied with string, which string must be cut when the scions start growing. The growing grafts must be kept from breaking by being tied to lath or sticks nailed to the limbs.

There has been enough top grafting done this spring, at different times and by different methods, to give us more definite data for another year. It should show, too, the feasibility and practicability of grafting over old trees, as well as the best method, season, etc. If it does prove a success, there are a great number of seedling trees in the State, now bearing little or no walnuts to speak of, that can and will be made productive and commercially remunerative.

## The Field.

### ONION GROWING IN SOUTHERN CALIFORNIA.

Mr. S. J. Murdock of Westminster, Orange county, is an onion grower of long experience, and he recently prepared the conclusions therefrom for publication in the California Cultivator. We take a line of practical suggestions as follows:

Onion seed should be of the best possible strain of the variety intended to be grown, and strictly fresh, as it soon loses its vitality. An experienced person ought to be able to judge onion seed as

to age and vitality by inspection—bright color indicates new seed, while heavy, plump seed gives evidence of vitality—but for pure strains of unmixed varieties the purchaser will have to rely upon the grower and dealer. Poor seed has caused many a novice to quit the business in disgust, with a loss of time, patience, and money.

The onion top grows 15 to 24 inches high, according to the variety and the fertility of the soil. As the onion develops and the crop begins to mature, the stock or top dries or shrivels up near the bulb and falls over; this forms a ripe onion; but a portion of them, according to the purity of the seed used, will remain large and stiff just above the bulb. This constitutes a scallion or stiff-neck. The scallion, although good to eat, does not keep well and is unmarketable; it is an inferior product. Most all vegetables are susceptible of being bred up to a high degree of perfection, and the onion is no exception to this rule. If we should grow and select seed from scallions for a few years we would soon have a strain of seed that would grow scallions to a certainty. While on the other hand, if we would select the earliest and best shaped bulbs, with small necks, to propagate our seed from, and continue this careful selection from year to year, we would soon produce a strain of seed which would, with proper cultivation, grow a fine crop of well matured bulbs with a small percent of scallions. The unscrupulous grower will sell all of his marketable product, reset his scallions, and grow a crop of more than worthless seed, whereby the purchaser not only loses the cost of same but invariably his time and labor.

**Preparing the Seed Bed.**—In the preparation of the seed bed, the work should be done thoroughly, but not too deeply, especially for an early crop. The closer we keep the roots to the surface the earlier the crop may mature. The plot should be brought to the finest state of cultivation, as smooth and level as possible, and free from rubbish. The onion will succeed in a greater diversity of soil than is generally believed, but the more humus the better, as fertility is a natural adjunct to a satisfactory crop. I prefer, for a large crop of solid bulbs, a rather heavy soil, well drained, yet, for an extra early crop, would plant on rich sandy loam. The plot should be protected from heavy winds, and avoid all shade, as the onion is a lover of sunshine in all stages of its growth. Well subdued and thoroughly drained muck land offers every condition of success.

**Planting.**—Planting is generally done with a seed drill, of which there are several patterns. I find the Planet Jr. a reliable tool, and prefer the seed drill and wheel hoe as separate machines to the combined. I can do better work, especially with the wheel hoe, as it is lighter and more open in construction, which gives the operator a better view of his work, and besides you are not wearing out your seed drill while you are only using the wheel hoe.

Care should be taken to start the first row straight, as following rows are gauged by it. Not only are regular rows the pride of the practical gardener, but a great help in after cultivation—the straighter and the more equi-distant the rows the closer the operator can work with the wheel hoe. The closer the work is done the less hand-weeding will be necessary. The rows should be from 12 to 16 inches apart, according to the variety grown, the larger the variety the greater the distance.

On moist, heavy land, the seed should be drilled just deep enough to fairly cover. The lighter and looser the soil the deeper the seed should be planted to prevent drying out before striking root. If the soil is in proper condition to work,



# Always Proud of It Always Glad to Tell It Want Others to Know It

That's the truth about a man or woman who buys a **Tubular Cream Separator**. When people have the best there is they don't hesitate to say what they have, and you'll always find that when asked how he runs his dairy every Tubular owner says: "Why I have a TUBULAR Separator." He doesn't simply say: "I use a separator." Oh no! He knows the Tubular is the best and he wants you to know he had the good sense to buy the best. It's a pardonable pride. We all have it. Why shouldn't we?



## The Tubular

Built Better

Runs Better

Looks Better

Skims Better

Wears Better

Is Better

than any other cream separator. Ask the man who owns one.

We have been building cream separators for twenty-eight years right on the same spot; we know more about building cream separators than anyone else in the business, and we know the TUBULAR is the best that ever was built. Why shouldn't we be proud of it? Why shouldn't the farmer who owns one be proud of it? It's like a diamond ring; there's nothing better.

How about the fellow who has a "mail order," "catalog house" separator, or one of the back number "bucket bowl" machines so loudly advertised in the papers? What does he say about his cream separator? Does he speak up promptly and give the name of it? Not much; he just says: "I have a separator." He doesn't like to tell the name of it. He does not talk about it when he can avoid it. Twice a day when he tries to run it he says things about it that wouldn't look well in print, but he isn't anxious for his neighbors to know how badly he was soaked. He isn't proud. No indeed, he knows there isn't much for him to say.

**Which Will You Be •**  
**One of the proud, sensible ones**  
**or one of the other kind?**

You have a chance to be either but you can't afford to be in the second class. You cannot make a mistake in buying a TUBULAR. It's built and guaranteed by the largest cream separator factory in the world and the oldest in America. Wouldn't you like our new catalog No. 131. Write for it please.

## THE SHARPLES SEPARATOR COMPANY,

West Chester, Penna.

Chicago, Ill.

San Francisco, Cal.

Toronto, Can.

## DON'T BUY GASOLINE ENGINES

alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 16th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 16th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

## The Dairy.

### Alfalfa Silage and a Concrete Silo.

Those who look from the cars northward as the trains pass between Dixon and Davis are likely to see the cement silo of Mr. Fred A. Hutton adjacent to his home and dairy buildings. After such a view keener interest will be taken in the excellent account of his operations which Mr. Hutton recently prepared for Hoard's Dairyman, as follows:

I own a fine field of alfalfa, containing 20 acres, adjoining the town of Dixon, from which, by the aid of irrigation, I cut five crops in 1907. I built a silo last summer and put my last crop of alfalfa in silage. The silage was cut and stored the first week in November. On the 8th of December we began using the feed, and we were very much surprised to find but about six inches of mouldy silage on top. Under this layer of mouldy silage the preservation was most perfect, with the exception of about four inches in thickness round the walls of the silo for a depth of perhaps 18 inches, when the mould began to gradually disappear until at a depth of three feet the silage was good and sweet across the entire diameter of the silo. My silo is 12 feet in diameter and 30 feet in depth and the crop of alfalfa filled it, after settling, about half full. The mass of silage was very solid, however, and though we have fed 19 head of cattle and 60 hogs on it since, we yet have three feet of feed in bottom of the silo. We feed the cattle twice daily, giving each about 20 pounds at a feed, and the hogs, among which are a large number of pigs, 150 pounds for the herd daily.

Before putting the alfalfa in the silo I made a silage of four acres of yellow field corn, which he had just fed out when we began cutting our last crop of alfalfa. My cows ate the corn silage ravenously, but the alfalfa silage attains the best results. In connection with the silage I am feeding four pounds of middlings per day to each cow giving milk, and all the good alfalfa hay they will eat. I recently sent a sample of my alfalfa silage to the California Experi-

the firmer it is rolled the better. The right time to sow the seed varies with different varieties. To cover the entire year I have sown onion seed every month, and have been very successful in maturing my crops. However, the crop is not harvested at regular periods, as it requires warm dry weather to mature an onion crop.

As to varieties: For early market the New Queen and White Bermuda are best for this section, while the Early Reds are the main early crop for San Francisco market.

The former I consider the best early variety if properly grown. It is a clear white onion and a good shipper. It is a quick grower, a fair yielder, the best selling onion I ever put on the market. When I first put this onion on the market I could scarcely find a buyer, but when its superior qualities became better known, the trade gave it the preference over all others. For later crop the Australian Brown is the leading variety; is a fair yielder and the best keeper and shipper, while the Yellow Danvers is a good second.

**When to Sow.**—Sow the seed in September or October, quite thick, on a well prepared seed bed, and when the plants are from six to eight inches high, pull up and transplant on a well cultivated

and thoroughly cleaned plot of ground in rows 12 inches apart and plants three inches apart in the rows. I always cut off the tops so as to leave a stub about three inches long, and think it better to trim the fine roots some also, as it makes the transplanting easier and lets the soil pack closer around the plant.

The onion seed sold the last two or three years as White Italian, New Silver Skin and New Queen in many cases did not prove to be true to name, hence great dissatisfaction. This complaint was very general. For the early varieties plant sets or sow seeds from September 10 to October 20.

For late crops sow seed February 15, or as soon as possible after that date. If sown much earlier there will be likely to be a larger percentage of scallions, also more hand-weeding. On the other hand, if delayed too long, the yield will be perceptibly smaller. Put the rows 12 to 15 inches apart and sow from four to five pounds per acre. After seeding, thorough shallow cultivation is essential. Do not wait until the plants are up before beginning; from four to eight days will be proper, or when the seed begins to show signs of germinating, which can be ascertained by carefully brushing the soil from the drill row. I put

the curved hoes on my wheel hoe, with the straight ends of the hoes pointing inward and lapping about two inches, and hoe right over the rows, but not deep enough to disturb the seed. Right here, and in the after cultivation, will be seen the necessity of bringing the ground to the finest condition possible.

I find that it saves a great amount of hand-weeding by killing the weeds just starting to grow in the rows. When the onions are up sufficiently to follow the rows, I reverse hoes, with the curved ends next to the rows and just for enough apart so as to hoe as close as possible without cutting the young plants, by running the hoes astride the rows. This operation hoes both sides of the rows at one trip of the machine. Follow this by hand-weeding; this operation is best performed by the crawling process—that is, by getting down on hands and knees astride the row and pulling every weed in sight and loosening the soil around and between the plants; repeat this as often as any weeds are to be found, and under no circumstances allow the weeds to grow above the onions; at the same time keep the wheel hoe at work between the rows and as close as possible.



## Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

ment Station for analysis, but am not yet in receipt of their analysis. I thought they might be able to better balance my ration and give me still better results.

But returning to the matter of feeding the silage, I have to say for the benefit of those who claim bad odors, etc., to be found in milk from silage cows, that no sweeter and better flavored milk can be found than that produced in my dairy. The flavor common to milk from alfalfa fed cows has seemingly been eradicated by the use of the silage, and the color of the butter made from the cream is as perfect as that produced at the local creamery by the use of butter color. And my cows perform highly satisfactorily at the pail.

**Building a Concrete Silo.**—Now a word concerning my silo. I was induced to build a silo through what the Dairyman has had to say concerning such a silo structure and the value it is to a dairyman. My silo is built of concrete, eight feet in the ground and 22 feet above the surface. Below the surface the walls are two feet thick, and above ground they are one foot in thickness. Gravel, crushed basalt rock, sand, and cement were used in its construction. In the walls we used 11 complete circles of worn out light wagon tires, four cables made of 4 strands of No. 8 galvanized wire, besides a number of single strands of the same size wire. Standing upright in the concrete we placed at distances of two feet apart such junk as sickles from worn-out headers and mowing machines, and more wagon tires.

When finished the structure was plastered inside and out with a mixture of equal parts of fine sand and cement, and a small portion of well slacked lime. The walls are not real smooth, but sufficiently so that the silage settled very evenly. I have four doors, 20 by 24 inches, above the ground, the lower door being even with the ground, and the upper one two feet from the top of the silo. The openings have no casings. When building the silo we set in a wood frame made of 1½ by 12 in. lumber, the outside dimensions of which were 20 by 24 in., the desired size of the door. This frame was not nailed together, simply held together by the use of cleats which could be easily removed when the concrete had become hard enough to remove the frame. Completely around on the outside of the inner edge of the frame were fastened pieces of smooth lumber 1¾ by 2¾ inches.

This device made an offset, or rabbet in the door jamb, against which the door presses when in position. The dimensions of the rabbet, therefore, are 23½ by 27½ inches, 1¾ inches in depth at the centre of the door, top and bottom, deepening to about 2½ inches at the outer edges, on account of the curve of the circle

on inside of the silo. From clear surfaced redwood, 1¾ inches thick and 24 inches in width, we first cut a door to fit the rabbet, allowing the grain of the lumber to run lengthwise of the door. Then we cut a piece from the same material the size of the door proper, 20 by 24 inches, but turned the grain of the lumber crosswise of the door. This piece we bolted to the piece set in the rabbet, thus making a strong rabbetted door.

In the centre of the door, about four inches from top and bottom we inserted bolts ½ inch by 14 inches, threaded end out. These bolts project through pieces of 2 by 4 scantling 24 inches in length, which are placed across the outside of the opening and allow the doors to be drawn tight into the rabbetted section of the opening by simply drawing the nuts up tight with a wrench. Before placing the doors in position we made a gasket of three thicknesses of patent rubber roofing, which lays in the rabbetted section of the opening and renders the door air-tight. We used wood fibre plaster to shape the inside of the doors to the curve of the silo, first driving thickly into the surface of the door a large number of shingle nails, the heads of which acted as clinchers for the plaster.

Although I have used my silo but a few months, it stands as solid as the proverbial rock of Gibraltar and is without a crack. In this climate we have no rain from May first to about the first of November, and as the atmosphere during that period is very dry, the thermometer frequently reaching 90 degrees and above, it is doubtful whether a wooden silo would keep its contents satisfactorily after having passed through several such summers. The readers of the Dairyman may think I have made the walls of my silo thicker than necessary, but when we take into consideration the fact that we have here occasionally earthquake shocks that sometimes crack light and poorly built walls, it is obvious that lighter walls are not advisable in silo building in this section of the world. The chute of the silo opens into a room 12 by 20, the floor of which is cement. On this floor the silage is mixed with middlings preparatory to feeding. The whole structure stands at the end of a string of stationary stanchions built to accommodate 21 head of cattle, 3 feet being allowed for each animal.

The floor where the cows stand is 4 feet 8 inches wide, and is made of 2 by 8 pine plank. The floor has a slant of one inch to the gutter, which is made of cement, as well as the floor back of it. The gutter is 6 inches deep at the deepest point and 4 inches deep at the other end, being 24 inches in width and sloping to allow the liquids to gradually find their way to the outlet end. The floor back of the gutter is 4 feet wide and left rough. The manure is taken from the barn by means of an elevated carrier, which conveys it 100 feet from the building.

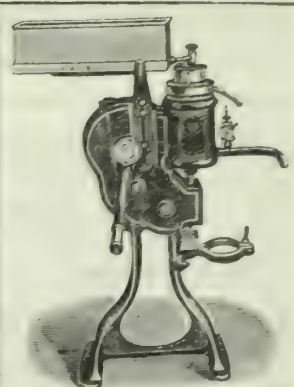
**The Irrigation Question.**—The soil in this section is a deep clay loam. For many years it has produced grain in great abundance, but fertilization having never been practiced, its worth for grain growing is rapidly disappearing and many farmers are turning their attention to the growing of alfalfa, to which the soil appears to be well adapted. Irrigation is accomplished by means of pumping plants. Ten and twelve inch wells are bored to a depth of

## BIG BUTTER CONTEST National Buttermakers' Association WON AS USUAL BY USERS OF DE LAVAL CREAM SEPARATORS

On March 11th, 12th and 13th there was held at Minneapolis, Minn., the big annual butter scoring contest of the National Buttermakers' Association. 504 of the best buttermakers in the United States competed in this contest, which makes the results especially interesting and important. The first prize was won by J. C. Post, Hector, Minn., with a score of 98%; the second prize by E. O. Blomquist, Center City, Minn., with a score of 97½%, and the third prize by G. P. Sauer, East Troy, Wis., with a score of 97%. All three of these victorious buttermakers, of course, use De Laval cream separators. This contest, as has every similar contest held within the past sixteen years, shows a complete victory for butter made from De Laval separator cream. A clean sweep of all highest prizes was made by De Laval butter at the big National Dairy Show held in Chicago last October, as well as at sixteen of the more important State fairs of 1907. Going further back, De Laval made butter received the Grand Prize at the St. Louis World's Fair, as well as the Grand Prize at the Paris Exposition. Invariably in these big contests more than 90% of the contestants who receive a score of over 90% on their butter have been found to be De Laval users. In hundreds of such contests the world over during the past twenty years, the superiority of the De Laval Separator over all others for making fine butter has been conclusively proven. A postal card will bring our handsome new catalogue illustrating and describing the new 1908 improved De Laval machines in detail, and affording a complete education in the production of the finest quality cream for making prize winning butter.

**DE LAVAL DAIRY SUPPLY CO.**  
108 So. Los Angeles St. LOS ANGELES  
42 E. Madison Street CHICAGO  
74 Cortlandt Street NEW YORK  
General Offices: 101 DRUMM STREET, SAN FRANCISCO.  
107 First Street PORTLAND, OREG.  
1016 Western Ave. SEATTLE  
Box 1052 VANCOUVER, B. C.

## FOR 16 YEARS THE BEST! STILL BETTER IN 1908 UNITED STATES Cream Separators.



The United States has always, since its introduction, separated more cream from the milk, and has done it more thoroughly and quickly than any other separator. The figures of the public national and international tests demonstrate this.

### THE 1908 MODELS HAVE IMPROVEMENTS

which make the handling of milk still easier, quicker and more profitable. They do their work more efficiently, more economically than any other, and are built to wear. In spite of the fact that the demand is greater than ever before, and that dairymen everywhere are exchanging other makes for the reliable and efficient United States, the standard separator, we are prepared to make prompt deliveries anywhere.

Write to-day for "Catalogue No. 148 and any desired particulars  
**VERMONT FARM MACHINE CO., Bellows Falls, Vt.**  
Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N. Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

**PROMPT DELIVERY ASSURED** CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

80 to 100 feet, and the supply of water is limitless. Centrifugal pumps driven by electric motors are used, the writer having an outfit consisting of a 7½ horse-power motor and a 5-inch pump which places 50,000 gallons of water per hour at our disposal at an expense of 19 cents. The alfalfa land is checked into plots measuring four to the acre. The land in each plot is leveled irrespective of its neighbor, and surrounded by a

levee varying in height from 10 to 14 inches. In irrigating the land the checks are filled with water to the top of the levee, and when the land has become sufficiently saturated the residue of water is drawn off into the next check, and so on until the entire field has received a thorough soaking.

The writer practices irrigation twice for each crop, about a week (Continued on Page 239.)



## The Home Circle.

### Waiting.

Serene I fold my arms and wait,  
Nor care for wind, or tide, or sea;  
I have no more 'gainst time and fate,  
For lo! my own shall come to me.

I stay my haste, I make delays,  
For what avails this eager pace?  
I stand amid the eternal ways,  
And what is mine shall know my face.

Asleep, awake, by night or day,  
The friends I seek are seeking me;  
No wind can drive my bark astray  
Nor change the tide of destiny.

What matter if I stand alone?  
I wait with joy the coming years;  
My heart shall reap where it has sown,  
And garner up its fruits of tears.

The waters know their own, and draw  
The brook that springs in yonder height;  
So flows the good with equal law  
Unto the soul of pure delight.

The flowerlet nodding in the wind  
Is really plighted to the bee;  
And, maiden, why that look unkind?  
For lo! thy lover seeketh thee.

The stars come nightly to the sky,  
The tidal wave unto the sea;  
Nor time, nor space, nor deep, nor high  
Can keep my own away from me.

—John Burroughs.

### The Old Cattle Ford.

The wide sands gleam, as in days of yore  
When the trail and its men were young,  
And the cowboys drove their thousands  
O'er  
From the bank where the dust cloud  
hung.

Again can I see the heads a-toss  
And the rolling of frightened eyes  
As the frantic creatures swim across  
To yon point where the dead tree lies.

I hear the shouts of the cowboys sound  
O'er the clashing of horn on horn;  
What if the shifting sands abound—  
Your trailman laughs Death to scorn!

But the picture fades as the train speeds  
on  
From the bridge to the peopled plain,  
Like a joyous day whose sun has gone  
And has left but a mist of pain.

—Denver Republican.

### Ma's Old Beau.

The frequent revelations concern-  
ing deed forgeries remind me of an  
incident that occurred a few years  
ago in the vicinity of St. Louis, that  
seems to me to be worth relating.

Clara and Mary Merwin, sisters  
and orphans, were in the sitting-  
room of their pleasant home on the  
edge of a village near the Missouri.  
Their mother had been dead several  
years; their father had lately died,  
leaving them an estate, as they sup-  
posed, of the value of forty thousand  
dollars. But they had learned quite  
recently that the property was en-  
cumbered to such an extent that  
they were likely to be deprived of it  
all. This discovery, as may be sup-  
posed, filled them with sadness and  
anxiety, and they were seated in si-  
lence, unable to read, to converse,  
to work, to do anything but brood  
over their great misfortune.

While they were thus occupied  
with sombre thoughts, a buggy drove  
up in front of the house, and a man  
alighted, and the buggy drove away.

The man must have been a little  
on the shady side of fifty, to judge  
from his gray hairs, although his  
face was fresh and unwrinkled. He  
was dressed with remarkable neat-  
ness, and his manner indicated brisk-  
ness as well as precision. In one hand  
he carried a small valise, and in the  
other an umbrella, and he stepped  
quickly to the door and rang the  
bell. In a few minutes he was ush-

ered into the presence of the young  
ladies.

"I am obliged to introduce my-  
self," he said, bowing in a courtly  
manner—"Abner Pierce. You will  
perceive that I am a lawyer in St.  
Louis, and presumably a respectable  
man. Don't be afraid; I am not here  
to hurt you, but to help you. I have  
the honor to call myself a friend of  
your family; that is to say, although  
it is a number of years since I have  
seen any member of said family, I al-  
ways had the highest possible regard  
for your now sainted mother, and  
nothing could please me better than  
to be of some service to her chil-  
dren."

"We are happy to meet you,"  
murmured Clara.

"Thank you—I happened to hear  
—no matter how—that you were in  
trouble, and have come up here in  
the belief that I can assist you. I  
hope you will feel that you can trust  
me. I am actually an honest man,  
although I may express myself clum-  
sily."

"I am free to admit," said Clara,  
that we need assistance and advice,  
and that we have not known to  
whom to look for it."

"Very well. It is a good thing, no  
doubt, that I have come. Now, sit  
down and tell me all about it."

Clara Merwin, who was the elder  
of the orphans, and the leader in  
everything, told how she and her sis-  
ter had taken out letters of adminis-  
tration upon their father's estate,  
when a man of whom they had never  
before heard put in an appearance  
and presented a mortgage, with a  
bond included, executed by the late  
Mr. Merwin, upon his real estate, for  
the sum of forty thousand dollars.  
Not contented with prohibiting them  
from selling anything, he had tied  
up their money in the bank, leaving  
them absolutely penniless. They had  
used their credit, but tradesmen were  
becoming impatient, and some had  
refused to supply them any further  
without pay.

"That is a bad case," said Mr.  
Pierce. "You need money—that is  
the first thing to be attended to.  
You must let me act as your banker  
until I get you out of this scrape,  
and that won't be long, I hope. How  
much do you owe?"

"More than a hundred dollars,"  
answered Clara.

The old gentleman counted out  
two hundred dollars from a well  
filled pocket-book and handed it to  
her.

"For your mother's sake," he  
said, when she refused to receive it,  
and he forced it upon her in such a  
way that she could not help taking  
it. He then accepted the young la-  
dies' invitation to make their house  
his home during his stay, and went  
to dinner with them.

"Is there any place where I can  
smoke?" he asked, when they had  
returned to the sitting-room.

"You can smoke here," said the  
impulsive Mary. "Pa always smoked  
here; and we are used to it."

So he took a meerschaum and  
some tobacco from his valise, and  
was soon puffing away with an air  
of great contentment.

"I can always think better when  
I smoke," he said. "Did you have  
any legal advice in the matter of  
that mortgage, Miss Merwin?"

"Yes, sir," replied Clara. "Our  
lawyer said that it was a plain case  
against us, although it was strange  
that we had not heard of the mort-  
gage before."

"Very strange. What is the name  
of the man who holds it?"

"Alexander Campbell."

"Hum. A good name, but a bad  
man, I am afraid. When and where  
can I see him?"

"He will be here this afternoon,"  
answered Clara. "He proposes, if  
we will make him a deed of the real  
estate, to give us the bond and mort-  
gage, leaving our money in the bank  
and the rest of the personal prop-  
erty."

"Very liberal. Introduce me to  
him when he comes, as an old friend  
of the family, and not as a lawyer."

Mr. Alexander Campbell called in  
the course of the afternoon, and was  
made acquainted with Abner Pierce,  
at whom he looked suspiciously; but  
his eyes fell when he met the pierc-  
ing gaze. Mr. Pierce glanced but  
slightly at the deed that was offered  
for the consideration of the ladies,  
being occupied in studying the coun-  
tenance of the man in whose favor it  
was drawn.

"I can't decide upon it, just now,"  
he said at last. "As the friend of  
these young ladies—standing, as I  
may say, in loco parentis—I must  
make a few inquiries concerning the  
value of this property. Suppose you  
come up after supper, Mr. Campbell,  
and suppose you bring that mort-  
gage with you. I have no doubt it  
is all correct, but would like to see  
it."

Mr. Campbell assented to this, and  
withdrew. Abner Pierce filled his  
pipe with nervous haste, but also  
with tobacco, and Mary brought him  
a light.

"I know that you have some good  
news for us," she said. "I can see  
it in your face."

"Not bad, my child. I hope and  
trust that it is very good. A good  
name, but a bad man, I said, and I  
said what is true. I think I see my  
way out of this difficulty, and the  
money that I lent you is safe. But  
you mustn't interfere with me,  
young ladies, or be surprised at any-  
thing I may say or do, or object to  
it. You must trust me, and let me  
work in my own way."

After supper, when Abner Pierce  
had enjoyed another comfortable  
smoke, and had conversed with the  
girls concerning their mother as he  
had known her in her youth—a sub-  
ject upon which he grew quite elo-  
quent—Alexander Campbell came  
in, bringing the deed and mortgage,  
both of which he handed to Mr.  
Pierce for examination.

"I have made inquiries concern-  
ing the property," said the gentle-  
man, "and am satisfied that it is not  
worth more than the amount of the  
mortgage, and it would probably  
bring much less if sold at foreclos-  
ure. Your offer is a liberal one; but  
I must look at the mortgage. This  
appears to be correct," he continued,  
when he had examined the instru-  
ment. "It is properly acknowl-  
edged, and the signature is undoubt-  
edly that of Philip Merwin. I sup-  
pose the young ladies will have to  
go to the county seat to execute the  
deed."

The girls' countenances fell at this  
sudden surrender on the part of  
their champion.

"This reminds me," said the old  
lawyer, picking up the mortgage  
again, "of an occurrence that fell  
under my observation in Tennessee.  
Not that the two cases are alike, as  
the Tennessee case was undoubtedly  
a fraudulent affair; but there was a  
similarity in the circumstances.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a  
full corps of teachers for all departments in the  
English branches, Latin, Greek, and the Modern  
Languages, also accredited by the University of  
California, Leland Stanford Junior University,  
and by Eastern Colleges.

Special attention is given to lessons in elocu-  
tion, singing, the violin, the piano, and to draw-  
ing and painting.

Lectures are given by professors from the Uni-  
versity of California, and a course of study for  
High School graduates and for young women  
who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July  
for boarders, under the care of the house man-  
ager. A summer school will also be maintained  
by one of the teachers.

Don't look so downhearted, young  
ladies. What will, must be, and it is  
useless to cry about what can't be  
helped. As I was about to say, a  
man died in Tennessee, leaving a  
widow and one daughter. The wid-  
ow was about to administer upon his  
estate, when a man who was un-  
known came forward and presented  
a mortgage similar to this, and for  
exactly the same amount. It was ex-  
amined by lawyers who were famil-  
iar with the signature of the de-  
ceased, who pronounced it correct.  
Though there was something strange  
about the affair, they could find no  
flaw in the instrument. It was par-  
ticularly puzzling to one of them,  
who thought that he had transacted  
all the law business of the deceased.  
He got hold of the mortgage and  
brought it to me when I was in Nash-  
ville. I happened to have in my pos-  
session a very powerful magnifying  
glass that had been presented to me  
—the most powerful single lens I  
had ever seen. With this I exam-  
ined the mortgage and soon discov-  
ered that 'forty' had been raised  
from 'four.' There was no mistake  
about it. I could easily see the marks  
of chemical erasure, and the differ-  
ence in pen and ink, between the  
'raised' and the rest of the instru-  
ment. How the rascal got into the  
Register's office, I don't know; but  
the record had been altered in the  
same manner. He ran away, and it  
was not considered worth while to  
follow him. Strange circumstance,  
wasn't it, Mr. Campbell?"

Mr. Campbell was fidgeting uneas-  
ily in his chair, and made no reply.

"Here is the glass," continued the  
old gentleman, taking it from his  
pocket, "and you can see for your-  
self how well it magnifies. Now, as  
I look at this 'forty'—why, bless me!  
the same signs are visible that I saw  
in my Tennessee mortgage! I think  
you will be obliged to drop this, Mr.  
Campbell. My Tennessee man's name  
was Alexander Bell, and he has add-  
ed a 'Camp' to it since he came to  
Missouri."

Campbell, his face red as flame,  
reached out his hand for the docu-  
ment.

"I believe I will keep this, Mr.  
Campbell, for fear of accidents.  
What! do you think you could take  
it by force? Here is something that  
shoots five times. Going, are you?  
Very well; I don't think that you  
will be molested, if you will leave  
this part of the country and never  
return to it. It is barely possible  
that the estate of Philip Merwin may



really owe you four thousand dollars. If so, I advise you not to try to collect the debt, as such an attempt would land you in the penitentiary. Good night, Mr. Campbell, and farewell.

"What is it? What does it mean? Why, the fellow is a swindler, and has been found out. I guessed as much when I heard of the affair, and was sure of it when I heard his name. You will soon be able to pay me my two hundred dollars, and then we will straighten up matters. Thank you, Mary, you are very kind to give me a light."

"Do you mean to punish him?" asked Mary.

"It would hardly pay. We could put him in the penitentiary, but you might lose four thousand dollars by the job. By trying for forty thousand, he has lost the four that may have been justly his due. He will be far from here by morning."

The girls were sure that a great weight had been lifted from their minds and hearts. Alexander Campbell, alias Bell, decamped, and Abner Pierce stayed a week with the orphans, during which time he arranged all their affairs satisfactorily and won their lasting gratitude and love.

"How can we ever thank you for all you have done for us?" said Clara, when he was about to leave.

"It's for your mother's sake, my child. And for her sake, if I can ever help you, all I have is at your service."

Abner Pierce has visited the orphans frequently since the event above narrated, and they have always had a cordial welcome for "ma's old beau."—Carl Brent.

#### The Point of View.

A hen had raised a splendid family of sons and daughters of which she was justly proud. On one occasion, upon returning home she found her daughters in a lachrymose state over the sudden and untimely demise of a brother, who had been decapitated to feed a hungry minister. Whereupon the daughters were reprimanded and informed that instead of tears they should be proud and joyful over the knowledge that their brother had entered the ministry, inasmuch as he would never have made a successful lay member.—Portland Oregonian.

#### Chaff.

She—Why have you never married? Don't you think two can live as cheaply as one?

He—Perhaps, but not as peaceably.

"Justin," said Mrs. Wyss.

"Yes," replied Mr. Wyss.

"Will you speak a kind word to Fido and make him wag his tail. He hasn't had one bit of exercise all day."

Betty—That case hasn't come on yet. Isn't the law's delay maddening?

Cissie (absent-mindedly)—Perfectly frightful! I've been six months getting that young barrister to propose!

The Lady—Is he a thoroughbred?

The Owner—Thoroughbred is ut? Shure, mum; his pedigree is thot long thot if he wuz a human bein' he'd be wan o' the crowned heads o' Europe.

#### Historical.

Probably the oldest minister of the Gospel in the world is the Rev. John Shaeffer, who recently celebrated the 102d anniversary of his birth at North Benton, O. For 60 years Mr. Shaeffer has preached each Sunday.

Three young sons of Prince Frederick Leopold of Prussia, nephews of the Kaiser, have gone to the manual labor training school at Gross-Lichterfelde to take a course in practical mechanics. This is in accordance with an ancient tradition of the Hohenzollern house. The eldest boy, Prince Frederick Karl, who is 17, is learning the locksmith's trade, and his younger brothers, 15 and 13, are being taught cabinet-maker's work.

Banks were of Venetian invention, and the first was established about 1150, to assist in the transaction of a loan, and called "The Chamber of Loans." The plan was carried by the Venetians into foreign countries, and the projectors being called Lombards, they gave name to the great banking street in London. Its celebrity led to the establishment of similar public banks at Barcelona in 1401, at Genoa in 1407, at Amsterdam in 1609, in London in 1694, at Edinburgh 1695, and at Paris 1715.

A jail of Washington's time would not be tolerated now. Lunatics were whipped and sewed up in strait-jackets. The deaf and dumb received no help. The feeble-minded were sent to the poorhouse. So terrible a place was the poorhouse that to this day people shudder at the thought of being obliged to close their lives there, though now the county house is usually a comfortable home. Undoubtedly life in America from 1776 to 1800 was in many ways coarse and less humane than it is today.

What is said to be the largest carpet ever made at Aubusson has been received at Hotel Heurice. It measures 36x23 feet, took 20 women six months to complete, and cost 15,000 francs (\$3000.) It has been placed in the Louis XVI. salon of the Carnavalet Museum which has just received a unique historical collection bequeathed to it by Mme. Blavot, consisting of various articles used by Louis XVI. and his family when they were incarcerated in the Temple prison, comprising the locksmith's tools with which the monarch worked while in jail; Queen Marie Antoinette's counterpane and toilet table, with her mirror, a game of lotto which beguiled the Dauphin's imprisonment, and Mme. Adelaide's bed, with a chintz covering in Louis XV. style.

One of man's best friends, says Prometheus, will have a 250th birthday some time in 1908. The day cannot be fixed when the lead pencil was first used, but all signs, all records show that it was just about 250 years ago that the useful article was invented. The "præductal" of ancient Rome, which was a leaden disk used to draw lines, was undoubtedly its progenitor. In the 14th century lead and silver points were used in Italy, but employed exclusively by artists. For the sake of cleanliness these were encased in wood and became the first lead pencils, but the pencil similar to those of the present day came after the discovery of graphite, in 1665. The first German pencils were made in Nurnberg, where there are now 30 pencil factories, which turn out about 800,000,000 pencils every year.

#### Rheumatism.

If a man has rheumatism he should let a bee sting him, says a modern healer. As soon as spring and the anemone memorosa come, the rheumatic man should go the country, find a nice dandelion field and get stung. There is no trouble about getting stuck full of javelins. The average bee does not wait until salt is put on his tail and his temper roiled by teasing before he gets down to business. A bee is always mad. All you have to do is to back up to him and look cross.

#### Household Hints.

If the color has been taken from silk by acids it may be restored by applying to the spots a little hartshorn or sal volatile.

Before ironing any woolen garment add to the water one handful of salt, and see how much softer it makes the garment.

To keep silk or glazed thread from slipping from the spool too fast when on machine moisten the thread on the new spool before using.

Soup should never be allowed to cook in any vessel of tin, copper, or iron; it must be poured while hot into a shallow, well-glazed earthen pan and be stirred.

Put a teaspoonful of kerosene in the starch or borax; either keeps the irons from sticking, and borax will give white things that new and ivory appearance.

However badly soiled window shades may be, if they are sponged with a cloth wet with kerosene and rubbed dry with a clean cloth, they will come out like new.

By soaping seams in starched goods the machine needle will go through the cloth easily without cutting thread. In doing hand sewing pass soap over the seam. One can do much finer work more easily by soaping the goods.

When sprinkling linen for ironing, it is better to use hot water than cold, for it soaks into the linen more quickly, and so much is not required. When the clothes are dampened, roll them up tightly until they can be ironed.

Wash and starch doilies having knitted or crochet lace borders. When they are half dry wrap them up in a cloth and lay them aside. Iron only the centre of the doilies and pull the lace gently into shape with the fingers.

Fresh stains upon wall paper, where people have rested their hands, can be removed by covering the spot by a mixture of pipeclay and water made into soft paste and letting it remain over night; then brush off with a stiff whisk broom.

If one has a rug that is too small for a room and the floor is not sufficiently well finished to leave uncovered, take a strip of plain ingrain wall paper, paste it on the floor next to the wall, and then varnish. It will make a pretty border for the room and does not cost much. It will not rub off.

Gilt picture frames may be freshened and brightened by washing them with a soft brush dipped in the following mixture: Put enough flour of sulphur into a pint of water to give it a yellow tinge, add two onions cut into pieces, and let them boil; strain into a dish, and when the liquid becomes cold it is ready for use.

Brooms and scrubbing brushes that have seen better days can be converted into excellent mop sticks. Saw off the broom-corn and use this for kindling; nail onto the flat end of the scrubbing brush. I prefer this to the patented ones, for you are spared the labor of continually unfastening and replacing the scrubbing cloth when ringing out.

When the hinges of the door creak uncannily apply a little kerosene to cut the rust, then sift in the cuttings from a lead pencil or some stove polish, or a few drops of some oil that will not get gummy. For a bureau drawer that threatens to involve the use of profanity to open or shut, rub the sides and edges with common laundry soap. The bed slat that groans with every movement of the sleeper can be silenced with rubber bands or a bit of felt covering the ends. For a rattling shutter push a large spool under the rod that holds the slats together and drive wooden toothpicks into the sockets where slats are loose.

A man with a dreamy disposition makes about as poor a husband as he was an ideal lover.

#### The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

PACIFIC COAST BUSINESS COLLEGE  
SAN JOSE, CAL.

#### In German Africa.

A Dresden paper, the Weidmann states, that among the Hottentots (Hottentoten in German) the kangaroos (Beutelratte) are found in great numbers. Many of them wander over the country, free and unmolested; others less fortunate are taken by hunters and put into cages (Kotter), provided with covers (Lattengitter) to keep out the rain. These cages are called in German Lattengitterwetterkotter, and the kangaroo, after the imprisonment, takes the name of Lattengitterwetterkotterbeutelratte. One day an assassin (Attentaeter) was arrested who had killed a Hottentot woman. Hottentotmutter, the mother of two stupid and stuttering children in Stratterrottel. This woman, in the German language, is entitled Hottentottenstraettertrottelmutter, and her assassin takes the name Hottentottenstraettermutterattentaeter. The murderer was confined in a kangaroo's cage—Beutelrattenlattengitterwetterkotter—whence a few days later he escaped, but, fortunately, he was recaptured by a Hottentot, who presented himself at the Mayor's office, with beaming face.

"I have captured the Attentaeter," said he.

"Which one?" replied the Mayor.

"We have several."

"The Attentaeterlattengitterwetterkotterbeutelratte."

"Which Attentaeter are you talking about?"

"About the Hottentottenstraettertrottelmutterattentaeter."

"Then why don't you say at once the Hottentottenstrattelmutterattentaeterlattengitterwetterkotterbeutelratte."

The Hottentot fled in dismay.

#### Domestic Recipes.

OLD TIME CRULLERS.—Mix two cupfuls of sugar, four eggs and cupful of sweet milk together. Use two scant teaspoonfuls of baking-powder sifted through enough flour to make a smooth paste. Roll hard and thin and cut into pieces about three inches square. In each piece make four incisions. Twist these into fancy shapes. Fry in hot lard.

APPLE SAUCE CAKE.—Beat to cream one cupful of sugar with one-half a cupful of butter. Add one cupful of apple sauce, which has been strained and had one teaspoonful of soda stirred in it. Add one cupful of seeded raisins, one teaspoonful of cinnamon, one-half teaspoonful each of cloves and nutmeg and one and three-fourths cupfuls of flour. Bake in moderate oven.

COFFEE FRUIT CAKE.—Mix one cupful of brown sugar with one egg, beat for a few minutes, then add one cupful of molasses and a tablespoonful each of cinnamon and grated nutmeg. Take the seeds from one pound of raisins and mix them in three cupfuls of sifted flour, adding also one-half a pound of currants, one-quarter pound of shredded citron. Add flour and fruit to the other ingredients, alternately with one cupful of strong coffee in which one-half a teaspoonful of soda has been dissolved.

RAISED DOUGH CAKE.—Cream together one large cupful of sugar and one-half a cupful of butter. Add one beaten egg and mix well. Then take one pint of light bread dough and one level teaspoonful of baking-powder and beat with the hand until soft and white. Sprinkle in a little grated nutmeg and half a wineglassful of wine. Flour one cupful of stoned raisins and sliced citron and stir in lightly. Bake one hour or more in slow oven. This cake is better a day or two after baking, and will keep quite a time if uncut.



## Entomological.

### Spring and Summer Spraying.

By W. H. VOLCK, Entomologist of Santa Cruz and Monterey Counties.

The spring and summer spraying treatments are applied after the trees have come into foliage, and care must be taken to use only such materials as will not damage the leaves.

Materials which are effective against plant pests and yet will do no injury to the expanded foliage have proved difficult to prepare. In fact, such materials have not been discovered for the control of all orchard pests, but we are thankful to say that the most serious of them can now be held in subjection.

The first insects to appear on the fruit trees are the caterpillars. These caterpillars are of three kinds—the tent caterpillar, canker worm, and the tussock caterpillar. The caterpillars, with the exception of the tussock caterpillar, are readily controlled by spraying with arsenate of lead. Arsenate of lead used at the rate of 1 pound to 50 gallons of water will completely control the tent caterpillars, and 2 pounds to 50 gallons produces a similar result with the canker worm.

All varieties of trees can be freed from these caterpillars, and without danger of injuring the foliage, provided a good grade of arsenate of lead is used. The spraying should be done as soon as the work of the caterpillars is noticed. The application should be thorough in the case of canker worms, but can be more lightly applied if only tent caterpillars are present.

The tussock caterpillar will not be killed by arsenate of lead spraying. To control this insect the eggs must be thoroughly picked from the trees before they have hatched. If this egg picking has not been thorough, and the caterpillars appear in destructive numbers in the spring, the only way now known to combat them is by beating the trees and applying a sticky band about the trunks to prevent re-climbing. This band should be composed of a slowly drying material, but care should be taken to use nothing which might injure the trees. Pine tar and tanglefoot preparations are the best. Tanglefoot may be prepared by melting resin and castor oil together. Prepared tanglefoot preparation can also be purchased, and is usually better than any made by the growers.

The caterpillars should be killed as fast as they collect under the bands.

**THE BLACK SCAB ON APPLES AND PEARS.**—The scab is a fungous disease and makes its first appearance soon after the blossoms fall. The disease then continues to spread as long as the spring showers last, but becomes less dangerous when the drier weather of summer sets in. The first attack of the scab may not be serious, but last season much damage was done by this early infection. The White Winter Pearmain suffered most, in many cases losing the entire crop as a result of the scab attacking the young fruit stems. This was in marked contrast with the season of 1906, when the first scab attack did little damage, but those occurring in May were very destructive.

**SPRAYING FOR THE SCAB.**—Spraying with the Bordeaux mixture is a perfect remedy for the scab. Results from Bordeaux are certain provided the application is made in time—that is, the spray must be on the trees before the spores of the fungus have germinated. Under the conditions prevailing in 1906 Bordeaux applied in May along with the first codlin moth sprayings entirely prevented the disease, but this time of spraying was in many cases too late in 1907. The experience of last year has shown that, in order to be sure of the scab, the early attack must be sprayed for.

The early attack of the scab is prevented by spraying just before the blossoms open. If for any reason the trees cannot be sprayed just previous to

the opening of the blossoms, apply the Bordeaux while they are in bloom. A few blossoms may be injured, but not to a serious extent.

The time allotted to the first scab spraying is short, and the orchardists should be ready to take advantage of it. A few of the blossoms will have opened and the great majority will be just ready to burst into bloom.

**THE BORDEAUX FORMULA.**—For the first scab spraying use 5 pounds of bluestone and 6 pounds of lime to 50 gallons of water (see paragraph on the method of preparation).

**THE SECOND SCAB SPRAYING.**—Two sprayings with the Bordeaux mixture should be given to insure good control of the scab, and then the apples should be carefully watched to determine the result. If any scabbing is noted a third application should be given.

The second spraying is applied along with the first application for the codlin moth, and the Bordeaux formula should be 3 pounds of bluestone and 4 pounds of lime to 50 gallons of water. If the first spraying has not been applied, use the 5-6-50 formula.

The two sprayings above mentioned will control the scab on the Newtowns and most other apples. Pears and White Winter Pearmain apples should receive three applications—one when the fruit has attained the size of marbles. The Winter Nelis pear is subject to the scab, and has not fruited well for several years, largely on this account. With this variety it may be well to give two sprayings with the Bordeaux mixture before the blossoms open. The first spraying should be just as the blossom clusters are unfolding, and the second, as with other varieties, just before the blossoms open.

All applications for the scab, as indeed for any other kind of spraying, should be thorough. Spray the tops of the trees well.

**THE LIME-SULPHUR SOLUTION AND THE APPLE SCAB.**—There is considerable discussion concerning the possibility of controlling the scab with the lime-sulphur spray, and there is good evidence to show that it will prove effective. Perhaps one spraying just before the blossoms open might entirely control the disease. It must be remembered, however, that the use of this spray as a scab remedy is in the experimental stage, and the orchardists should go slow for the present.

For the purpose of scab control the solution should be used at a much reduced strength, from 1 gallon in 15 to 1 in 20 gallons of water. The lime-sulphur solution will do no injury to the trees when applied just before the blossoms open, but is likely to cause the falling of leaves if used after the fruit sets.

**CAUTION.**—The lime-sulphur solution should never be mixed with arsenate of lead. Such a mixture results in the decomposition of the arsenate of lead, making it very injurious to the trees.

**THE CODLIN MOTH.**—The codlin moth is a constantly present enemy of the apple, and to a lesser extent of pears. There are two broods of this insect in a season. The first brood develops from worms that have wintered over in protected places both above and in the ground. The moths of the first generation begin emerging in April, but very few eggs are laid before the middle of May. In this locality egg-laying is then continuous until the last of June.

The full-grown worms of the first generation after emerging from the apples seek some hiding place where they may rest for a few days, transforming into pupa and then into full-grown moths.

The moths of the second generation begin laying eggs early in August and may continue to do so as late as October or November. It is the worms of the second generation that do the greatest amount of damage.

The codlin moth lays its eggs on the surface of the leaves and fruit. The eggs are about the size of a small pinhead, circular and flat. The color

# BEEF SCRAPS RAW BONE

Guaranteed 65 per cent Protein

Guaranteed 25 per cent Protein and 45 per cent Bone Phosphate

PURE ANIMAL MATTER

# POULTRY FOODS

Write us for price list and samples; they are free.

We want you to see the kind of Poultry Foods that are manufactured from CLEAN, RAW MATERIAL. This means HEALTHY ANIMAL FOODS for your poultry.

## Western Meat Company

6th and Townsend Sts., San Francisco.

### SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Sublime Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment for bleaching and spraying.

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4386.

varies from white to pink and red. These eggs are easily seen when the observer knows what to look for.

The young worms hatch from the eggs about ten days after laying, and then begin crawling about in search of fruit into which to burrow. This short period between the hatching of the egg and the entrance into the apple is the only time that spraying operations can prove effective. It is clearly impossible to accomplish anything by the use of sprays that will only kill by contact, for such sprays would have to be applied nearly every day. The spraying operation must then leave a deposit of some substance on the fruit that will kill the worms when they attempt to burrow through the rind. The only substances now known that answer these requirements are the compounds of arsenic. For this reason compounds containing arsenic are exclusively recommended for the control of the codlin moth. Arsenic is, however, poisonous to plants, and must be applied with caution. The arsenic compound used must be entirely insoluble in water, and not subject to weathering, in order that it shall be perfectly safe. The wet fogs of the Pajaro valley summers give arsenical spray compounds a very severe test and it has been found that only the best quality of arsenate of lead is able to stand it. It must be understood in this connection that arsenate of lead may do very severe burning if it is not of the proper quality.

Given the arsenate of lead of proper quality, it is a simple matter to obtain very complete control over the codlin moth. Attention has already been called to the fact that the poison must be present on the surface of the fruit before the young worm attempts to enter. The spray deposit must also be present as far as possible at the precise spot chosen for entrance. It is a well-known fact that a large percentage of the worms of the first generation enter at the blossom ends of the apples. This part is protected or more or less closed over by the leaves of the calyx.

The calyx cups close very shortly after the petals fall, and so it is advised by the best authorities to spray as soon after the falling of the blossoms as possible in order to leave a deposit of poison there.

In the Pajaro valley and adjoining sections weather conditions often prevent spraying at this time; but where possible to apply, the calyx cup spraying is advised.

Good results have been obtained here by spraying in the early part of May, which is considerably after the calyx

cups have closed. Spraying at this time gives much the same effect as the calyx cup application, especially where it is applied with proper thoroughness.

It should be understood that this early spraying is applied before any worms have appeared and is intended merely to have the poison in readiness for the insects when they do come.

The first codlin moth spraying should contain Bordeaux mixture as a precaution against the scab as follows:

Bordeaux mixture—Copper sulphate 3 pounds, lime 4 pounds, water 50 gallons. (Use the 5-6-50 formula if no scab spraying has been done.)

Arsenate of Lead—Use 2½ to 3 pounds of arsenate of lead to each 50 gallons of Bordeaux.

The Bordeaux mixture should be prepared first, and enough space left in the tank to allow for the addition of the arsenate of lead and the water required to mix it.

This spraying, like all other sprayings, should be applied very thoroughly (see paragraph on spraying a tree.)

**THE SECOND CODLIN MOTH SPRAYING.**—The second spraying for the codlin moth should be applied from the last of May to the first ten days in June, and is intended to augment the effect of the first spraying by further covering the rapidly expanding fruit.

For this spraying use 2 pounds of arsenate of lead to 50 gallons of water. Spray the trees thoroughly (see paragraph on spraying a tree.) No Bordeaux should be used with this spraying, for the previous sprayings containing Bordeaux will have controlled the scab, and the further use of the fungicide is likely to russet the apples.

**THE THIRD SPRAYING FOR THE CODLIN MOTH.**—Very few eggs are laid during July, so if the second spraying has been applied about the first of June, it should suffice to control the first generation attack. The second generation worms begin to appear about the first of August, so a spraying is due at this time.

For this (the third) spraying, use 2 pounds of arsenate of lead to 50 gallons of water. Spray thoroughly (see paragraph on spraying a tree.)

**THE FOURTH SPRAYING FOR THE CODLIN MOTH.**—If the apples are to remain on the trees through September they should receive another spraying about the first of this month.

For the fourth spraying, if the other three have been applied according to directions, use 1½ pound of arsenate of lead to 50 gallons of water.

The schedule of sprayings above laid



out should control the codlin moth under average conditions, and even where the insect is extremely abundant should yield 95% clean fruit. If another spraying is added, it should be applied between the first and second applications, spreading these so they will be three weeks apart. Such a schedule will be even more certain of results than the four sprayings.

The codlin moth is much affected by weather conditions, and, if there is a large amount of cold fog during the summer, the damage from this cause will be much reduced. Last season proved more favorable for the codlin moth than for two years past. Wintering-over conditions have also been good, so we may expect a generous first brood, and much damage will be done unless the orchardists enter into the control work with a determination to thoroughly apply all the sprayings.

## AGRICULTURAL REVIEW.

### BUTTE.

The many hundreds of acres of orchards in the vicinity of Chico are now a mass of blossoms, and fruit men are rejoicing in the prospects for a record-breaking crop the coming season. The trees are loaded with blossoms, and it is forecasted that should a heavy rain come the prospects would be but little injured, for the reason that if only one out of ten blossoms on each tree is fertilized there would yet be enough to assure a heavy crop. Only a cold driving rain, followed by freezing weather, would materially damage the blossoms. Nearly all of the almonds have passed the blossom stage and the outlook for a profitable crop is excellent.

William Looney of Biggs is planting 15 acres of rice. It was sown two weeks ago and is now well sprouted. It will be flooded by water taken from the Butte County Canal. The Department of Agriculture has sent a number of small sacks of cotton seed for test planting, and a number of farmers have taken some of the different varieties to test and see if it is adapted to this section.

### EL DORADO.

The extracting of honey is in progress in the vicinity of Rescue. The bees have been working on the manzanita and the hives are filled to their full capacity, some weighing fifty pounds or more. At this season the amber colored honey is taken out, so that the hives can be cleaned before the water white honey comes in, as one would spoil the color of the other, making it unfit for bottling. There are good prospects for a large crop of honey this season.

### FRESNO.

At a meeting of the largest vineyardists of the county held recently, at which 10,000 acres of wine and raisin vineyards were represented, it was decided to call a mass meeting of vineyardists to take steps preliminary to the forming of a State association for the protection of the vine industry. M. F. Tarpey, who was chosen temporary chairman, stated that while the object of the organization will be the protection of the raising, shipping and wine industries in general, an important work will be the advocacy of temperance as against prohibition. He states that the time has come when the vineyardists of the State must protect their interests, otherwise they will be prohibited by legislation. The organization will urge that wine is a stimulant, not a strong drink, and

that the progress of temperance will be best aided by the preservation of the industry. It is the intention to call preliminary meetings all over the State.

### KERN.

A big band of sheep-shearers at work on the sheep-shearing machines near Bakersfield went on strike recently and refused to shear for less than 9 cents per head. They had been receiving 7 cents. The demand will not be met, and the strike will undoubtedly do away with the machines for this year. It is said that there are plenty of men ready to shear by hand at 7 cents per head. The French merino sheep are what caused the trouble, it being claimed that these sheep are so much harder to shear that it is impossible to make wages at the present rate. There are about 75,000 sheep yet to shear in the Bakersfield country.

### KINGS.

The Maple Grove Creamery and the Kings County Creamery will be consolidated. The Kings County Creamery has steadily advanced until the plant has reached its limit at the present quarters, and was manufacturing about 900 pounds of butter per day. During the time that the creamery has been under the present management the price on an average, it is said, has been more than that paid by any other creamery in the county, and a sample of the product of the Kings County Creamery carried off first prize at the State fair. The output of butter per day from the consolidated plants will be above a ton.

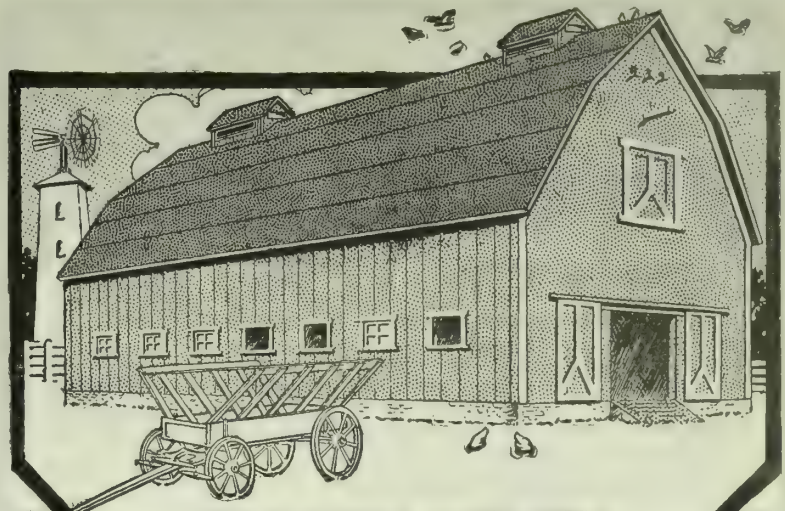
### NAPA.

A recent Vallejo dispatch says a new pest among the pear trees, in the form of an insect, has put in an appearance within the past few days in the Suisun valley, and is working a great deal of injury on the pear blossoms. Several of the prominent orchardists are of the opinion that it is the same pest that worked its ravages on the pear trees of Santa Clara valley last year. The insects destroy the fruit while in the blooming stage, and as yet no spray has been found to stay its destructive work.

### PLACER.

Newcastle advices state that the fruit crop in Placer county promises to be the largest ever known. Apples, pears, peaches, and plums all promise a heavy yield, the trees being covered with blossoms. Peaches and plums are so far matured that the growers feel they are out of danger of damage from cold spring rains that may be experienced. Shippers estimate that 2000 cars will be required to handle the fruit crop of Newcastle this season. The principal subject to worry the producer at this time is that of transportation of the crop when it is ready to ship to market. Last summer, with less than half a crop, there was a great shortage of cars.

The engineer of the Fruit Express has the complete detailed blue-prints of the great pre-cooling and icing plant to be put in at Roseville, which will cost over \$300,000. The main building will be of reinforced concrete. There will be 20 funnels, that 20 carloads may be pre-cooled at one time. The ice machinery will have a daily capacity of 150 tons. An enormous amount of water will be required, the engineer stating that when the plant is running at full capacity between 1000 and 1200 gal-



## 'Tis Roofed with REX and All is Well

The man who has his buildings covered by REX Flintkote ROOFING can feel that "all is well." The contents of his buildings are protected by roofs through which water cannot penetrate, that winds cannot blow off, that falling sparks cannot ignite. Furthermore, he has lasting protection, for

## REX FLINTKOTE ROOFING

is durable. REX ROOFING is good all through. Its body is high grade, long-fibre wool felt, heavy, dense and durable; the saturation or water-proofing is slowly worked in until the body is thoroughly impregnated with it—REX saturation will never dry out; the coating is of special rubbery, gummy compounds that unite with the body and the saturation, and present a surface that is absolutely weather-proof and fire-resisting; will not crack in cold weather nor blister, peel, scale or melt in hot weather.

### Write for Book and Samples—Free

Make the fire test, try its strength, note its pliability; and when you go to your dealer's, be sure you are given the "Look for the Boy" trade-mark kind.

J. A. & W. BIRD & CO., 91 India Street, Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.



lons per minute will be required. He has not yet decided just what they will do to get water. All arrangements have been completed and work on the plant will be started right away.

### SACRAMENTO.

Isleton advices state that asparagus is very backward this season. Some fields are turning out only about half as much as they did other seasons. The asparagus that was flooded last season is growing very slowly, and the grass is very small and weak.

### SAN BENITO.

Hollister Bee: The Spreckels Sugar Co. and the beet growers of this vicinity have gotten together, the Spreckels Co. conceding the growers' demands, which were a lower freight rate, lower labor rate, and a few minor requests. This concession on the part of the Spreckels Co. means a greatly increased business for San Juan and the valley. We are advised that indications are that this will be a banner year for beets. All the ranchers around San Juan are figuring on putting in some beets. There will be more beets hauled out of this section than ever before, as both ends of the valley have good railroad accommodations.

### SONOMA.

There is not much that is encouraging in the hop situation to the hop growers, states a recent dispatch from Santa Rosa. Prices go lower every day. Buyers make their own figures, and there is little disposition

to refuse their offers. Hops sold in Sacramento county for one-fourth the cost of production, and they have sold in Santa Rosa for one-half the cost of growing them.

### TULARE.

There will be between 1500 and 2000 acres of orange orchard planted in this vicinity this year.

Visalia Times: People are fast becoming aware that there is money in winter vegetables. Tomatoes and other vegetables have been grown each winter in the frostless precincts of Redbanks, and this winter 65 acres of peas were planted and the product of the vines is now being shipped. The peas are bringing 15 cents per pound in San Francisco in ton lots and from the above acreage growers will obtain about twenty tons, from which the gross proceeds will be about \$6000.

### YOLO.

A strange freak of nature, in the form of a lamb with one head and two perfect bodies, is on exhibition at Wheatland. The lamb, or lambs, lived for several hours, but died for lack of nourishment.

A traction engine and plows operated by two shifts of men are being operated day and night in summer-fallowing 800 acres of land near Madison, Yolo county.

The sheep owners of western Yolo are arranging to comply with the demands of the National and State authorities in an effort to eradicate the sheep scab.





## Early Chicks Pay Best

Take advantage of the first suitable weather conditions in early spring and "set" as many broody hens as possible. You may have plump, tender-meated chicks, from one and a half to two pounds weight, in ten weeks' time after hatching if you give them proper feed and attention. Any of the foods commonly given is all right and your success will be ample, provided you escape a large per cent. of loss from the very common diseases which trouble young chickens.

Most chicken ailments come from dampness or overfeeding. Keep the quarters dry and give a little of

## DR. HESS Poultry PAN-A-CE-A

once a day in one of the feeds, and you will save nearly every chick. Where Poultry Pan-a-ce-a shows its great worth is as a tonic to correct the first tendency toward indigestion. Its use gives the organs a proper "tone" and maintains them in perfect health so that the growing chick is steadily deriving from its food every element required to hasten growth.

Poultry Pan-a-ce-a (the prescription of Dr. Hess, M.D., D.V.S.) contains iron to enrich the blood and nitrates to cleanse the system of organic poisons. It makes hens lay, shortens the fattening period for market fowls, and, by its germicidal properties, wards off disease. Endorsed by leading poultrymen in both the United States and Canada. A penny's worth is enough for 30 hens one day.

SOLD EVERYWHERE ON A WRITTEN GUARANTEE.

11-12 lbs. 35c.; 5 lbs. 85c.;

12 lbs. \$1.75; 25-lb. pail \$3.50.

Send 2 cents for Dr. Hess 48-page Poultry Book free.

DR. HESS & CLARK, Ashland, Ohio,

Instant Louse Killer Kills Lice.

THE PETALUMA INCUBATOR CO., PETALUMA, CAL., PACIFIC COAST DISTRIBUTORS.

## Eureka Lemon Valencia and Navel Oranges Eucalyptus Trees

Globulus, Rostrata,  
Rudis, and Tereticornis

## Phoenix Canariensis, Chamaerops Excelsa Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

COVINA NURSERIES,  
Covina, Cal.

## 40,000 RED GUM

in flats ready for planting  
also other varieties

Fine trees. Larger trees in pots of Eucalyptus, Pepper, Acacia, etc.

Leonard Coates Nursery Co., Inc.  
Morganhill, Santa Clara Co., Cal.

High In Quality

Low In Price

## OUR SEEDS GROW

## Vegetable, Flower and Farm Seed

J. SEULBERGER,

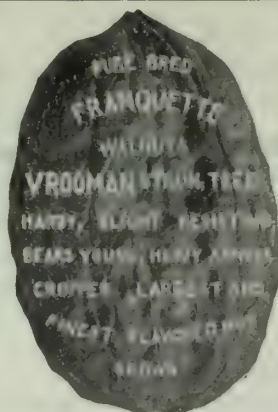
414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.



Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

OREGON NURSERY COMPANY

SALEM, OREGON.

Salesmen Wanted.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.

West of San Pablo Ave.

## BEST PILL ON EARTH

People who are sick with dyspepsia, headache and biliousness, having yellow complexion and pimples, do not want to experiment, but want a medicine that has had the test of time. We have cured these diseases for 25 years with DR. GUNN'S IMPROVED LIVER PILLS. They drive out the cause of sickness, making the complexion clear and healthy. 25cts. a box at druggists, or by mail Write Dr. Rosanko Co., Philada., Pa. Sample Free. ONLY ONE FOR A DOSE

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## The Poultry Yard.

### Foods for the Poultry.

Mrs. S. Swaysgood gives the Petaluma Poultry Journal some hints on succulent foods for fowls, some of which might not be thought of by beginners as suitable:

In the way of root crops, it is wonderful how much can be grown on a little land. Beets or mangels come first, not only for quantity but quality. According to government tables beets and mangels are the richest of all root crops in protein. Is not that just what we try to feed for more eggs? Seems to me this is a cheap way to have it—just grow it. Both carrots and mangels will produce enormous crops on rich sandy soil such as we have in these valleys. If they are not rich they can be made so with fertilizer. Carrots are nutritious, either cooked in mash or fed raw, but beets and mangels are best fed raw. Next to root crops come rape, kale, cabbage and turnips. The Jersey kale is a splendid feed and all poultry like it. If it is grown twice on the same land, it is likely to be badly affected with lice. A piece of land last year with me was so bad that I despaired of getting anything from it. However, I took a sprinkling can and a box of insect powder out one day and treated the plants to a generous dose of powder, after sprinkling so that the powder would stick, and that settled the lice question. If powder is put on early in the morning while the dew is on the plants it would save the work of sprinkling. Cabbage should always be watched for lice in this dry climate. When cutting a cabbage to feed to the poultry, leave the stem and root in the ground, and a crop of small cabbages will come on the stalk, which will help considerably in the fall. Rape is similar to kale, except that it is a low growing kind. It may be sown broadcast and even cut with a mowing machine or a scythe, when a new crop of leaves will spring up and be better than ever. For cooking vegetables to mix in the mash, all small potatoes and all imperfect specimens of squash, beet leaves or any refuse are good. Barley sown broadcast on a little patch of land where the chickens can help themselves is a fine addition to the day's feed. Sunflowers, while not a green food, are a crop that every poultry raiser should have a little of. They may be planted in out of the way places, along fence rows or outside chicken fence, when they will serve the purpose of shade and at the same time grow a valuable food.

In sowing root crops remember that you cannot make the ground too rich, as they are gross feeders. Plenty of horse manure plowed in will do as well as costly fertilizers. In planting cabbage better get a large kind, such as the Drumhead. These winter varieties will reach 20 pounds or more, even 30, if well cared for, and occupy no more space than a small summer variety. For carrots the largest quantity can be grown from the regular white stock carrot. The Golden Tankard mangel can be grown very closely in rows and the young beets that are pulled to thin out make excellent greens for the table.

Besides all these, which can be grown in large or small quantities, the man who has an alfalfa field has

**MADE FOR SERVICE**  
IN THE ROUGHEST WEATHER  
AND GUARANTEED ABSOLUTELY  
**WATERPROOF**

**TOWERS  
FISH BRAND  
POMMEL  
SLICKERS  
\$3.50**

This trade mark and the word TOWER on the buttons distinguish this high grade slicker from the just as good brands

A. J. TOWER CO. BOSTON, U.S.A.  
NEW CANADIAN CO. LIMITED TORONTO, CAN.

a gold mine when it comes to chicken feed. There is one little backset, however, to even this bright picture. If he allows his chickens to run on it all the time they will soon pick all the gold out, for they will destroy the roots. Twice I have had a start in alfalfa, but the poultry have killed it out. If they could be turned on two or three hours a day it would have a chance to recover, but a constant nibbling kills it out in time. Not only is alfalfa good as a green feed, but as hay it is much relished by chickens.

When green feed is scarce with me I open a bale of alfalfa hay, fill a pail with hot water and put in a handful of salt. As I take each lap of hay from the bale I sprinkle with spray pump from the hot salt water and carry it to the chicken yard, and they eat it greedily. For breeders I omit the salt, because it is not necessary for them to drink as much water as those fowls we keep for eggs. This sprinkled hay has helped tide my fowls over in good condition a great many times when green feed has been scarce, and I never noticed any decrease in egg production. If well cured, the hay has all the nourishment of the alfalfa without so much of the water. The salt causes the fowls to drink more, so they return the amount of water abstracted by the sun, to the hay.

Something besides grain, which is to fowls what meat is to human beings, a concentrated food, must be fed if we expect perfect health and good egg production. Animal protein is necessary, but it is not the only form of protein that poultry need. They need the protein that is found in succulent grasses and roots. If they are not allowed to hunt for what they need, or can not find it where they range, we must supply it through feeding grasses, roots, alfalfa or hay. So let every poultry raiser try to raise some or all of these things, and he will find it much cheaper, besides handier and better all around, to walk out to his own patch of fodder, than to pay for every little item of feed he needs.

A good pile of alfalfa hay for the fowls to run at keeps them out of

**DEMING**  
Hand, Knapsack, Barrel and Power Sprayers

for the poultry man, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it is possible to build it. Working parts of brass to resist chemical action. — is different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio

CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.





## Harness with a Pull

The load will follow the horse if traces, back strap, breeching and lines are kept soft and strong with

## EUREKA Harness Oil

Makes harness strong because it keeps it alive—prevents sweat and wet from rotting it—makes it look and wear like new. You ought to use it.

Made by

**STANDARD OIL CO.**  
(Incorporated)

mischief, makes eggs and egg shells, for there is more lime in alfalfa than in most green feed, and the hens keep that nice bright color in the comb that speaks of health and vigor.

## The Swineyard.

### The Sacramento Valley Hog.

A local writer, who apparently knows his subject, says the Sacramento valley hog isn't different from any other brand of hog. The two chief characteristics of the hog are eating and sleeping, and the Sacramento valley hog excels in both. In consequence he rolls in fat and is the ideal of the meat buyer. That makes it good for the people who raise hogs, as they receive the top-notch prices for their product, and it is impossible to supply the demand, which is constantly growing. A well known buyer said to me a few days ago: "I can't see why more people don't pasture hogs on their alfalfa. There is a lot of money in it, and there need be no fear of raising too many hogs, as the population of the State is steadily increasing. And we are now compelled to import a large quantity of pork, which is not up to the standard of that raised right here at home. Then the man who has got hogs to sell never has to wait for his money, as the buyers are glad of the chance to get his stock and pay him the cash at his own home. Advise your people to raise more hogs. I know personally that there is nothing they can go into that will pay better in the long run."

Perhaps the raising of hogs appeals to some people because there is not a great deal of work attached to it. Alfalfa constitutes a splendid feed, and a few acres of this grass will support a large number of big fat porkers.

The usual custom is to have the alfalfa field divided into three or four fields so the hogs may be turned from one field into another and the alfalfa given a chance to grow up again after being eaten down. In this manner it is possible to constantly keep an abundant supply of green food, which is one of the best foods for hogs which has yet been found in California. In fact, alfalfa is an ideal pasture plant for hogs. There is no danger from bloat, and with a limited number of hogs there is practically no injury to the alfalfa field.

Vigorous alfalfa should support from ten to twenty head of pigs per

acre, depending on the yield of alfalfa and the amount of grain fed in addition. It is best to limit the number of hogs to that which will be sufficient to keep down an alfalfa field. On the average, hogs weighing 30 to 60 pounds in the spring will make a gain of about 100 pounds each during the season, when one-third of a ration of grain is fed in addition to the pasturage. Although hogs may be fed and fattened upon alfalfa alone, it is best to combine the alfalfa with some kind of a grain ration. Where hogs are pastured upon alfalfa alone they may be prepared for the market by feeding for about four weeks upon corn or barley.

When hogs sell for from 6 to 8 cents per pound and as many as 20 raised on each acre of alfalfa, it is readily seen that the industry is an exceedingly profitable one.

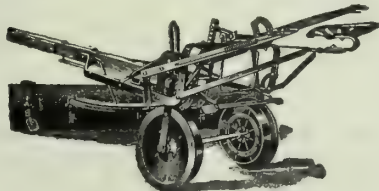
After the fruit has been gathered from the trees it has been found a good practice to turn hogs into the orchards and allow them to pick up the fallen fruit. This is a splendid food for them, and also serves the purpose of cleaning up the orchard for the winter work.

Then comes the marketing—the feature of the hog raising business which appeals most directly to the farmer—and \$100 per acre profit from hogs is not a bad showing.

### SMALL ROAD GRADERS POPULAR.

The day has surely dawned when the demand for the small grading machine must grow rapidly. All over the United States there is springing up an insistent demand for something which will take the place of the large heavy graders. The big machines demand a large investment and the use of several men and from six to eight horses.

When a machine like the 20th Century Grader made by the Baker Manufacturing Co., Chicago, Ill., is put in competition with the big machines, road officials, highway commissioners, irrigation farm-



ers, railroad builders and others, find that the cost of operation is very materially reduced. In many instances users have found that it saves them at least a third in time and money—not to mention the worry and trouble and long list of repairs that naturally occur in handling a large machine.

The 20th Century Grader weighs only 600 pounds, is made entirely of malleable iron and steel. It requires usually only two horses. In a few cases four horses will be needed. One man can handle it.

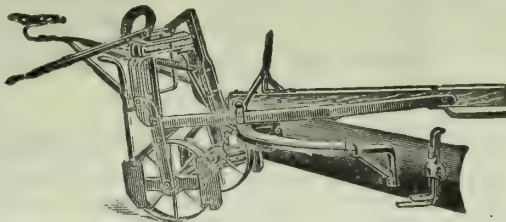
The Baker Manufacturing Co. have just issued a handsome free booklet in orange and black, entitled "20th Century Highways." This book describes up-to-date methods in road-making, gives bona fide communications from recent users and letters from all classes of officials. Every man who is interested in grading of any nature, whether road men, irrigation farmers, paving contractors, road builders, rice planters, etc., should send for this booklet.

"THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do al-

most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

## FERTILIZE WITH

# Nitrate of Soda

May be purchased in large or small lots from

## R. A. HOLCOMBE & CO.

50 Clay Street, San Francisco, Cal.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**

150 Pine Street

San Francisco

# PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

THE BEST

# SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.

SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

**TRUMBULL SEED COMPANY,**

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco

## Red Gum and Sugar Gum

for April and May.

\$2.25 ..... per 100  
\$10 ..... per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

**HENRY SHAW,**

320 River St.

Santa Cruz, Cal.

## ORANGE SEED BED STOCK

We have a fine lot of stock grown from seed of the California sweet seedling or Tabito, and from the Florida Sour orange, the latter being resistant to gum disease.

Get your order in early, before we are sold out. Planting may begin now.

**SOUTHLAND NURSERIES,**

F. H. DISBROW, Proprietor.

Both Phones. R. D. 1, Pasadena, Cal.

Largest Citrus seedling nurseries in the State.



## THE MARKETS.

San Francisco, April 8, 1908.

## WHEAT.

The only change in prices in this market is a higher outside quotation on northern red. The Chicago market opened this week with a decline, on account of good crop reports. May wheat here is neglected. Some bids have been made for December, but there are no offerings. All grades of spot wheat are firm, with a little better feeling than last week. Buyers are showing somewhat more interest at present, but there are very few transactions. Offerings of desirable milling grades are small and firmly held, and buyers show no disposition to pay the prices asked for other lines.

California White Australian..	1.65 @1.70
California Club.....	1.60 @1.62½
California Milling.....	1.62½@1.65
California lower grades.....	1.30 @1.50
Northern Club.....	1.57½@1.62½
Northern Bluestem.....	1.62½@1.67½
Northern Red.....	1.57½@1.60

## BARLEY.

Weather conditions are causing considerable fluctuation in futures, which have advanced sharply. So far, however, the barley crop is said to be in good condition. Cash grain is quiet, with no trading in shipping or chevalier. Former prices still rule for brewing, though there is no large demand. Even feed is dull, though more firmness has developed in this line, and nothing is to be had under \$1.32½, choice lots being held for \$1.40. Offerings are light, as very little has arrived recently.

Brewing.....	1.45 @1.50
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.38½@1.40
Common to Fair.....	1.32½@1.37½
Shipping.....	Nominal

## OATS.

Hardly any oats are offered at present, stocks being very light and firmly held. There is a report that the Government wants a large quantity, which will probably be hard to get, as there are no very large stocks anywhere on the Coast. Prices show no further advance, but are quite firm, and there is very little buying for the local interest. No large arrivals have been noted for some time.

Choice Red, per ctl.....	\$1.55 @1.57½
Ordinary Red.....	1.47½@1.52½
Gray.....	Nominal
White.....	1.55 @1.65

## CORN.

Prices on corn rule firm as last quoted for all grades. Business is decidedly dull, with a continued light demand, though there has been a considerable decrease in stocks held here since last month. Arrivals, however, are again on the increase, two small shipments having arrived in the last few days, and a growing demand is looked for.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.65 @
White.....	Nominal
Western State sacked Yellow.....	1.65 @
White, in bulk.....	1.57 @
Mixed, in bulk.....	1.55 @
Brown Egyptian.....	1.37½@1.42½
White Egyptian.....	1.60 @1.70

## RYE.

Offerings of rye are of little consequence, and no business of any importance is going on at present. The demand is not large, and little has arrived for several weeks. The California grain is still quoted as before.

California.....	\$1.47½@1.50
-----------------	--------------

## BEANS.

In most lines the bean market is quite steady, very few changes in price being noted recently. Limas are still in good demand and very firm, owing to the dry weather, while large whites, which are growing scarce under a continued shipping demand, are higher. There is still a fair amount of shipping, and local trade is fairly active.

Bayos, per ctl.....	\$3.00 @3.10
Blackeyes.....	3.25 @3.50
Butter.....	4.50 @
Cranberry Beans.....	3.00 @
Garvanzos.....	3.75 @4.00
Horse Beans.....	2.25 @2.75
Small White.....	3.40 @3.60

Large White.....	3.60 @3.75
Limas.....	4.50 @4.65
Pea.....	3.75 @4.00
Pink.....	3.00 @3.10
Red.....	3.50 @4.00
Red Kidneys.....	2.75 @3.25

## SEEDS.

Seeds in general are quite firm, with a very fair amount of activity, though the demand is not as large as a month ago. Supplies in several lines are small, but no further advance is noted.

Alfalfa.....	19½ @20 c
Broomcorn Seed, per ton.....	\$22.00@25.00
Brown Mustard, per lb.....	3 @ 3½c
Canary.....	4 @
Flaxseed.....	3 @
Hemp.....	4½ @ 4½c
Millet.....	2½ @ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

Local quotations on Oregon and Washington brands, following the reduction in the north, have declined about 20 cents, though California flour is steady. Both local and northern markets are characterized by extreme dullness, with no shipping trade of any importance from either. Northern millers say that the recent reduction of Oriental freight on flour will not help them, as the buyers in the Orient are not showing any interest.

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras.....	5.40 @5.65
Superfine.....	4.20 @4.50
Oregon and Washington, Family.....	4.55 @5.00

## HAY.

Owing to the continued lack of rain all over the State, many lots of hay are being withdrawn from the market, as it is believed that higher prices may prevail later. Shipments to San Francisco show a further decrease this week, the arrivals amounting to only 2290 tons. It is still held by many, however, that there is still time to save the crops in most if not all parts of the State, and probably a good soaking rain would bring in a lot of hay in short order. Prices are already going up owing to the drouth, and may go still higher at any time, or, in case of a rain, they may fall off again sharply on very short notice. Weather conditions make prices little more than a gamble.

Choice Wheat, per ton.....	\$16.50@18.00
Other Grades Wheat.....	11.00@16.00
Wheat and Oat.....	11.00@16.00
Tame Oat.....	10.50@15.00
Wild Oat.....	9.00@13.00
Alfalfa.....	9.00@13.50
Stock.....	7.50@9.50
Straw, per bale.....	50@ 90c

## MILLSTUFFS.

Receipts of bran, shorts, and middlings from the northern States, instead of increasing, have fallen off, owing to the unusual lack of activity in flour and the limited output of the mills. There is no further rise in prices, however, as the demand here is considerably less urgent than it was a month ago. Stocks of bran have been reduced since last month, and if the present difficulty in getting supplies continues, no reduction of prices is in sight. Other lines of feedstuffs are in moderate demand at former prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00@
Jobbing.....	23.00@
Bran, ton.....	30.00@32.00
Broom Corn Feed, per ctl.....	90c@ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00@
Jobbing.....	28.00@
Corn Meal.....	34.00@
Cracked Corn.....	35.00@
Mealalfa.....	22.00@
Jobbing.....	23.00@
Middlings.....	33.00@36.00
Mixed Feeds.....	26.00@27.00
Oil Cake Meal, per ton.....	37.50@38.50
Rolled Barley.....	29.00@30.00
Shorts.....	31.00@33.00

## VEGETABLES.

Oregon onions are entirely cleaned up in this market, and no more are expected until the new crop arrives. Supplies consist only of eastern and Australian stock, the latter selling up to \$4.75 per cental. Both reds and yellows from the east are bringing firm prices as quoted. Rhubarb is quoted higher than last week, but was still higher a few days ago. Arrivals of asparagus have been steadily increasing, and though the demand is very fair, prices are lower. Green peas are more

plentiful and lower, but find a ready market. Green peppers are very scarce and bring high prices.

Garlic, per lb.....	15 @ 20 c
Green Peas, per lb.....	4 @ 5½c
Cabbage, per ctl.....	40 @ 50c

Onions—	
Eastern Yellow, per ctl.....	\$3.75 @ 4.00
Eastern Red, per ctl.....	3.00 @ 3.50
Australian, per ctl.....	4.75 @
New Green, box.....	60 @ 75c
Tomatoes, crate.....	1.50 @ 2.00
Marrowfat Squash, per ton.....	10.00 @15.00
Carrots, sack.....	75 @
Hubbard Squash, ton.....	10.00 @15.00
Celery, doz.....	35 @ 50c
Rhubarb, box.....	1.50 @ 1.75
Asparagus, lb., extra.....	7 @ 8 c
Asparagus, No. 1.....	5 @ 6 c
Asparagus, No. 2.....	3 @ 4 c

## POULTRY.

Arrivals of poultry from California points have been only moderate for the last few days, though three cars of eastern stock arrived early in the week. The week opened with a brisk demand, which has continued on all large fat stock. Broilers are a little lower, fryers are steady, but other lines of chickens show a marked advance. Hens and roosters are in especially strong demand, and the retailers have been taking on good sized stocks of ducks and young geese in preparation for the coming holidays.

Broilers.....	\$4.00 @ 5.00
Small Broilers.....	3.00 @ 3.50
Ducks.....	4.00 @ 7.00
Fryers.....	7.00 @ 8.00
Geese.....	2.00 @ 2.50
Goslings.....	3.00 @ 3.50
Hens, extra.....	8.0 @10.00
Hens, per doz.....	6.50 @ 7.50
Small Hens.....	5.00 @ 6.00
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	7.50 @10.00
Pigeons.....	1.00 @ 1.25
Squabs.....	2.50 @

## BUTTER.

The decline in butter seems to have stopped, and the market is now quite steady, with quotations exactly as last week. There has been practically no fluctuation at all, as a large shipping demand has kept supplies well cleaned up, in spite of heavy arrivals from all sections. A bid of 21½ cents was recently made on the Exchange for cube extras, to be delivered any time this month.

Cal. (extras) per lb.....	22 c
Firsts.....	20½c
Seconds.....	19 c
Thirds.....	
Fresh Packing Stock, No. 1.....	18½c
Fresh Packing Stock, No. 2.....	18 c

## EGGS.

Eggs have been rather firm for some time, but an advance to 20 cents a dozen for extras came somewhat as a surprise to the local trade. This is said to be a result of the action of Sonoma county producers and shippers, who are diverting their supplies to other markets. Supplies here have greatly diminished, and nearly all first class goods have been going into the ice houses. It is said that the Sonoma county handlers are finding a good market for their eggs in Nevada and the southwestern States. The bulk of trading for local consumption runs to lower grades, which are plentiful at former weak prices.

California (extra) per doz.....	20 c
Firsts.....	16½c
Seconds.....	15½c
Thirds.....	15 c
Dirties, No. 1.....	15 c

## CHEESE.

Cheese is moving fairly well, but supplies are quite sufficient for all present needs, and prices of local lines show no improvement. New Young Americas are lower. Fancy Oregon storage shows a firmer tendency, and has advanced another ½ cent since last week.

Fancy California Flats, per lb.....	11½c
Firsts.....	11 c
New Young Americas, Fancy.....	13½c
Storage, do.....	
Eastern, New.....	Nominal
Eastern, Storage.....	18 c
Cal. Storage, Fancy flats.....	
Oregon, Fancy.....	14 c

## POTATOES.

Inferior old crop potatoes are very weak, with the market heavily stocked, and little demand. Choice lots of table goods, however, are in strong demand, and sell off readily at good prices. Good

river stock is higher, and so is Oregon, but Lumpoc goods are no longer quoted at so large an advance over other grades. New potatoes are firmer, but sweet potatoes have declined sharply.

Oregon Burbanks.....	90 @1.05
Lumpoc Burbanks.....	1.10 @1.15
Burbanks, River, bag.....	50 @ 90
Early Rose, ctl.....	1.35 @1.50
Seed Potatoes.....	75 @ 90
Sweet Potatoes, per ctl.....	2.75 @3.25
New Potatoes, lb.....	3 @ 4

## FRESH FRUITS.

Apples show practically no change, being steady in price but very dull. Los Angeles strawberries are bringing the same prices formerly quoted, while some Longworths are offering at \$1 and \$1.25 a drawer.

Apples, fancy.....	1.25 @ 1.75
Apples, common to choice.....	60 @ 1.00
Strawberries, crate.....	1.50 @ 2.00

## CITRUS FRUITS.

The demand for oranges has been quite active this week, with liberal buying in all lines by both retailers and peddlers. Prices show little change, and the market is inclined to weakness, with large stocks. There is also an overstock of lemons, which have declined. Limes are moving well at easier prices, and grapefruit is firm.

Choice Lemons.....	\$1.75 @2.00
Fancy Lemons.....	2.25 @2.50
Standard.....	1.00 @1.25
Limes.....	6.00 @6.50
Oranges—	
Fancy.....	2.00 @2.25
Standard.....	1.40 @1.75
Tangerines.....	1.50 @1.75
Grape Fruit.....	2.50 @3.00

## DRIED FRUITS.

The dried fruit market still shows very little movement, and there are no marked changes in price, though peaches are lower, and several lines are decidedly weak. Prunes are about as before, with little interest on the part of buyers. Raisins show no particular change, though some lines are said to be more firmly held.

Evaporated Apples.....	6 @ 7 c
Figs, black.....	2 @ 2½c
do white.....	2½ @ 3½c
Apricots, per lb.....	14 @17 c
Peaches.....	8 @ 9½c
Prunes, 4-size basis, 1907 crop.....	2½ @ 3½c
Pears.....	7½ @ 10c

## RAISINS.

2 Crown.....	3½@
3 Crown.....	4 @
4 Crown.....	4½@
Seeded, per lb.....	5 @ 6½c
Seedless Sultanias.....	4 @
London Layers, per box.....	\$1.15@1.20
London Layers, cluster.....	1.50@2.00

## NUTS.

Nuts are still quiet, with no change in quoted prices on any description. Walnuts are scarce and very firm, and almonds are well sustained.

Almonds, Nonpareils.....	13½@ 14½c
I X L.....	13 @ 14 c
Ne Plus Ultra.....	12½ @ 13 c
Drakes.....	11 @ 11½c
Languedoc.....	10
Hardshell.....	7 @ 7½c
Walnuts, Softshell No. 1.....	13
Softshell, No. 2.....	10
Italian Chestnuts.....	10 @ 12½c

## HONEY.

The last of the old crop honey is being shipped in from some districts and little more is expected until the new crop comes in. Stocks here, however, are light, and prices rule firm with no change, though there is no large demand.

Water White, Comb.....	16 @17 c
White.....	15 @
Water-white, extracted.....	8 @ 8½c
Light Amber, extracted.....	7 @ 7½c
Dark Amber and candied.....	5½@ 5½c

## WOOL.

The California wool markets are extremely dull, and the buyers here are showing little interest in the spring clips, as the eastern markets have been in such a bad condition all year that little California wool can be disposed of. Quotations given are practically nominal, as business is almost at a standstill.

Spring-clip, Humboldt and Mendocino, year's staple.....	20 @22 c
Fall clip: Northern free, mountain.....	7 @10 c
do. defective.....	6 @ 7½c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @10 c



Fall Lambs, Southern..... 6 @ 8 c  
Nevada..... 11 @ 12 c

**HOPS.**

Hops are still in a bad position, with no improvement in prices and little business going on. There is some shipment to Europe from the north, but this market is very quiet. It is said that many of the Mendocino growers will dig up their fields.

1906 crop ..... 1 1/2 @ 2 1/2 c  
1907 crop ..... 4 @ 5 1/2 c  
1908 (contracts) ..... 9 @ 10 c  
3 to 5 year contracts ..... 10 @ 11 c

**MEAT.**

There have been liberal arrivals of grass fed sheep and lambs, as the green feed is running out. These lines are consequently lower.

Beef: Steers, per lb... 7 1/2 @ 8 c  
Cows ..... 6 1/2 @ 7 1/2 c  
Heifers ..... 6 1/2 @ 7 1/2 c  
Veal: Large..... 6 @ 8 c  
Small..... 8 @ 9 c  
Mutton: Wethers ..... 10 @ 11 c  
Ewes ..... 9 @ 10 c  
Lamb ..... 12 1/2 @ 13 c  
Spring lamb..... 12 1/2 @ 14 c  
Hogs, dressed, heavy..... 7 1/2 @ 8 c  
Light..... 9 @ 10 c

**LIVESTOCK.**

Steers, No. 1..... 9 @ 9 1/2 c  
No. 2..... 8 @  
No. 3..... 7 @  
Cows and Heifers, No. 1..... 7 @  
No. 2..... 6 @ 6 1/2 c  
Bulls and Stags..... 4 @ 4 1/2 c  
Calves, Light..... 5 @ 5 1/2 c  
Medium..... 4 1/2 @ 5 c  
Heavy ..... 4 @ 4 1/2 c  
Sheep, Wethers..... 5 1/2 @ 6 c  
Ewes ..... 5 @ 5 1/2 c  
Lambs, yearlings..... 6 @ 7 c  
Spring Lambs, lb..... 7 @ 7 1/2 c  
Hogs, 100 to 200 lbs ..... 5 1/2 @ 6 c  
200 to 300 lbs..... 4 1/2 @ 5 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

**BREEDERS' DIRECTORY****HORSES AND CATTLE.**

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.**, Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH**, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

**POULTRY.**

**SANTA TERESA POULTRY FARM** can fill your orders for day-old chicks. Eggs for hatching from best of White Leghorns, laying 75% now. Stock for sale. Send for prices. Wm. Hansam, Eden Vale, Cal.

**WILLIAM NILES & CO.**, Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

**SWINE.**

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, DUDOC HOGS.** Choice, thoroughbred Poultry. **William Niles & Co.**, Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

**BREEDERS' SUPPLIES.**

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

**POULTRY SUPPLIES**

of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

**Alfalfa Silage and a Concrete Silo.**

(Continued From Page 230.)

after cutting and ten days before. My farm produced approximately 9 tons per acre last season. The land was planted three years ago last fall and produces more abundantly each year. The alfalfa at this writing is about 12 inches high, and as we are having plenty of sunshine I expect to begin cutting about the 15th of March and feeding it green to my cows. An idea of the weather conditions at present may be gained when it is said that almond, apricot and peach trees are in full bloom.

My herd consists of the best grade cows I could purchase by making selections from cows offered for sale in the neighborhood. In making my selections no cows were taken that tested under 4 per cent, some of them testing as high as 5.4 per cent. I purchased last year from the Ladd estate in Portland, Ore., a Guernsey bull and three heifers. I lost one of the heifers this winter, but the other two are in excellent order and in calf, being due to freshen in July. My entire herd is in calf by the Guernsey bull, and will freshen in July and August, at which time the prices of butter fat begin to climb upward. I milked sixteen cows last season, and the following are the receipts from all sources:

January, checks from Dixon creamery	\$135.53
February " " " "	93.26
March " " " "	111.27
April " " " "	85.34
May " " " "	79.35
June " " " "	67.50
July " " " "	65.63
August " " " "	77.85
September " " " "	102.82
October " " " "	124.67
November " " " "	121.61
December " " " "	130.99
Extra milk and cream sold during year	75.00
Calves vealed	70.00
Hogs raised on skim-milk	280.00
<b>Total receipts</b>	<b>\$1,620.77</b>

The silo on my farm is the only one in the county, and its accomplishments are being watched with much interest by dairymen from a wide section of country. Many have visited me for the purpose of inspecting the plants and inquire into its merits. I consider it the best investment on my place, and believe no dairyman worthy of the name should be without such a structure.

**OLD ROOFS SEEN NO MORE.**

A much better roofing is rapidly displacing shingles. Shingles are costing more every year, the quality is growing inferior as the forests disappear, the wages of the skilled man who alone can lay them are increasing, and, above all, they are not fire-resistant except in wet weather.

The best and most economical roofing, and siding also, to be had nowadays is "Rex Flintkote." This kind of protection from weather and resistance to fire, made by the old established firm of J. A. & W. Bird & Co., Boston, Mass., has been tested and proved beyond all question. It is a composition of long-fibre wool-felt and water-proof and fire-retarding chemicals. It is easily laid and looks well. The manufacturers will gladly send samples of Rex Flintkote, and a booklet.

**Removed Spavin—Thinks It Best Blister.**

I used Gombault's Caustic Balsam for bone spavin with the best results. The spavin is gone and the mare is sound. I think it is the best blister in the world for bunches of any kind.—H. E. Lilly, Wayne, Kan.

**CONOVER'S COLOSSAL ASPARAGUS PLANTS.**

Plants exceptionally strong and true to name. Price given on application. Address **W. A. Stewart**, Rio Vista, Cal.

**RESISTANT VINES FOR SALE.**

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address **A. J. GALLAWAY**, Healdsburg, Cal.

**LIVE OAK STOCK FARM**

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**

Importer and Breeder of

**Red Polled Cattle**

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.

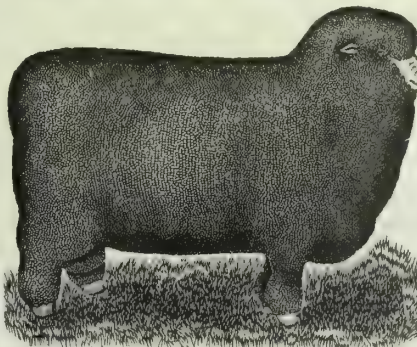
**FRANK A. MECHAM**

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a largesheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.

**FRANK A. MECHAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

**BUFF ORPINGTONS**

Eight years careful selection gives our COMWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

**W. SULLIVAN,**

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

**HENRY B. LISTER, ATTORNEY AT LAW.**

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts., San Francisco.

**For Sale: Jerusalem Artichokes**

THE GREAT WINTER HOG FEED

Address **Fancher Creek Nurseries, Fresno, California**

**Blake, Moffitt & Towne**

Dealers in **1400 FOURTH ST., SAN FRANCISCO**  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author whom no one is better qualified. The subject matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 460 pages. 5 1/2 by 8 inches. Cloth ..... \$1.75

**INDEX TO ADVERTISERS Pacific Rural Press**

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	237
Beckman, Geo. V.....	239
Bird & Co., J. A. & W.....	236
Blake, Moffitt & Towne.....	239
Bosanko Medicine Co., Dr.....	236
Breeders' Directory.....	239

California Fruit Exchange.....	240
Coates Nursery Co., Leonard.....	236
Covina Nurseries.....	236
Croley, George H.....	239
Cutter Laboratory, The.....	236

De Laval Dairy Supply Co.....	231
Deming Co., The.....	236
Dewey, Strong & Co.....	240
Dietz Company, R. E.....	237
Disbrow, F. H.....	237
Driver, E. S.....	239

Fancher Creek Nurseries.....	239
Fresno Agricultural Works.....	—

Galloway, A. J.....	239
German Kall Works.....	—

Hamlin School, The.....	232
Hart, Ed.....	239
Hess & Clark, Dr.....	236
Holcombe & Co., R. A.....	237
Howard Cattle Co.....	239
Hoyt's Tree Support Co.....	—

International Harvester Co.....	—
---------------------------------	---

Jackson & Co., T. W.....	240
--------------------------	-----

Lawrence-Williams Co.....	231
Lister, Henry B.....	239
Lynch, John.....	239

McClanahan, E. E.....	240
Meacham, Frank A.....	239
Mountain Copper Co.....	237

National Wood Pipe Co.....	240
Niles & Co., Wm.....	239

Oakland Poultry Yards.....	239
Oregon Nursery Co.....	236

Pacific Coast Business College.....	233
Pear Blight Remedy Co.....	240

Roeding, Geo. C.....	239
----------------------	-----

San Francisco Sulphur Co.....	234
Santa Teresa Poultry Farm.....	239
Seulberger, J.....	236
Shaw, Henry.....	237
Sharples Separator Co.....	230
Shaw Plow Co., H. C.....	240
Silva & Bergholdt Co.....	237
Simmons Hardware Co.....	—
Smith, Francis.....	—
Southern Pacific Railway.....	240
Standard Oil Co.....	237
Stewart, W. A.....	239
Stowe, C. A.....	239
Sullivan, W.....	239

Teague, R. M.....	—
Temple Pump Co.....	230
Tower Co., A. J.....	236
Trumbull Seed Co.....	237
Tuttle's Elixir Co.....	—

Van Der Nallen, A.....	240
Vermont Farm Machine Co.....	231

Wagner, J. B.....	236
Waite, Thos.....	239

West Coast Cresol Dip.....	240
Western Meat Co.....	234

Woodin & Little.....	—
----------------------	---

**A NEW SHEEP BOOK.**

"Modern Sheep; Breeds and Management," by "Shepherd Boy," author of "Fitting Sheep for Show Ring and Market," is the latest work from the American Sheep Breeder press of Chicago, and it is perhaps within bounds to say that it is the best work on sheep ever published in this or any other country. It contains over 100 halftone engravings, among them being something like thirty of different breeds of sheep from different parts of the world. The subjects covered by this work are divided into eight parts: Part I deals with History and Breeds; Part II, General Management; Part III, Sheep Management in the Western States; Part IV, Fitting Sheep for Show; Part V, Raising Hothouse or Spring Lambs; Part VI, Dressing Sheep and Lambs; Part VII, Pastures, Forage Crops, etc.; Part VIII, Diseases. The author of this work is one of the world's best known authorities on sheep, having had practical management of flocks in several different countries, and is at present associate editor of the world's leading sheep journal. A unique feature of this work is that wherein the author seems to upset the theory advanced by some scientists that on account of the differences of the genus of the sheep and goat a hybrid from such a mating is impossible, since the pages of this volume contain a halftone engraving from a photograph of the produce of such a mating and the statement of a member of the Government Bureau of Agriculture giving his opinion that this hybrid is genuine. This is a book that will be read with interest and profit by the veteran sheep breeder as well as the novice. It can be ordered through the PACIFIC RURAL PRESS at \$1.50, postpaid.





The Famous Mission Train California to Chicago in three days over the

## Sunset Rock Island Route

Sixty miles along the famous Salton Sea, 250 square miles of lake with background of the high San Jacinto Mountains.

Drawing room sleeping cars. Dining service unsurpassed. Open air observation rotunda. Parlor car—library and cafe—Ladies lounging room—Gentlemen's smoking apartment.

ASK ANY AGENT

## SOUTHERN PACIFIC

OR CALL

884 Market St. 872 Market St.



## WEST COAST CRESOL DIP

Made of Coal Tar Creosote Oil. Great caution must be exercised with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless.

West Coast Dip is guaranteed to be made from Oil containing 25% Cresylic Acid. Permission was given by the U. S. Dept. to use our Dip for the treatment of Sheep Scab in the highest dilution ever allowed. When thus diluted it costs but a few cents.

For Sale by many Dealers. If not by yours, send direct to us for Trial Offer. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California



## California Fruit Exchange

(INCORPORATED.)

Head Office:

SACRAMENTO, CALIFORNIA

A 'growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS



124 Page  
Free Book.

Send today.

## "Old Trusty" Incubators

Sold on 30, 60 or 90 days free trial. Send today for catalog and trial offer and guarantee. Low prices to all who order this month. We pay freight.

**E. E. McCLANAHAN**

711 So. Main Street

Los Angeles

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



## NOW READY

The Vermorel Torpille  
Knapsack Sulphuring  
Machine

We could not supply the demand last season so would advise you to

PLACE YOUR ORDERS NOW

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring EASY WORK AND saves sulphur. Recommended by users as the MOST effective sprayer used for the purpose.

SOLD BY

## THE H. C. SHAW CO.

Stockton, Cal.

General Agents for the United States.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Pipe. Bored Wood Pipe.

## National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

288 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE.

OAKLAND, CALIFORNIA

Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

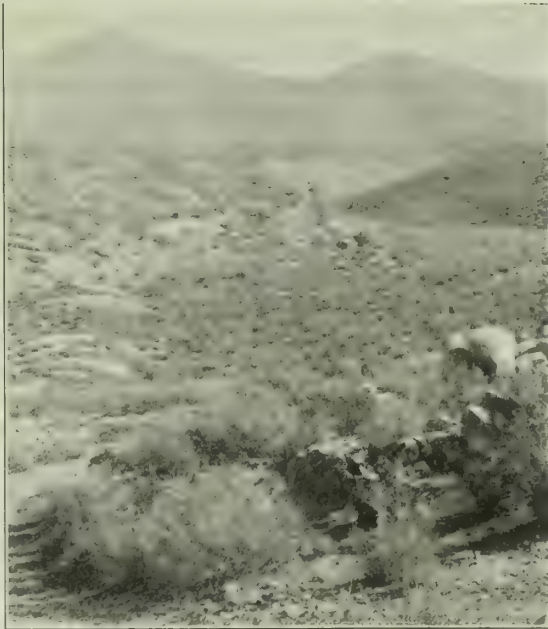
Vol. LXXV. No. 16.

SAN FRANCISCO, SATURDAY, APRIL 18, 1908.

Thirty-eighth Year.

## THE EVOLUTION OF A DESERT CITY.

Last week we played with very old things in Mexico; this week, by way of contrast, we choose very new things in the United States. It must be admitted that the old Mexican things and ways are more picturesque, but the discouraging thing about them is that they survive in all their rudeness and thus declare low standards of human progress among those who have accomplished nothing just at a time when all the world has been taking such quick, long strides toward better things. On the other hand, the encouraging aspect about the rudeness which we show upon this page is that it will so soon give way to better things in buildings, in industry, and in the environment of human life. The Mexican town lingers for centuries in its primitive indolence and squalor; the American town advances so rapidly that the onlooker can actually see it grow into the most advanced phases of civilization, and, if it has real reason for its existence, it will put forth within a year the forms of development



A Piece of Raw Desert.

which minister to the higher life, although it may of course retain for some time the less desirable features.

The pictures we show do not represent any particular place. They are, in fact, a composite view,



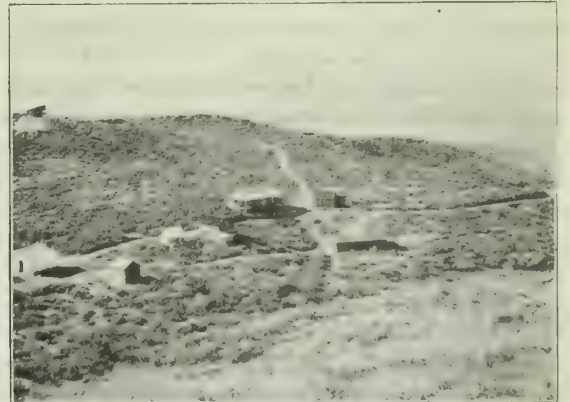
The Arrival of City Builders.



The Beginnings of Trade.



Arranging for the First Building.



A Town With a Promising Outlook.



The Product—A City Without Tree, Church or Schoolhouse.

which, perhaps, becomes more typical when it is stated that they are selected from negatives taken in three States, but all of them having some share in the vast area which was branded "The Great American Desert" in the geographies of half a century ago. Such towns have, of course, some real or fancied reason for existence, and their future is directly conditioned upon whether it is real or fancied. The mining industry calls most of them into existence, and next to mining comes agriculture as a desert-breaker. This is especially true since irrigation has become a pathfinder for civilization rather than a product of it. The old way was to find land naturally moist beside a stream for a starting point, and after some production had been accomplished as a test of the soil and climate, the stream was led away from its old lines to increase productive area. By this form of progress there were generally some old buildings, trees, etc., as indications that the place was really agriculturally of age and ready to do the work of manhood. More recently, however, the method has been to find water, either in ample flow or capable of storage, and send it for miles through sand and sagebrush away from any place where any cultivated growth had been attained.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

California enters this week upon one of the most interesting and significant events of her history as welcoming hostess of the great war fleet of the nation. As we write, on Wednesday, the ships arrive in San Diego bay, and the patriotic display on sea and shore by which California will during coming weeks manifest her strong national spirit, begins. Officially and cordially the State will hail the ships as they enter Californian waters at the extreme south, for the Governor is there and the populace has gathered from all parts of the State. The beginning at San Diego will merely sound the keynote of welcome and appreciation which will actuate the whole anthem of California's patriotic fervor. Of course a war fleet is itself a destructive agency, and in its literal meaning it is not the grandest thing in the world, but it is becoming trite, though very true, to say that a war fleet in the control of a great peace-loving nation is not an instrument of war, but rather a surety of peace. The fleet becomes therefore an exponent of power, not destructive but constructive and humanitarian. The manifestation of the physical power of the nation on the waters of the Pacific, in the form of the greatest armada that has ever appeared upon our ocean, means to the world that the United States proposes to enforce upon the Pacific a policy of world-action which is itself pacific, noble, high-minded, and for the good of mankind, and that it is not only willing but able to enforce such a policy, if any other nation should attempt to gratify any ambition which is not for the world's good. The fleet becomes then not only an exponent of power but a symbol of national spirit and aspiration, and naturally its presence awakens the deepest patriotic emotion in the hearts of all those who truly cherish our great national purpose. Thus California does not enter upon any vain display in her demonstrations of welcome to the grand instruments of war and to the resolute men who guide and impel them, but with the honest gladness of patriotic hearts and with the deepest devotion to the grand humanitarian policy which is recognized the world over as the proper manifestation of a great national purpose—to constitute the Pacific ocean not the arena for the selfish activity of any race or nation but the heritage of mankind, to be administered and employed in accordance with the broadest, truest rights of men.

It would have pleased California better to have greeted the fleet in the midst of a more generous springtime than that of the current year. Possibly, indeed probably, our guests will not discover any aspect of hillsides and fields which indicate to the residents a shortage in the season's rainfall. That is an observation which we can keep to ourselves. The California landscape is always beautiful and the visitor does not translate it into the terms of industry. The sailors ashore will be literally submerged in flowers all the way from San Diego northward, and to them

there will be nothing arid in the outlook nor in the hospitality. Besides, the shortage of rainfall does not produce the same width of depression in the California mind that it did a decade ago. The extension of irrigation facilities, the diversification of industry, the larger supply of available capital, the growth of great cities and their accumulations of wealth—all these make a partial drouth of less serious import than when the State was more largely dependent upon rainfall production of cereal and forage crops. Therefore there will be, as there should be, a free and hearty hospitality and rejoicing, and not only those who come on the ships to see the shore, but those also who come to the shore, from the country at large, to see the ships, will call California beautiful. In return for this gift of cheer and courage from our guests we can in our return be courageous and confident for the better years to come.

Among ourselves, however, apprehension prevails as to the agricultural and horticultural effects of the exceedingly dry springtime we are having in all parts of California. It looks as though there would be considerable individual loss and disappointment, especially in cereal and grazing crops in unirrigated districts, and, in fact, in such districts a collective reduction of agricultural revenue, which will limit expenditures for desirable improvements and development and constitute the year rather a bad one for individual profit and for neighborhood advancement. This is quite different from the outlook which the beginning of the rainy season gave warrant for. It is altogether probable, however, that the present anticipation is a little more blue than the season's outcome will paint the realization. According to all precedents remembered by us, there will be more rain, and it may come very soon. It will be too late for many important purposes, it is true, but will serve others very well, and will rescue some lines of production which now seem seriously imperiled. This will add largely to the total of production, but it will not be apparently a year of abundance in which all will share. There ought to be, however, enough rain very soon to enable the putting of orchards and vineyards into shape to enable the trees and vines to finish the crops which they now seem disposed to carry, and to facilitate the greatest undertakings in summer-growing field crops on all lands which have deep moisture available for them. The surface looks generally bad now, but that may be expected to be greatly improved by all who are ready to do the best possible work with the showers which will come. It bids fair to be a great year for the lowlands, and they will do much to roll up a value which will be comfortable to consider in connection with the memory of the discouragement which is now prevailing in the dry-farming districts.

California will be buying wheat largely this year, as she was last year, and there will perhaps be plenty near by. We say perhaps because the drouth of the year is not restricted to California, but affects the whole slope west of the Rockies, and may extend into the far north. It is, however, reported from the great new Canadian provinces away above our northern border that the wheat crop outlook in these prairie provinces is excellent, although the spring is late. The disappointments of last season have apparently inspired the farmers to make stronger efforts, and there is a general determination to break all records during the coming harvest time. The aggregate yield of wheat in Manitoba, Alberta, and Saskatchewan last year, according to the latest Government returns, was 73,066,636 bushels, as compared with

101,000,000 bushels in the year immediately preceding. Practically all of last year's crop of wheat has been marketed, the amount now being held by the farmers, exclusive of grain for seed, being estimated at less than 5,000,000 bushels. At this time last year nearly 15,000,000 bushels remained in the farmers' hands. It is expected that the total area for wheat in the three provinces this year will be close to 6,000,000 acres. If all this is realized we shall not go hungry. We can trade them fruit for wheat.

Speaking of wheat, it is interesting to note from Washington that Senators Perkins and Flint are working hard to get an appropriation to meet the expense of sending a milling expert to the Orient to investigate the possibilities of extending the market for American flour. California, Washington, and Oregon are all greatly interested in this matter, as the exports of flour and wheat from Pacific Coast ports run into the millions of dollars annually. Senator Flint introduced an amendment in the Senate to the Legislative and Judicial Appropriation Bill to set aside \$10,000 for this purpose. This is a fitting supplement or complement to the effort which the State of California is putting forth through the University Experiment Station to ascertain if California can grow stronger milling wheats and more of them. Experiments are progressing at Davis, at Ceres, and at Tulare, and unless the unfavorable season should seriously interfere there should be important deductions to make this fall, and more of them as trials have time to disclose results.

We hope our fruit growing readers will not forget the Fruit Growers' Convention announced to assemble in Riverside April 28 to May 1. We have been looking for the programme upon which Mr. Jeffrey has been proceeding very carefully to ensure the presentation of things of notable interest and has probably been delayed beyond expectation. All are expecting a very interesting and edifying four days' convention, and all who can should reserve these dates for it.

What seems to us a very sensible rule has been established by the State Commissioner of Horticulture, and that is that fruits designed for importation into California shall have their infesting insects killed before shipment and not after arrival. It has been customary for the stevedores to pile the crates of apples on the wharves, where they are fumigated by employees of the commission. This method is not only awkward but it is expensive. The new rule, which goes into effect on June 1, will provide that the disinfection must be done at the port from which the fruit is shipped, or before it arrives in the United States. It does not seem right that the horticultural employees of the State should be burdened with killing pests for importers. Time enough has now elapsed for all in the trade to understand fumigation and to arrange for its effective employment before the fruit starts on its journey.

It is interesting to note that the bounty offered by the State Fish and Game Commissioners has been paid for the scalps of 200 mountain lions at \$20 a scalp, about \$4000. Bounty claimants are required by the Commission to give a complete history of the killing. In nearly every case the lions have been tracked by their depredations either among livestock or through finding the carcass of deer. About three-fourths of them were found just after a deer had been killed. The Californian mountain lion can rarely be trapped, but trained dogs can always tree the lion, and in that way most of them have been killed.



## Queries and Replies.

### Distillation of Essential Oils.

To the Editor: We want to find out how to extract the oil from the California bay tree or laurel trees. If you could kindly give us some information concerning how to obtain the oil from these trees it would be of great benefit to us.—Enquirer, San Jose.

Oil can be extracted from bay leaves, as from other foliage plants yielding essential oil, by a process of distillation. This is the method by which peppermint oil, eucalyptus oil, etc., are secured. You have to arrange a steam-tight receptacle, which may be of wood, connected on one side with a 'worm' made of tin coiled in such a way as to secure a considerable length of it within a vat or tank of cold water, to act as a condenser, and from the end of this worm, water and oil will come out together, and the oil will be gathered from the top of the water in a suitable open receptacle. The source of steam is usually a small steam boiler, which is connected by a pipe to the receiving vat. This receiving vat is then filled with leaves of the plant which you wish to distill and a steam-tight cover put on. As the steam is set free by the heat under the boiler it finds its way to the receiving tank, permeates the foliage and escapes by the other outlet, through the worm, or condenser. It is the common method of distillation, which is capable of being reduced to very simple forms, at least for experimental purposes. No pressure or other treatment is required; the steam extracts the oil and carries it until it collects upon the top of the water at the exit of the condenser. Anyone with an ordinary knowledge of plumbing and tinning can get up for you an experimental apparatus of this kind. Of course in this, as in all other distillations, one can only proceed economically by the use of capacious and effective apparatus.

### Two Native Germ Traps.

To the Editor: I have been trying to grow burr clover and vetches on what seems to be a very poor soil for wheat in eastern San Joaquin county, without much success, but I find two wild plants which are trying to grow, and they have nodules on their roots which may be significant. I would like to know what they are.—Enquirer, Escalon.

Dr. H. M. Hall, botanist of the Experiment Station, identifies one of your plants as the "Small-flowered Lupin" (*Lupinus micranthus*), which is one of our best native species for green-manuring. If it grows readily in your soil, as your specimens seem to indicate, you are certainly to be congratulated. There is no question but that this plant is able to fix atmospheric nitrogen with the aid of the bacteria in its root tubercles, and that this nitrogen becomes available when the plants decay after having been plowed under. The other plant is a native clover; a common species known botanically as *Trifolium ciliatum*, and is also a good green-manure plant, although it seldom has as many nodules as the lupin.

It seems from what you say that these two native plants grow better and produce more nodules than introduced plants which you have tried, namely, burr clover and vetches. The explanation for this probably is that the particular kind of bacteria which grows in the roots of these introduced plants are not present in the soil, which those which flourish in the roots of the native plant are already there. This of course is a mere conjecture, and it may be that the native plants are for some reason better able to make headway under the very adverse soil conditions you describe than the introduced ones. You can

scarcely expect worn out land which will produce but an indifferent, if any, crop of wheat to yield a large growth of vetch or burr clover the first year.

### Hardpan Land for Grapes.

To the Editor: We are thinking of investing in some land in Sacramento county. Will you be so kind as to inform us in regard to the kind of soil we would find there? I have been told that there is hardpan below. Is that true; and if so, is it good to raise Tokay grapes? Please tell us what kind of fruit and trees will grow on the kind of soil that is there.—Immigrant, Oakland.

There is much good land in Sacramento county; also some that is quite shallow. The only way to find out which you have to deal with is to dig down into it. In some of the land the hardpan is probably too near the surface to admit of good cropping, but still good grapes and small fruits are grown on this hardpan land, providing one can get the water supply and fertilizers just right. Of course, the thinner the stratum of soil in which you have to grow things, the more attention you have to pay to frequent irrigation in small amounts and to the use of fertilizers, so that the plants may not lack food. Horticulture is very prosperous in that region, and reasonable investments, followed by diligent and wise cultural operations, ought to be successful. Fruit trees take less kindly to shallow soil, and it is more difficult to make them pay, though some orchards have proved very profitable. There is hardpan at different depths, and many other things which you must learn by local observation and inquiry. Blasting hardpan is a profitable operation under certain conditions, and so are irrigation and fertilization, all of which may be sooner or later necessary for the thrift of fruit trees, as already suggested.

### How Much Water for Irrigation?

To the Editor: Can you inform me what is considered a sufficient amount of water to irrigate land in the San Joaquin valley? I have been told that an amount sufficient to cover the ground to a depth of one foot is the right amount. What is your information on the subject?—Newcomer, San Francisco.

It is impossible to arrive at a definite statement concerning a sufficient amount of water for irrigation. It depends upon the character of the soil and subsoil, as to reception and retentiveness; also upon the requirements of the crop which is grown. A depth of one foot—that is, twelve acre inches—would be about as little as anyone uses, in that valley, who undertakes to irrigate at all, that is, for a year's or a season's irrigation, while alfalfa growers undoubtedly use two, three, and possibly four times as much where they are operating on deep light loams which take water readily. That is not equivalent to saying that such an amount is necessary.

### Alfalfa Inoculation.—Corn Planting.

To the Editor: Where can I buy the inoculating material for alfalfa seed which is used by the Government stations? How much corn do I need to plant per acre for forage purposes?—Planter, Nevada county.

So far as we know, no one now offers for sale the inoculating material. There was so much worthless material put out that dealers have refused to handle it until the whole matter is regulated. You can get the latest information on this subject by writing to the Secretary of Agriculture, Washington, D. C., asking for a copy of Farmers' Bulletin No. 315.

The amount of corn which you need to an acre

depends, of course, upon how thick you drop in the row and how far you put the rows apart for cultivation. In rich moist land where you get a large growth, the rows can be, naturally, much farther apart than on rather thin upland, although, theoretically at least, there ought to be the thinner seeding on the drier land. You will have to see what is the practice on the land in your district, for that is the best guide. If the corn is dropped in the row so as to average the kernels four to six inches apart, you will get quite a thick stand, providing the land is strong and moisture sufficient.

### Two Views on Gum Disease.

To the Editor: In the "Culture of the Citrus in California," B. M. Lelong, 1902, p. 136, says: "The disease (gum disease) being of a bacterial form, all chips and scrapings should be carefully collected and burned, etc." The "Report of the Plant Pathologist to July 1, 1906," by Ralph E. Smith, states, on p. 251, "So far as our observations have shown, it is a purely functional disorder and not produced at all by any parasitic organism." Am I mistaken in taking these two statements to be contradictory, and if I am not, which, in your opinion, is the correct diagnosis?—Citrus Grower, Redlands.

The two statements are really contradictory, but the former was made before the long study which is now in progress with plant disease experts in your part of the State was undertaken. From present knowledge the latter statement is undoubtedly the more correct, but the problems both of cause and treatment are not yet fully worked out.

### The Tea Plant.

To the Editor: Will you tell about the culture and care of the tea plant in southern California?—Amateur, Orange.

Tea plants will thrive in California with the same care in the way of cultivation and irrigation as is given to garden shrubs or to orchards; that is, no particular culture is required except that which ministers to the thrift and growth of ordinary trees and shrubs in each locality where the growth is undertaken. The tea plant takes very kindly to California conditions. As for operations involved in the manufacture of tea, you can get satisfactory information by applying to the Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C., for their pamphlets on this subject.

### Commercial Fertilizers.

To the Editor: In lack of stable manure, must I use some commercial fertilizers to grow garden vegetables on old grain land?—Beginner, Modesto.

Yes. Write to our fertilizer advertisers for their descriptive pamphlets. They contain much good advice. With fertilizers get a good growth of peas, burr clover, or some other legume and plow it under green to increase your humus. If you have irrigation water, try to get a summer growth of cow peas to plow under in the late summer, and then begin your garden work with hardy vegetables early in the autumn. You ought to keep busy all the year with water and the Stanislaus soil and climate.

### Black-Eye Peas.

To the Editor: Are black-eye peas profitable? When are they planted, and how?—Beginner, Modesto.

Black-eye peas are cow peas, and cow peas are really beans; therefore grow them as you do beans which do not climb. Plant after frost danger is over, as they are quite tender.



## The Field.

### COTTON GROWING IN ARIZONA.

As cotton growing is to make another try in California upon the basis of Mexican labor available in Imperial county, it is particularly interesting to know what has been done in Arizona, as told by Mr. R. W. Clothier of the Arizona Experiment Station:

Cotton has been known in Arizona many years. Attempts to grow it commercially, however, have thus far met with economic failure, due to the absence of concerted effort, inexperienced and high-priced labor, and the belief that with the same soil and water better returns can usually be obtained from other crops. Experiments carried on by Professor A. J. McClatchie at Phoenix in 1901 and 1902, and at Yuma since 1902 by the Bureau of Plant Industry, have given us more definite and favorable information concerning the crop in this region.

The more recent experiments point strongly toward Egyptian cotton as best adapted to Arizona conditions. The climate of the Salt and Colorado River valleys is similar to that of Egypt. Both regions are irrigated, and are distinguished by the long growing season so essential to the proper maturing of Egyptian varieties of cotton. Experimental cultures grown by Professor McClatchie in 1901, by methods resembling those in use in Egypt, gave results as follows:

Abbassi, 1580 pounds seed cotton per acre yielded 460 pounds lint; Mit-Afeefy, 1150 pounds seed cotton yielding 275 pounds lint; Jannovitch, 500 pounds seed cotton, which was not ginned. Samples of Abbassi and Mit-Afeefy were sent to the Lowell Textile School to be tested for quality and compared in this respect with imported Egyptian cotton. Arizona grown Mit-Afeefy fiber was found to be 14% stronger than Egyptian grown, while the waste was 15% less. The maximum yield obtained on the poor soils of the station farm, in a heavily irrigated plat, was at the rate of 2200 pounds of Mit-Afeefy seed cotton per acre.

Investigations carried on at Yuma since 1902 by the Bureau of Plant Industry, U. S. D. A., confirm these first results as to the high quality of Arizona grown Egyptian cotton, and further show that the length of the fiber has increased with acclimatization, likewise the yield.

The facts presented below, relating to these investigations, are taken from the manuscript of a bulletin prepared by Messrs. T. H. Kearney and W. A. Peterson, which is about to be published as Bulletin No. 128 of the Bureau of Plant Industry, entitled "Egyptian Cotton in the Southwestern United States," to which those desiring more detailed information are referred.

With respect to yield, five years of careful selection and acclimatization have resulted in remarkable improvement, especially of the Mit-Afeefy variety. At first the yields of this cotton were very unsatisfactory; but they have gradually increased until in 1907 they surpassed those of all other varieties tested, including the two best varieties of American upland cotton. Comparative results are shown in the following table, including yields before and after December 1. It is probable, however, that the December pickings are in excess of normal, on account of the very mild fall and winter of 1907.

VARIETY.	Lb. of seed cotton per acre		
	Ripened before Dec. 1.	Ripened after Dec. 1.	Totals.
Mit-Afeefy (Egyptian).....	2,880	450	3,330
Jannovitch (Egyptian).....	1,851	377	2,228
Rogers Big Boll (short staple upland)...	2,897	78	2,975
Triumph (short staple upland).....	2,571	89	2,660
Columbia (long staple upland).....	2,101	355	2,456
Sunflower (long staple upland).....	1,950	285	2,235
Southern Hope (long staple upland).....	2,570	480	3,050

Calculating on 30% lint, the Mit-Afeefy variety yielded at the rate of 999 pounds, or practically two American bales per acre. If the quality were

no better than the average imported Egyptian cotton, the product of an acre of such cotton as grew at Yuma in 1907, at 21.9 cents, the average Boston price of that year, would have been worth \$219, while the grower would still have 2330 pounds of seed, worth 70 cents per 100 pounds in the cotton-growing State. Compared with this, the best Upland cotton, Rogers Big Boll, allowing 34% lint, produced at the rate of 1012 pounds of lint per acre, worth at Boston 11.8 cents per pound, or about \$119, with 1960 pounds of seed still in the hands of the grower. Careful records at Yuma show that in 1907 it required about one and a half times as much labor to pick the Egyptian variety as was required to pick the large-balled Upland varieties. The cost of this labor for commercial growing is unknown.

Basing conclusions upon what has been presented thus far, it appears that if we can duplicate the yields at Yuma in 1907 on a commercial scale, if the comparatively high price paid for Egyptian cotton in 1907 continues, and if labor conditions be found favorable, the Egyptian varieties should be chosen, beginning with the selected and acclimatized seed produced by the Bureau of Plant Industry at Yuma. This seed is available for planting this spring and can be obtained free of charge by presenting requests to the Arizona Experiment Station, Tucson, Ariz. To prevent the varieties from deteriorating, it will be necessary to continue rigid methods of seed selection from the best individual plants from year to year. By careless seed selection it will be easy to lose all that has been gained during the last five years at Yuma, and thus turn apparent success into failure.

**Selection of Soil.**—If possible a silty loam should be selected, rather than the heavier adobe soils, because of greater ease in cultivation. A moderate amount of soluble salts in the soil is beneficial to the plant and improves the quality of the fiber, while a good stand has been known to grow where the first two feet of soil contained 0.8% of white alkaline salts, or 64,000 pounds to the acre.

**Manuring.**—Since Arizona soils are likely to be deficient in nitrogen and cotton makes heavy drafts upon the soil for this element, any system designed for permanent cotton growing should provide for a generous use of barnyard manure, or the plowing under of leguminous crops, of which alfalfa is the principal one available.

**Preparation of Seed Bed.**—If a cover crop is used it should be plowed under at least six weeks before seeding. If no cover crop is used it would be well to plow the ground deeply in the fall. Harrow the ground thoroughly before seeding and level inequalities in the surface with a leveling drag. A few days before seeding irrigate the ground thoroughly, applying water to a depth of at least four inches over every part of the field.

**Planting.**—The best yields in Yuma in 1907 were obtained by planting March 28, but it is believed still better results can be obtained in this locality by planting as early as March 1. In the Lower Salt River valley planting should be done two or three weeks later. In general cotton should be planted as soon as danger from a killing frost is past. Egyptian cotton as it has thus far been grown requires more room for each plant than Upland cotton. The best results with the Mit-Afeefy variety have been obtained with rows six feet apart and single plants three feet apart in the row. It is stated that this requires five or six pounds of seed to the acre, hand-planted. As the process of acclimatization progresses it may be found possible to reduce the amount of space given to each plant. If the soil has been well prepared and is free from Bermuda grass, the ordinary one-horse cotton drill would be the best implement for planting; otherwise it should be planted by hand. The depth may be from 1½ to 2 inches. The earlier the planting the more shallow the depth, but each seed must be placed in moist soil. If cold weather follows deep early planting the seed may rot in the soil, or the young plants may not have sufficient vitality to force their way out of the ground.

**Irrigation and Tillage.**—One irrigation before and about three irrigations after planting should be given, more or less according to soil conditions. The soil should be wet deeply, since cotton

roots in loamy soil penetrate to a depth of at least eight feet. Too frequent and very late irrigation weakens the fiber and prevents the bolls from maturing before danger from killing frosts. The last irrigation in southern Arizona should be given about September 1. Cultivation should follow each irrigation often enough to keep down the weeds and maintain a good mulch of loose soil.

**Picking and Ginning.**—The labor expense of growing and picking cotton in Arizona is an item that will have to be determined by the commercial grower for himself. Egyptian cotton should be ginned on a roller gin, as the ordinary saw-toothed gin injures the fiber.

**Marketing.**—The principal market for Egyptian cotton in the United States is in New England. During the last ten years we have imported an average of 62,253,617 pounds of Egyptian cotton per year. According to Mr. C. S. Scofield of the U. S. Department of Agriculture, the prices paid at Boston for this cotton during the years 1898-1907 varied from 10.1 cents to 21.9 cents, the average price per pound having been 15.3 cents. The prices of American Middling Upland cotton during the same period varied from 5.9 to 12.5 cents, with an average of 9.5 cents.

**General Considerations.**—The greatest danger to the cotton industry of this country at present is the boll weevil. This insect, which has done such great damage in Texas and is now rapidly spreading into the other cotton growing States, may be distributed in cotton seed. As Arizona is now free from this pest, stringent measures should be taken to prevent its introduction. It would be better for growers who contemplate experimenting with cotton during the coming season to obtain their seed from the Bureau of Plant Industry at Yuma and plant on a small scale than to plunge into extensive cotton growing and run the risk of introducing boll weevil by indiscriminate importations of seed. Any seed that may have been already imported should be carefully fumigated at once. This may be done by means of carbon bisulphide vapors as explained in Farmers' Bulletin 209, U. S. D. A.

Prospective cotton growers should begin operations by organizing strong local associations with executive officers of known ability. By force of a strong and loyal public sentiment the association should control importation and selection of seed in order to keep out the boll weevil and hold the quality of the crop grown up to a high standard. The association should also take charge of ginning and marketing the crop.

Because of the uncertainty of labor conditions, operations for the coming season should be largely of an experimental nature, and the plantings should be limited to small acreages; but at the same time there should be enough grown in the community to justify putting in a small gin and marketing the crop.

### THINGS ABOUT DRY FARMING.

Dry farming is pressing itself upon the unirrigated districts of California this year rather more forcibly than is pleasant, but it may be profitable to think a little more upon the principles and practices involved in its successful pursuit. It seems that it is rather too dry this year even for dry farming in some of the interior States where dry farming has been proclaimed as a panacea for agricultural ills. In a recent issue the Denver Field and Farm states this and gives account of those whom it will hit hardest:

If we do not get a big soaking rain or a heavy snowstorm here on the plains within the next three or four weeks the dry farmers might as well give up the notion that they can do very much this year, for the chances are all against them. The burden will fall heaviest upon the settlers who have just come in, for it is always questionable practice to crop newly broken sod in a dry year. The sod usually contains but little moisture, and the process of breaking saves none of it. It is a good plan to plow sod land not less than three nor more than five inches deep, turning the sod down as flat as possible, and then pray to the Lord for a good wetting so that it will not dry out too soon. Follow as closely with a disc harrow as practicable and then go on with some form of packer, either single or double roll. This will



## Horticulture.

### RESTORING DREDGER DEBRIS TO PRODUCTION.

If an undertaking which is now in progress at Oroville proves feasible and profitable, it will be very important as a means of covering the blots made upon the landscape by the gold dredgers now working in some of the rivers of the Sacramento valley. The account which is telegraphed from Oroville is as follows:

Growing an orchard upon a rock pile would seem like horticulture in topsy-turvy land, but this is exactly what Mr. James H. Leggett, a large dredge operator and former orchardist, is doing. He has leveled a number of acres of rock pile upon land which he has dredged, and is now planting this ground to figs, oranges, and grapes. Not only does Mr. Leggett contend that the land is as well adapted to raising fruit as before it was dredged, but he goes further and says that it is better. For the past few years he has been experimenting, and is in a position to talk from actual observation of trees planted among rocks.

In the land now being planted a rich loam and fertilizer is thrown above the roots, and the whole covered with a foot of clean washed gravel and rocks which has not even a suspicion of soil in it. Mr. Leggett states that he does not want any soil surfacing. Soil would merely allow weeds to grow, which would have to be cultivated to get rid of. The foot of clean rock accomplishes everything that cultivation would do. It prevents the weeds from growing, conserves the water, and, moreover, conserves the heat. The land has been turned over and stirred to bedrock. It has been cultivated as no plow could ever cultivate it.

The fruit from the trees planted as experiments on the rock piles is fully ten weeks ahead of the old orchards which existed before the land was dredged. This is on account of the fact that the rock surface retains the heat. Mr. Leggett states that his experiments have demonstrated beyond possible doubt that all the land which was formerly devoted to orchards in and around Oroville and which has been torn up by the dredgers, can be reclaimed for horticultural purposes.

### BUDDING IN HEAVY ORANGE BARK.

We have recently given hints on budding citrus trees by Mr. E. L. Koethen of Riverside, particularly with reference to budding into the new shoots forced out for that purpose by cutting back the tree. Now Mr. Koethen gives the Fruit World his method of treating buds which have been put into old bark. This, he says, requires much more care, but will give much better satisfaction, saving, as it does, about one year of crop.

After the wrappers are removed the tops may all be removed by sawing them off directly above the circle of buds, the cut surfaces painted and the trunk shaded by whitewashing, or better, by both whitewashing and gunnysacking. This is necessary, because of the excessive heat of the sun. Unprotected trees will blister so that the entire bark will peel off if the trunk is suddenly exposed to the full glare of the summer sun, and many trees have been permanently ruined through neglect of this matter. If this practice is followed it will be necessary to watch the buds, as they grow, and before they become top-heavy they should be pinched back to make them stalky and secure a fast hold to the tree. It is just as well to allow a portion of the suckers to grow for a time with the buds, and then gradually thin them out until nothing but buds are left. This insures continuous flow of sap in the entire bark of the tree, and helps to preserve root action. Unless this is done it will be found that the bark will die down around the edges of the limbs, making much larger bud surfaces to peel over than need be.

But we would only cut off a portion of the remaining top. If there are three limbs that have been budded we would take two of them off close to the buds, selecting one to leave that will form as perfect a protection for the trees as possible from wind, sun, and frost. The remaining limb we would girdle by taking off a strip of bark about an inch wide just above the buds. This will cause all the buds to start, and as they grow the

upright limb remaining may be used to tie the buds to as they grow. This will be a guarantee against loss by wind. The advantages of this system are, an uninterrupted root action, protection during the first winter, and increased vigor of bud growth, besides harvesting more than enough oranges to pay for the work, for the girdled limbs will bear heavily. The trees will need suckering just like under the other system, but as the buds are better protected by tying up, they need not be checked in growth by pinching during the growing season.

The disadvantage of the latter system lies in the fact that budders do not care to carry the work through two seasons, and hence it has not become popular, but its value is demonstrated beyond a doubt. The work the following spring is simply to remove the remaining branches and paint the scars. This is a nice little operation to accomplish without breaking out the buds. We first lighten up the limb by cutting some of the top off, and then by placing two stout props in such a position as to form a tripod with the limb; a nice clean undercut is made with a saw until it pinches, and then as it is severed from the upper side the operator gives the butt of the limb a dextrous pitch as it comes loose, and the limb tumbles out of the tree without touching the buds. It is practically lifted out. It is often necessary to use a very narrow saw to saw around between the buds. The long vigorous buds should be shortened back before sawing begins. It is astonishing how fast such buds will grow the second season, far outstripping the trees entirely topped the first season.

## Entomological.

### PARIS GREEN AND LEAD ARSENATE.

To the Editor: Why is lead arsenate preferred to paris green for using in Bordeaux mixture for pears and apples? I used lead arsenate last summer as a spray in this way, mixing 2½ lbs. to 50 gallons of Bordeaux for the first application, then 2 lbs., and finally 1½ lbs. for the last application, spraying apples every two to three weeks through the summer and fall. The results were not nearly as good as the previous year, when I used paris green and Bordeaux. How strong can paris green be used in spraying apples and pears?—Subscriber, Placer county.

#### Response by Mr. E. E. Luther of Watsonville.

To the Editor: At your request I make the following comments upon Subscriber's letter:

Arsenate of lead is given the preference over paris green in using with Bordeaux mixture on apples and pears because it is a better insecticide. First, because a well made arsenate of lead does not injure the most delicate foliage, however strong it might be used. Paris green, on the other hand, is an unsafe arsenical for use even when a large excess of lime is used with it. Secondly, arsenate of lead will not be washed off by rains, while paris green will, thus necessitating more spraying. Thirdly, there is a better distribution of the poison when lead arsenate is used. Finally, the arsenate does not require much agitation to keep it in suspension in the spray tank (unlike paris green, which is notorious for settling to the bottom of the tank, if not constantly stirred), and it gives better results than paris green, provided the same amount of arsenic is used.

All over the State last year the codling moth was more abundant than the previous year, which might account for Subscriber's having more wormy apples than he did the year before. I believe that he did not do the calyx-cup spraying, which is perhaps the most important spraying for his locality. Then, too, the question of the man behind the nozzle comes in. This he must answer for himself. Moreover, one cannot compare one year's work in this line with another, but must try paris green and arsenate of lead side by side, to get results showing which is the better. If he does this he will find, as I have found, arsenate of lead to be the better. The truth of the matter is, paris green has been supplanted by arsenate of lead, for the latter has become the standard spray.

Seven and one-half ounces of paris green to 50 gallons is the maximum strength which I would use, but Subscriber may take his own risk.

### TO LEASE GRAZING LANDS.

A delegation of cattlemen, introduced to President Roosevelt recently by Senator Burkett of Nevada, left the White House saying that they had obtained the President's indorsement of a proposition whereby the Government, should legislation be enacted authorizing the proposition, will authorize for grazing purposes large tracts of the Government domain and allow the same to be leased. Senator Burkett has prepared a bill embodying this plan, and has hopes of securing favorable action on it by Congress.



Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**  
A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Neck,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

## The Swineyard.

### Green Forage for Hogs.

An especially timely bulletin has just been issued from the Missouri Experiment Station by Dean H. J. Waters, giving the results of some experiments to determine the value of different forage crops for hogs.

Thirty-six pigs weighing about 50 pounds each were fed in lots on different forage crops in connection with corn until they were ready for market, accurate account being kept of the cost of gains made.

In cheapness of gains the feeds used ranked as follows: Corn and skim milk, cheapest; corn and alfalfa, second; corn and red clover, third; corn and bluegrass, fourth; corn and rape, fifth; corn and ship stuff, sixth.

A saving of about 75 cents a hundred in the cost of gain was effected by using green clover instead of fresh bluegrass. A saving of \$1 a hundred was effected by using alfalfa instead of bluegrass.

When it is realized that alfalfa comes on early, and when properly clipped stays green all summer and until the very hard freezes of early winter, its importance as a high pasture is apparent. Clover yields more forage per acre than bluegrass, and as shown by these experiments, has a much higher feeding value. It is of the utmost importance, therefore, to provide this sort of pasture for hogs, rather than to require them to run on a grass pasture, or even far worse than this, to confine them in a dry lot in the summer time.

This bulletin recommends a succession of crops for profitable hog pasture. The bulletin is for free distribution, and may be had by addressing the Experiment Station at Columbia.

### Modern Hog Raising.

We have received a copy of a neat booklet written by Mr. A. W. Sprague, manager of the Woven Wire Fence department of the American Steel & Wire Co., of Chicago, on the subject of modern hog raising. It is interesting reading. While the subject, of course, is not original, yet it is presented in a new way by Mr. Sprague, who is ably qualified to

write on this subject, being intimately connected with it for over a generation. Copies can be had by addressing the American Steel & Wire Co., Commercial National Bank Bldg., Chicago, Ill.

## The Veterinarian.

### Change in Texas Fever Quarantine Regulations.

New regulations regarding Texas fever of cattle have been issued by the Secretary of Agriculture to take effect April 1. They are designated as Bureau of Animal Industry Order 151 and Amendment 3 to Order 143, and copies will be furnished to interested persons on application to the Bureau at Washington, D. C.

These regulations describe the area quarantined on account of Texas fever and prescribe the conditions under which the movement of cattle from that area is permitted. As a general rule, between February 1 and October 31, cattle may be moved from the quarantined area only when shipped by rail to market centres for immediate slaughter. Special provision is made, however, for the movement of cattle for other purposes from certain districts where some of the farms and pastures have been freed of ticks, when the cattle are inspected and certified to be free from ticks. These districts are hereafter referred to in this article as "provisionally quarantined."

The principal changes made by Amendment 3 to Order 143 consist in amplifying the specifications for the construction and maintenance of yards and approaches for the exclusive use of cattle from the quarantined area in the course of transportation through non-quarantined territory, and in prescribing similar specifications for non-infectious pens in the quarantined area.

Order 151 changes the quarantine line in several particulars. Most of the changes are the result of the work done during the past year by the Bureau of Animal Industry in co-operation with the State authorities toward eradicating the cattle tick, and there is consequently a considerable reduction in the quarantined area. The quarantine now includes the entire States of Louisiana, Mississippi, Alabama, Florida, South Carolina, and parts of California, Texas, Oklahoma, Missouri, Arkansas, Tennessee, Georgia, North Carolina, and Virginia.

The actual changes in the quarantined area of California compared with last year are as follows:

The remainder of Madera county (that part lying west of the main line of the Southern Pacific Railway) is released from provisional quarantine, and the counties of Ventura and Riverside are admitted to provisional quarantine. This leaves only the counties of Orange, San Diego, and Imperial as the area that is wholly quarantined.

## Red Gum and Sugar Gum

for April and May.

\$2.25 ..... per 100  
\$10 ..... per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

**HENRY SHAW,**

320 River St. Santa Cruz, Cal.


## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

**A. J. GALLAWAY, Healdsburg, Cal.**

**DO YOU WANT MORE DAIRY DOLLARS?**

**THEN YOU NEED A TUBULAR Separator**



The answer to the question is in no doubt.

Everybody does.

The way to have more Dairy Dollars is to get a Tubular Cream Separator.

The reason for this answer, and the proof of its truth, are in the experience of Tubular users.

Dairymen and dairywomen everywhere have been gaining good Dairy Dollars with the Tubular. Some had no separators before buying Tubulars, others had some other make. ALL gained, however, in money, or saving of work or both, when the Tubulars were put in—they get more Dairy Dollars.

**Making Twice as Much**  
NORTH BUENA VISTA, IOWA.  
Feb. 8, 1908.

Before we bought the Tubular we had a ———. Did not like it. We are now making just twice the amount of money we did before.

KARL KOCH.

**One-Third More Butter—Less Work**  
MANSFIELD, OHIO,  
Jan. 13, 1908.

Bought one of your Tubular separators last August. We make one-third more butter than by hand skimming, and no crocks to wash.

MRS. GEORGE HENRY.

**The average gain, from average cows, with a Tubular separator is one pound per week, per cow, compared with raising cream systems.**

Are you interested in this sort of gain of Dairy Dollars? Wouldn't you like the success that is shown in above letters? Don't you want a pound of butter more, per week, per cow, than you are getting from pans? Don't you want butter gain and less work, if you have a separator?

Write for Tubular Catalog No. 131 illustrated explanation of why the Tubular does better than other separators, how it is different, easier to operate and clean, scientific and mechanical reasons for Tubular superiority, and some testimonials from Tubular users.

## The Sharples Separator Co.,

WEST CHESTER, PA.

Toronto, Can.

San Francisco, Calif.

Chicago, Ill.

## The Stable.

### Market Mules and How to Get Them.

Chas. C. Judy, Menard Co., Ill., says the Breeders' Gazette, has sold more high-price mules to Chicago team-using concerns than any one else. He knows the trade, shows his mules at the fairs, goes against the best raised in the South and wins his share of the ribbons all the time, proving that as good mules can be and are bred in Illinois as anywhere else. Recently Mr. Judy wrote:

"To write something new about the 'much used and much abused animal the mule is a hard proposition. Ever since his ancestor 'spoke with the tongue of man' he has been constantly in the limelight, an important factor both in time of peace and war. He has been much improved upon in the last decade and there are lots of mules.

The big draft mares, Percheron and Clydesdale, are responsible for this transformation. The big miner is a horse mule 14.3 to 16 hands, short on his legs, wide both before and behind, with a full middle, good thick neck, legs well set under him and large feet, weighing from 1200 to 1600 pounds: the most weight in the smallest space, the more money he will bring. The pitter or small miner is on the same order, from 13 to 14.3 hands, but there is demand for small ones without quite so much bone and weight, but the heavier for the height the better. The brewery or draft

mule is a sister to the big miner, but like all mare mules has a shade more quality and is a little finer all around. The kinds that bring the big money and sell at any time of the year are those that weigh from 2500 to 3000 pounds per pair and have the gimp and step to move a large loaded wagon with ease and speed.

The mule most in demand at the present time is the high class cottoner—a mare mule from 14.3 to 15.2 hands, with quality and finish—the greater amount of each the more she will bring. This kind of a mule is out of a well bred trotting or saddle-bred mare. I do not fancy a Thoroughbred mare as a rule for mules, the produce is usually too light in bone. There has been a radical change in the class of cotton mules the last few years since the southerners have been making money and improving their way of cotton raising. The best mule is none too good for them; formerly any kind of a little mule would do, but that time has passed, consequently there is not much of a place for light-boned mules at a price it would pay to raise them.

The mule I prefer for farm work is one from 15.1 to 16 hands, the quick-action kind that can plow 10 acres of corn to a riding cultivator or plant 20 acres a day. Individually I like a mare mule, but for hard usage and ordinary treatment I believe a horse mule will do the most work.

In the way of raising and breeding mules there are no secrets or patents on the plans. Get good mares, draft mares



preferred. In choosing a mare to breed to a jack I would secure one with some quality, good head and neck, short back and good on her legs. In selecting a jack I would not always take the largest one unless he had the right kind of conformation. I like a jack with quality, big head well set on a full neck, coming out of wide shoulders, big breast, long ears well set up, big bones with large knees and feet, legs well under him, not crooked or cow-hocked behind. It is a hard matter to find a jack built like a horse; from his withers back he is a little inclined to look light and long-backed. Although wanting a jack with life and snap, one must not expect him to get out and act like a Hackney. My preference in color is for black with mealy nose and belly, but I have seen some mighty good grays and mouse-colored ones.

Some breeders object to the large draft mares and prefer trotting or saddle-bred ones, but it has been my experience that the mules with size and quality are the ones to get the blue ribbons at the large shows, and when you want to sell them you can get more for that kind than for one with as much quality but less scale and weight. There is not an animal on earth that will give larger returns for feed than a mule. They should be fed from the time they are foaled till they go to market, which if handled properly will be at three years old. Work them through the crop when coming two years old. Keep them in barn in day time; let them run on grass at night till fall, then fasten them up in good barn, giving them of oats, corn and clover hay. Keep them well bedded all the time. Let them out about an hour each day if dry or if there is snow on the ground, but they should not be allowed to roll in the mud; the fatter and the better the condition in which you have the hair, the more money they will bring. Mules are like wheat—cash at any time of the year.

The demand is growing all the time. The city wants them for brewery and other heavy wagons. Laundry and parcel wagons are using a lighter class. All over the south and west new farms and plantations are being opened up and developed. The government is in the market for home use and the Philippines. Africa is a buyer and has to come to the United States to get them. With a shortage for the local demand all over the country, under such conditions it seems to me an opportune time to go into or stay in the mule business.

## The Dairy.

### An Up-to-date Jersey Dairy in Kings County.

Mr. F. V. Dewey gives in the *Hanford Journal* an interesting account of the dairy enterprise of Mr. George. A Smith, two miles southwest of Corcoran.

Mr. Smith purchased two years ago the section of land on which his farm is located and began improvements thereon two years ago in February. He has certainly accomplished wonders, as he now has 420 acres in alfalfa, 120 acres in oats, 30 acres in barley and is prepared to put 40 acres in corn. He has dug ditches, built fences and outbuildings and a large barn for his milch cows, and has one of the neatest and most handsomely furnished farm residences in this part of the state. Not only this: He has added to his herd of thoroughbred Jersey cattle till now he has 300 head of old and young stock and has acquired a nice herd of thoroughbred Poland China swine. He has also erected and had in operation for some time past at Corcoran one of the most up-to-date creameries in the San Joaquin valley.

He has developed on his own land nearly all the water he needs for irrigation, through artesian wells, but he can get water also from the Lake Land Canal Company's canal when needed. He has at his home place three two-inch artesian wells and a large artesian well on one of his ranches nearby. Sufficient

natural gas is developed from the three two-inch artesian wells to supply all the gas needed for the boiler used to furnish steam for his separator, and his house is lighted by gas, every room is heated with it and there is gas for cooking. In fact there is really enough gas developed by the three wells to furnish 10 families with gas for light and fuel.

Mr. Smith's cows "come in" at all seasons of the year. Each cow is branded with a different number and record is made every week of her milk, both as to weight and butter-fat production. Mr. Smith has one of the most up-to-date dairies in the State and everything about the place is as neat as cleanliness and sanitary methods can make it. Order and neatness are in evidence everywhere. A dairy thus conducted takes a vast amount of clerical work, for not only the milk production of every cow is kept, but, as Mr. Smith is in the line of breeding Jersey cattle for sale, the pedigree of every one of his herd is kept and of record so that it can be found at a moment's notice.

The herd of fancy Jersey cattle belonging to Mr. Bradbury, a wealthy man and banker of Los Angeles, was purchased by Mr. Smith and the 52 head of fine Jerseys arrived in Corcoran, under Mr. Smith's personal supervision, on Tuesday. The animals filled two cars and it is doubtful if two carloads of more valuable livestock were ever shipped in this State, for Mr. Bradbury purchased only the very best, but sold when he got tired of the herd as a sort of "fad."

There are six bulls in Mr. Smith's herd. Two of these are imported Jersey bulls; one is out of an imported dam and one is by an imported sire. One of these bulls secured six first prizes and three sweepstakes in the fairs of 1907, and the herd of Jerseys displayed won 57 prizes last year. Ninety-seven heifers and several young bulls were raised on the ranch last year. So great is the demand for the stock raised by Mr. Smith, however, that he now has no heifers for sale and only a few young bulls, which are not yet old enough for service.

One cow of the herd is now being tested for a year's milk and cream record and it is expected that she will make a fine one. She has now been months under a daily test and this will be continued till the year is up. This cow has already won two gold medals, two first prizes and two sweepstakes.

The cows are never housed; they run out on the alfalfa ranges the year round and dry feed, in the shape of hay, also abundance of pure artesian water, is always before them. Surely their lot is a fortunate one, for climate, feed and water are all in their favor, as it is in few other places in the world.

Mr. Smith is also in the business of breeding and selling Poland China swine. He has 130 in his herd, with a son of Chief Perfection II at the head of the herd.

The Corcoran Creamery which also belongs to Mr. Smith was established a year or so ago, is doing a nice business, and the output is gradually increasing, but it has a capacity much larger than it is using at present—a capacity for the cream from 3000 cows. Seven hundred pounds of butter a day is the present output. Mr. Smith takes all the cream from his dairy farm to his creamery and it is interesting to know that his "milk check" for one month is \$1275. Besides this he has his calves and pigs also as a dairy profit. His herd being all Jerseys, most of his neighbors have followed his example in buying that breed of cattle and the result is that nearly all the milk that comes to the Smith creamery is from Jersey cows. Result: A firm, sweet butter, so yellow in natural color that no artificial coloring is necessary, and Mr. Smith informed us that the butter from this creamery brings in the Los Angeles market a higher price than that of any other creamery in the valley. The Corcoran creamery paid out for cream last year the handsome sum of \$75,000.

C. H. Werder, formerly of Iowa, is the buttermaker at this creamery, and he thoroughly understands the business, as the quality of the output proves.

# DE LAVAL SEPARATORS MAKE THE BEST BUTTER

The one purpose of every thinking buyer of a cream separator is the making of the most and the best cream possible, whether for home butter-making, creamery patronage, or any other use to which cream is put.

It is possible to "claim" almost everything for the various makes of cream separators, but the one indisputable fact that would-be competitors do not even attempt to get around is the unquestionable superiority of the DE LAVAL machines in the making of the best butter.

Year after year, dating back to the invention of the "ALPHA-DISC" system of DE LAVAL bowl construction, butter made by users of DE LAVAL machines has scored highest and won all higher awards in every large and thoroughly representative butter contest throughout the world.

Beginning with the first great annual contest of the NATIONAL BUTTERMAKERS ASSOCIATION in 1892, and ending with the 1908 contest at Minneapolis, March 11th to 13th, not only the HIGHEST but every anywhere near high award has been made to users of DE LAVAL separators, and more than nine-tenths of all exhibits scoring above 90% in quality have been DE LAVAL made.

## THE ROLL OF HONOR ALL DE LAVAL USERS

The First Prize winners and their scores at every convention of the National Buttermakers Association since its organization in 1892 have been as follows:

1892	Madison, Wis., Louis Brahe, Washington, Iowa.....	Score 98
1893	Dubuque, Iowa, C. W. Smith, Colvin's Park, Ill.....	Score 97
1896	Rockford, Ill., F. C. Oltrogge, Tripoli, Iowa.....	Score 98
1896	Cedar Rapids, Iowa, Thomas Milton, St. Paul, Minn.....	Score 97.82
1897	Owatonna, Minn., H. N. Miller, Randall, Iowa.....	Score 98.5
1898	Topeka, Kan., Samuel Haugdahl, New Sweden, Minn.....	Score 98
1899	Sioux Falls, South Dakota, A. W. McCall, Creston, Iowa.....	Score 97
1900	Lincoln, Neb., H. T. Sondergaard, Litchfield, Minn.....	Score 98
1901	St. Paul, Minn., E. O. Quenvold, Owatonna, Minn.....	Score 97
1902	E. L. Duxbury, Green Bay, Wis.....	Score 98.5
1904	St. Louis, Mo., L. S. Taylor, Glenville, Minn.....	Score 98.5
1906	Chicago, Ill., A. Carlson, Rush City, Minn.....	Score 97
1907	Chicago, Ill., A. Lindblad, North Branch, Minn.....	Score 97.5
1908	J. C. Post, Hector, Minn.....	Score 98

(There were no conventions in 1894, 1903 and 1905.)

In the great annual contest just held 504 of the best butter-makers in the United States competed, with first, second and third, and all important awards, being made to users of DE LAVAL machines.

At each of the two big National Dairy Shows held in Chicago in 1906 and 1907, DE LAVAL butter made a CLEAN SWEEP of all highest prizes, and the general average of all the DE LAVAL made entries was conspicuously higher than the general average of all entries using other makes of separators.

Going back further, DE LAVAL made butter received the GRAND PRIZE at the ST. LOUIS WORLD'S FAIR in 1904, and as well at the PARIS WORLD'S EXPOSITION in 1900.

In the hundreds of important State and country contests the world over for twenty years, the superiority of the DE LAVAL separator in the making of fine butter has been conclusively proven.

THE EXPLANATION IS TO BE FOUND IN THE IDEAL DESIGN AND CONSTRUCTION OF THE DE LAVAL SEPARATING BOWLS AND THE THOROUGHLY PRACTICAL CONDITIONS UNDER WHICH DE LAVAL MACHINES MAY BE OPERATED AND USED.

A new 1908 DE LAVAL catalogue—affording an education in this as in other features of separator knowledge—is to be had for the asking.

## De Laval Dairy Supply Co.

108 So. Los Angeles St.  
LOS ANGELES

42 E. Madison Street  
CHICAGO

74 Cortlandt Street  
NEW YORK

General Offices:

101 DRUMM STREET

SAN FRANCISCO

107 First Street  
PORTLAND, OREG.

1016 Western Avenue  
SEATTLE

Box 1052  
VANCOUVER, B. C.



## The Home Circle.

### Mother's Almanac.

I tell you when it comes to dates,  
My mother's just the boss!  
She tells me all I want to know  
'Thout ever gettin' cross.

You'd think she'd get mixed up some-  
times;

At school I know I do—  
'Bout Washington and Plymouth Rock,  
And 1492.

But mother says: "The war with Spain  
Was fought in '98—  
The year you all had chicken pox,  
Exceptin' Sister Kate.

"The Boer war in Africa—  
That was a dreadful thing—  
Began in '99, I know,  
For Jack was born that spring.

"In '98 the Spanish ships  
Were sunk in Cuba channels;  
'Twas summer, for you children had  
Just changed your winter flannels.

"In 1904, my dear,  
The Russians fought the Japs;  
That year was very cold, and you  
Had chilblains and the chaps."

There's six of us, and we're mixed up  
With hist'ry just that way;  
Sometimes it's measles, croup, or mumps,  
But there's no date that ever stumps  
My mother, night or day.

—Lippincott's Magazine.

### One April Fool.

"Oh, I think it would be fine sport," said Arthur Harriman. "That old coat ought to have been put in the rag-bag ages ago; it is old, and gray and threadbare; some of the seams are almost white, and so shiny! Why, father wouldn't allow his footman to wear such a one!"

"One word, Arthur. What are you chattering about?" asked his brother Ralph, as he threw himself into a great sleepy-hollow chair and took up 'Thaddeus of Warsaw.'

"I was talking of Mr. Seaforth's coat, Ralph. It looks as if it had descended as an heirloom from Noah to its present possessor."

Ralph laughed at Arthur's sally and turned to his place in his book.

"I say, Ralph!"

"Well?"

"Do quit reading and listen to me for a moment."

"Very well; be in haste, though," and Ralph kept his finger in his book to keep the place, as Arthur continued—

"Father wouldn't let his coachman, John, wear such a coat, and I think it's a shame for him to come here with it."

"Well."

"Ralph Harriman, you are a regular Yankee with your 'wells.' I wonder you don't say, 'Wa'al na'ow, what on airth is a comin'?' as Jonathan Verdant does."

"Very well, then," said Ralph, with a laugh, "what do you propose to do about the coat?"

"I'll tell you, but you are to keep whist about it, old fellow."

"That depends," muttered Ralph, kicking over a footstool. "Is it any of your pranks, Arthur? I think you play altogether too many; you ought to devote yourself to your books, young man, and not be idling away your time," with a tone of mock gravity.

"Precious fiddlesticks!" quoth Arthur. "Do you know that it is almost April Fool's Day?"

"Yes, and if I didn't I should begin to realize it by your capers—stuffed biscuits, salted coffee, peppered tea, sawdust-filled eggs, and bottomless chairs—ugh!" and his

shoulders went up with a little shrug of disdain, while Arthur laughed and remarked coolly:

"You know my programme pretty well, Ralph; I shall have to get up another for next time."

"What has it all to do with Seaforth's coat? I am sure I cannot imagine."

"Of course not; you never see any fun unless it's drummed into you. What I propose to do is simply this: Mr. Seaforth is able, I am sure, to get a better coat; father pays him well, and I propose to cut off the tail of that abominable coat, or make it in some other way unrepresentable, and so force him into getting a new one."

"Arthur Harriman, you shall do no such thing!" exclaimed Ralph, showing more spirit than he had yet exhibited. "Mr. Seaforth has a right to wear what he pleases, and we are not to interfere."

"Indeed!" said Arthur, satirically; "suppose you help him to get another coat then; that would be a jolly April-fool for him, at least, if not for you."

"I'll help, if you will," and Ralph resumed his reading once more, and Arthur could get nothing from him except the reiteration of his promise to help get a new coat if it were necessary.

I don't want my readers to feel unkind toward Arthur. He was simply a merry, rather thoughtless, fun-loving boy, but he had a sympathizing heart, after all.

Mr. Seaforth was private teacher to Arthur and Ralph Harriman, George and Charlie Hunter, Edward Peterson, and his cousin, Mort Hildreth. He was a poor man, trying by acting as tutor of these six boys, who met daily in one of Mr. Harriman's spare rooms, to earn his living. He had a wife and a little crippled daughter dependent upon him for support, and also several hundred dollars to pay on the pretty little cottage which constituted the home nest, before he could call it his own. For this Herbert Seaforth toiled unremittingly, denying himself not only the luxuries, but many of the comforts of life; and upon this man Arthur Harriman was about to play his thoughtless joke and try to render useless the old but best coat that his faithful preceptor possessed, intending to cover his fault under the shadow of an April-fool joke.

It was the Thursday morning before April Fool day. The boys were assembled in the school room, with their books and papers strewn about.

Arthur had just opened his grammar when a folded paper attracted his attention. He opened it and mechanically began to read a part of a letter. There was no address on it at all; evidently that had been torn off, for this was only a part of a page, and read as follows:

"There are only two hundred dollars more to be paid on the house before I can call it my own. How happy I shall be when I can feel that the little white cottage is really ours. For this I have toiled all through many weary months; but the end is coming soon, and after the debt is paid I can get some of the things we have been obliged to forego in this long struggle—comforts for my wife who has been such a faithful friend—and help perhaps for our darling Daisy, our little crippled child, and after a time some books, and a new coat for myself, for my old one has seen its best days—"

The rest of the paper was torn off, and Arthur refolded it and placed it in his book just as the grammar class was called. He had long before finishing, recognized the handsome penmanship of his teacher, and his heart rebuked him for reading that which was not his own. He knew Mr. Seaforth had borrowed his grammar the evening before, and had perhaps laid the letter in there and forgotten. It changed his plans, however, for he could not possibly repeat his lesson, because of a new plan which had just entered his head. Mr. Seaforth recognized the paper and drew it out with a quick, questioning glance at Arthur's face, which, however, betrayed nothing. He was a proud man, and for the world would not have another suppose for an instant that the paper had been put there for inspection.

"I say, Ralph!" cried Arthur, bounding up to his brother after school hours, and Mr. Seaforth was safely out of the way; "you told me the other day you would give something toward a new coat for the professor; out with it now! I'm in a hurry."

"Are you in earnest, Arthur, and do you really want it for Mr. Seaforth? No fooling now?"

"In earnest? Of course I am; never was more so in my life. And do I want it for Mr. Seaforth? Certainly; what do you take me for? Think I would ask it for him and then use it for myself?"

Ralph laughed, and the boys crowded up to know what the joke was now.

"Let me tell you. Here we have been making no end of fun of Professor Seaforth's old coat, calling it 'Noah's wedding coat,' and one of the 'relics of Pompeii,' and so forth, and I think it's downright mean, and I'm willing to acknowledge myself the meanest of all, for I started it myself for my cabinet of curiosities. I say, boys, that is a brave old coat; it has faced as many hardships as a major-general, and I honor its wearer."

"What in the world do you mean, Arthur, if I may enquire?" asked Ed as he curiously eyed the flushed face of the speaker.

Arthur explained about Mr. Seaforth's indigent circumstances, and added:

"I propose that we help him; give him an April-fool that is worthy of us for once. I have ten dollars which I give as a nestegg, and some of you fellows ought to do as well. We are all pretty well off in this world's goods."

"There, Arthur, I am proud of you!" exclaimed his brother, seizing his hand, for he knew that Arthur's ten dollars had been put by as a nestegg for quite another purpose. He had a handsome cabinet for curiosities, and with this money he had hoped to add to it.

"I will give ten—that will get the coat."

"I will give ten for other purposes," said Ed.

"And I," added Mort, "perhaps I can make it more"; for Mort Hildreth's father was one of the richest men in the city.

"I can't give more than five," said George, "neither can Charlie; but mother has some books that were Uncle Charlie's, and I will ask her to let me have some of them."

"All right; they will be quite acceptable," said Arthur.

"How are we to give Mr. Seaforth

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

the things?" asked Charlie. "I imagine he is as proud as Lucifer."

"Then he don't deserve them all," said Arthur; "and now I will go to the tailor's and get the coat" and Ralph, Arthur, Ed, and Mort hurried off, while Charlie and George went home to consult mother about the books. Their Uncle Charlie had been a professor in one of the colleges in the city. He had been dead only a year, and had had a large, well filled library. It had been his express wish that this should go to some needy and worthy person, and as such Mr. Seaforth was the man whom to bestow it.

Mrs. Hunter was glad to accede to the wishes of her boys, and began at once to pack the books.

The boys told their story to the tailor, and he selected a handsome coat, with permission to change it if it did not suit.

There was one listener at the tailor's who, unseen, had heard the whole story. It was Mr. Grinder, or "Old Grinder," as he was generally called, who held the mortgage on the white cottage.

"I say," he muttered, "them there young upstarts sha'n't get the start of me; or ef they have got the start they sha'n't do all o' the bixness. An April fool! Wall, wall, seems to me this here bizness is the most sensible April fool I ever heard tell of, and I mean ter help at sech foolin'. I will throw off a hundred dollars on that there mortgage"; and off he went to make out the papers.

Arthur Harriman was surprised the next morning very early by a visit from "Old Grinder," who handed him an immense yellow envelope, on which was inscribed in straggling letters, crooked as the letter 'S,' Arthur said, the words:

"A April Fule. Complements uv the fule. This envelope contains a release for one hundred dollars from the mortgage, thus leaving but one hundred more to be paid."

"I want you b'ys to put this here envelope with the rest of your April fool notions," said the old man as he departed, as if almost ashamed of the most kind and worthy of his few real true acts of kindness.

Arthur and the other boys wondered greatly as to its contents, and how the old man had found out their cherished secret; but they were too honorable to open a sealed letter, and so tucked it into the box of books with the remainder of their money left after purchasing the coat.

Mr. Seaforth that Friday morning



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

put off his dressing gown and took down his old coat.

"It is pretty well worn, is it not, dear?" addressing his wife, "but sometime I will have another one."

Tinkle, tinkle, tinkle, went the door-bell, and the schoolmaster went to obey the summons. A large box lay on the stoop, marked simply:

A April Fule, from the Fules, for Prof. Seaforth." For Arthur said that was just the thing.

"For me!" muttered the gentleman. "Ho! Mary, see here!" he added, calling his wife.

"I don't understand," said the gentle little woman; "were you expecting anything, Herbert?"

"No; I expect it is some foolery from my six boys. We will investigate, and if it is paper, shavings, and sawdust, say nothing about it, but let it pass for an April fool"; and the professor went for a hammer, just as a note from Arthur was handed in, which read:

"We fellows want a holiday, and so are going to take it, with your permission."

"Or without, I presume," added the teacher, with a laugh; "if Arthur sets about a thing he is sure to carry it out, permission or not," and he laughed at the remembrance of some of Arthur's capers.

"Why, what is this?" lifting out a new coat, and thus disclosing the books, at sight of which the coat was cast aside.

Such a treat were even the titles of these volumes to the knowledge-hungry man! Hugh Miller, who found such a volume in natural history and such wonderful sermons in stones; Ruskin, whose beautiful descriptions were his delight; Carlyle, Alison, Addison, Knight, Rollin, Emerson, and many other great writers, were represented here, while at the bottom of the box lay all of Washington Irving's works, so long coveted by Mr. Seaforth.

It seemed too good to be true, and tears of joy fell from the eyes of the proud man upon the precious volumes. Mr. Grinder's envelope, with its quaint lettering, met his eye, and he knew that writing. The other envelope, containing thirty-five dollars, the coat, were a mystery; nor did he find out until some months after who were the authors of that one happy "April Fool."

### Chaff.

Son—Pa, what do they have a 'best man' at a wedding for?

Father—To help put the groom down and out.

Mrs. Skrappy—Oh! Why, why did I ever marry you?

Mr. Skrappy—I guess you must have been awfully down on me for some reason or other.

Dyer—What do you call your machine, an automobile or a motor car?

Hartley—I call it either when it runs. When it doesn't run I call it other things.

Farmer—Somethin' the matter with the machine?

Voice (from under the auto)—No; I just crawled under here to get out of the sun.

### The Call.

I know a fishing hole down on the Fox,  
Sheltered by trees and lined with mossy  
rocks,  
Where river grasses grow and vegetate  
And hungry tiger bass lie in wait;  
About this time o' year my restless soul  
Just yearns for that blamed hole.

I lovingly look through my tackle book  
And discard every worn and doubtful  
hook;  
I carefully inspect my minnow pails  
And test the seine, its lead line, and its  
brails;  
I clean and oil my reel and try my pole  
And dream of that blamed hole.

I can see the sunlight dancing on the  
stream  
And the slowly swirling eddies' coaxing  
gleam;  
The lust of angling o'er my senses steal,  
Awakened by the music of my reel,  
As when a boy I from my studies stole  
Away to that blamed hole.

Oh! springtime with thy birds and bab-  
bling brooks,  
And windows filled with boats and boots  
and hooks,  
Thy bursting buds and weeping, smiling  
skies,  
And fresh supply of lurid fishing lies,  
Thou hast aroused my piscatorial soul—  
You and that blamed hole.

—T. H. Kendall, in Chicago Record-Herald.

### Curious Facts.

It costs over \$1000 to fire a single shot from one of the largest guns in the French army.

On the eastern coast of Africa is a body of cavalry mounted on oxen. The beasts are lean creatures and move with surprising agility.

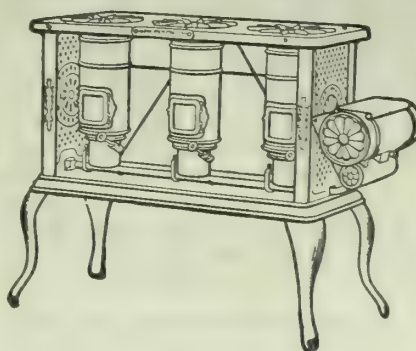
Three hundred Berlin streets are planted with 44,000 trees, which are said to represent a value of nearly \$200,000. About a thousand gardeners and assistants are employed to take care of them.

Andover (Mass.), distinguished as an educational centre, has just received a legacy of \$500, the income of which shall be applied annually for an "old fashioned spelling match." The contests will be public. The competitors are to be between 10 and 18 years of age.

A shoemaker named Wegner, living in Strasberg, Germany, has a clock of the grandfather type nearly six feet high, made entirely of straw. The wheels, pointers, case and every detail are exclusively of straw. Wegner has taken fifteen years to construct this strange piece of mechanism. It keeps perfect time, but under the most favorable circumstances can not last longer than two years.

A provision merchant in Oldham, England, has invented an ingenious contrivance by which he is able to feed his horses without personal attendance, through the medium of an American alarm clock. In a small office adjoining the stable the clock is placed on a shelf. Attached to the winding key is a piece of copper wire, and this is fastened to a small brass roller that runs over a wooden rod. At the end of the rod is a heavy weight. When the clock goes off the wheel is drawn over the rod and releases the weight, which falls to the floor. The corn-box is filled over night, and when the weight is released a small door at the bottom of the box flies open and the corn falls into the manger. The horses never fail to rise at the sound of the alarm, knowing what is to follow, and when the drivers turn up the animals are ready to be harnessed. Another advantage is that the horses need never be put to work before the breakfast has had time to digest.

## You Will Need an Oil Stove



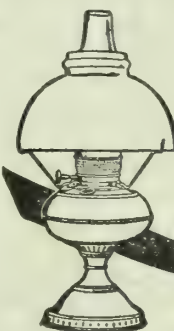
When warm days and the kitchen fire make cooking a burden—then is the time to try a New Perfection Wick Blue Flame Oil Cook-Stove.

Marvelous how this stove does away with kitchen discomforts—how cool it keeps the room in comparison with conditions when the coal

fire was burning. The quick concentrated heat of the

## NEW PERFECTION Wick Blue Flame Oil Cook-Stove

goes directly to boil the kettle or bake the bread, and none is diffused about the room to overheat it. Thus using the "New Perfection" is real kitchen comfort. Made in three sizes and fully warranted. If not with your dealer, write our nearest agency.



The **Rayo Lamp** Just such a lamp as everyone wants—handsome enough for the parlor; strong enough for the kitchen, camp or cottage; bright enough for every occasion. If not with your dealer, write our nearest agency.

**STANDARD OIL COMPANY,**  
(Incorporated)

### An Aim.

Give me a man who says,  
"I will do something well,  
And make the fleeting days  
A story of labor tell."

Though the aim he has be small,  
It is better than none at all;  
With something to do the whole year  
through,  
He will not stumble at all.

Better to strive and climb,  
And never to reach the goal,  
Than to glide along with time—  
An aimless, worthless soul.

Aye, better to climb and fall,  
And sow, though the yield be small,  
Than to throw away day after day,  
And never to strive at all.

—Anon.

### Buttermilk Ice Cream.

If you have never tasted ice cream made of buttermilk, there is a most agreeable sensation in store for you. To a pint of buttermilk add a pint of cream and half a pound of lump sugar which has been rubbed on lemons until well flavored. After putting this mixture into the freezer add the juice of two lemons just as it begins to freeze. When serving ice cream in cold weather it is nice to pass around a pitcher of hot chocolate or caramel sauce, to be poured over it just as it is eaten. This sauce is sometimes served in tiny cups, into which the spoonful of ice cream may be dipped on its way to the mouth.—Ladies' World.

Her Mother—I would rather you would not go sailing with that young man, Clara; I don't believe he knows a thing about a sailboat.

Clara—Oh, but he does, mama; he showed me a letter of recommendation from a New York firm he used to work for, and they speak very highly of his salesmanship.

### The Fable of the Muddy Feet.

Occasionally there is a woman who is entirely too neat and particular to be the right kind of a mother for boys. There once lived a woman of this kind in South Atchison. When her boys came home from school she would scream at them, "How about your feet?" "Is there mud on your shoes?" "Go right around to the back door!" "What do you mean by tracking dirt in here?" etc., etc. The boys grew up, and found out on the way that there were places down town where no one found fault if the feet of those who entered were muddy or tracked in dust. Now that the boys have gone to the bad, their mother sobs and laments and wonders why "the Lord ever sent her sons like that." There lives near her, in South Atchison, a mother who let her sons enjoy their home; she was glad to see them and didn't remind them that they might bring in mud when they came home. These boys grew up to love their home, and have never found out that there are places down town where a boy is welcome, and never will. The neat woman really shouldn't blame the difference on the Lord; it isn't "totting fair."—Atchison Globe.

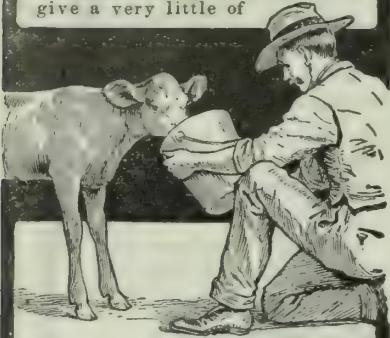
Chicago Woman's Outdoor League has succeeded in having the legislature provide for an Arbor day and a Bird day. Governor Deneen has designated April 24 as Arbor day and October 24 as Bird day. The league has arranged for a sale of penny packages of seeds, which clubs are to distribute to school children. Window boxes are sold at a nominal sum, and the league will offer prizes for the best results.

The Veddahs of Ceylon have religious scruples against bathing.



## Thrifty Calves

A calf which won't eat means a steer which won't fat. Appetite and good digestion are essential at start and at finish. If a calf is dainty, or does not make satisfactory growth, give a very little of



## DR HESS STOCK FOOD

in the mess twice a day. Dr. Hess Stock Food (the prescription of Dr. Hess M.D., D.V.S.) is a tonic preparation which corrects indigestion, makes good blood and cleanses the system of poisonous matter. The ingredients used in it are endorsed by leading medical authorities like Professors Quitman, Winslow and Finley Dun. Helpshogs and steers to fat quickly, gives appetite for roughage, and makes cows give an abundance of rich milk.

**SOLD ON A WRITTEN GUARANTEE.**

Costs but a penny a day for a horse, cow or steer.  
**100 lbs. \$7.00; 25-lb. pail \$2.00**  
Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our Government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

If your dealer cannot supply you, we will.  
**DR. HESS & CLARK, Ashland, Ohio.**  
Also Manufacturers of Dr. Hess Poultry Panacea and Instant Loose Killer.

**THE PETALUMA INCUBATOR CO.,**  
Petaluma, Cal., Pacific Coast Distributors.

## AGRICULTURAL REVIEW.

### BUTTE.

David Griffiths of the Bureau of Plant Industry is experimenting with the spineless prickly pears, more commonly known as cactus. Originally there were over 150 varieties of the prickly pear planted at the garden, and all of these save 22 varieties have been destroyed.

In prospect of a record-breaking fruit crop this season for Chico and vicinity, the Chico cannery is being overhauled, with a view to increasing the capacity of the plant one-half. Preparation is being made to install new lye-peeling machines, slicers, cappers, and cooking vats. The capacity of the plant last season was between 50,000 and 60,000 cases, and this will be enlarged to between 75,000 and 100,000 cases.

### GLENN.

Bee: E. Britten, Supervisor of the Stony Creek Forest Reserve, stated that all the sheep of the county will have to be dipped, in accordance with the laws enacted by the last Legislature, before they will be permitted to graze upon the Reserve. He stated that the law will be strictly enforced, and that this work must be done between March 15th and July 15th, under the supervision of the State Veterinarian or his duly authorized agents. The following rules and regulations have been established: Sheep affected with scabies, and other sheep exposed to said disease, must be dipped twice, with an interval between the dippings of not less than nine days nor more than twelve. All other sheep in the State of California not so affected with scabies or exposed thereto, must be dipped once. Dipping solutions

must receive the sanction of the State Veterinarian or his duly authorized agents, before they will be officially recognized by said officers. All corrals, chutes, barns, feed lots, premises and other places in which sheep affected with said disease of scabies have been placed or located must be cleaned and disinfected in a manner prescribed by the State Veterinarian or his duly authorized agents. Any person violating the above rules will be punished according to the law.

### KERN.

Bakersfield Californian: The peach moth has been discovered in the orchards of Kern county and a considerable scare has been raised about it. The peach moth is a terror to peach, apricot, plum, and pear trees, and the strawberry white fly has also been found.

### LOS ANGELES.

Express: The pre-cooling of fruits and vegetables before being started on their journey to eastern markets is proving a great success. The Pacific Fruit Express has its pre-cooling plant in practical operation, and results have been better than was anticipated. Oranges have been cooled from 62 degrees down to 38 degrees in three hours, and that is the temperature at which it is desired to ship them. When the fruit has been cooled to that temperature the car is sealed up and not opened again until it reaches its destination. Air as cold as 15 degrees above zero is pumped into the car in the pre-cooling process. Fruit men have prophesied that air that cold would freeze the fruit, but it has not done so. Pre-cooling is said to be beneficial to the fruit in that it not only reduces it to the proper temperature before it is shipped, but it draws off decaying gases from around the fruit and arrests further production of such gases, which would tend to spoil the fruit.

Huntington Beach News: Nearly three hundred acres of beans will be planted this spring on the mesa. Beans and potatoes make a great pair. Bean experts who have had experience in Ventura county declare there is no reason why beans cannot be successfully grown on the mesa. The acreage of potatoes will also be the largest ever grown. Never before has there been such a demand for seed potatoes here as this year.

### MERCED.

Merced Sun: Business is absolutely at a standstill in the local wool market. No buyers are visiting this section and such supplies as were purchased and shipped East by speculative buyers last season are selling in Eastern markets at a loss of as much as 5 cents per pound. This year's yield is as large as that of the average season and the quality is at par. Last season throughout this section growers were paid from 18 to 22 cents per pound for wool. In Nevada similar grades were selling at the same range of prices, and growers are now begging for buyers at 12½ cents per pound and making no sales.

### MONTEREY.

Pajaronian: The apricot crop of this district promises better than ever before, and if warm weather holds for a few days will prove an enormous increase over results for the past several years. The young cots have formed and reached a notice-

U S U S U S U S U S U S U S U S U

# THE 1908 IMPROVEMENTS

KEEP THE

## U.S. CREAM SEPARATOR

Far in Advance of all Competitors.

Combines the thousand and one recognized superior features (over all other makes) with new and marked improvements in construction, which make the handling of milk still easier, quicker and more profitable. Since tests with the leading makes of separators of the world have proven the U. S. to

**Hold World's Record for Clean Skimming** - for fifty consecutive runs, what more is necessary to prove to the doubtful purchaser on what machine to decide?

Write to-day for "Catalogue No. 115" and any desired particulars

**VERMONT FARM MACHINE CO.**  
Bellows Falls, Vt.

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N.Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

492

U S U S U S U S U S U S U S U S U

**PROMPT DELIVERY ASSURED**

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE.  
No Delays. Address all Letters to Bellows Falls, Vermont.

able size, and need exactly the kind of weather we are having.

### NAPA.

Register: Fruits grown in our valley have been distributed to all parts of the globe. In a report just to hand we learn that products of the local cannery gave satisfaction at such distant points as Capetown, London, Liverpool, Sydney, Melbourne, Yokohama, and Singapore. This year our fruit crop gives indication of being one of the best on record and, barring a late frost, we will be able to ship one of the largest and finest canned fruit outputs leaving the State. In preparation for the coming season, carloads of cans are now arriving, and the latest automatic machinery is being installed.

### PLACER.

It is stated that the Placer County Creamery of Auburn last year paid out \$18,000 for cream. This year the prospect for a much larger payment is good. The number of patrons last year was sixty-seven. Dairy men throughout the county as well as from Folsom, Cool, and Greenwood, will send in their cream.

### SAN DIEGO.

Brawley citizens are talking of instituting an annual festival, to be known as Cantaloupe Day, in celebration of the great industry which has developed here. Plans for such a festival would include the running of excursion trains and the bringing hither of people who could witness the melon activities right in the midst of the busy season.

### SAN JOAQUIN.

Lodi Sentinel: All indications point to a large crop of fruit of all kinds in California this year. The climatic conditions of the winter and spring have been almost ideal, and predictions of record-breaking yields are freely made by the leaders in the fruit world. The outlook for apricots is especially promising, which is of importance because of the fact that this fruit, more than any other, is susceptible to unfavorable weather conditions. Throughout the Sacramento and San Joaquin valleys, where the bulk of the deciduous fruits of the State are grown, grow-

ers are anticipating one of the largest fruit crops on record.

### SANTA BARBARA.

Santa Maria Times: The Union Sugar Co.'s acreage this year will be close on to 10,000 acres, besides about 1500 acres that will be planted on contracts by individuals. The early sown beets are up and looking fine. In some parts of the big acreage the seeding and planting are still in progress.

### SISKIYOU.

J. M. Cummins of Yreka says he has tried the following remedy for blight on pear trees and can vouch for its effectiveness: Bore a hole in the tree nearly to the heart, slanting downward. Fill it with copperas and cork the hole. The sap rising dissolves the copperas and carries it to all parts of the top, making a sure cure. The remedy should be applied in the spring, and the hole should be from one-half to three-quarters of an inch in diameter.

Sacramento Bee: A. E. Luce, who lives near Fort Jones, has a grove of 100 maples on his place. Having had experience in Maine in making maple sugar, Mr. Luce decided to try this spring the virtue of California sap. He succeeded beyond expectations, producing a quantity of sugar and syrup equal in quality to any produced in the East. This lot was perhaps the second ever made in California. A Shasta county farmer, Charles L. Paige, has been making syrup and sugar regularly for several seasons from native trees growing west of the town of Shasta, and has advocated zealously that maples could be grown profitably in any part of the counties of Shasta and Siskiyou.

### TEHAMA.

An enormous fruit crop is expected as the trees are loaded with bloom, and apricots are already formed on



**Free Veterinary Book**  
Infallible guide. Makes every man his own horse doctor. Postage 30c.  
**Tuttle's Elixir**  
Insures sound horses. Cures splint, curb, spavin, etc. \$100 reward for failure where cure is possible.  
**TUTTLE'S ELIXIR CO.**  
33 Beverly St., Boston, Mass.  
Los Angeles, W. A. Shaw, Mgr.  
1921 New England Av.  
Beware of all blisters; only temporary relief, if any.





**MICA**  
**Axle Grease**

Helps the horses.  
Saves the wagon.  
Pays the teamster.

Mica Axle Grease has a long wearing quality, which makes it the most economical of all lubricants. Especially adapted to heavy wagons and hard teaming. Ask your dealer for Mica Axle Grease.

**STANDARD OIL COMPANY**  
(Incorporated)

the earliest variety. A large acreage of alfalfa has been put in on several ranches formerly devoted to grain.

Spring clipping is being carried on in all parts of the county. The wool is generally of a good grade, but lower prices than usual are expected.

#### TULARE.

Porterville Enterprise: When the asphaltum was put on the new slough bridge Mr. Doty secured some of the mixture and built a walk with it. It was put down hot and tamped in and rolled down, and when cool was perfectly hard and solid. A few days ago Mr. Doty noticed that there were a number of places that appeared to be breaking up, and for several days he spent considerable time pressing these places down. Later he grew curious and, breaking into one of these raised places, was surprised to find that umbrella seed had become mixed with the boiling hot mass when it was put down, and the small shoots were breaking up through the surface of the asphaltum. The walk is now a peculiar sight, as the little trees are growing all over it. How these seeds escaped being killed by the hot boiling mass with which they had been mixed is a wonder, and how they can grow in it, now that it is almost as hard as a rock, is still a greater mystery.

#### VENTURA.

Oxnard Courier: There are at this writing 11,200 acres planted to beets and 8300 acres are up and doing nicely. Of this amount there have been over 5000 acres thinned, with the work on the remainder progressing rapidly. During the past few weeks the crop has grown rapidly. In the fields where there are young beets, the farmers have been hand-capped a little by the weather conditions and have had to do a lot of cultivating to keep the moisture in the ground, as a result of the east

wind weather. For these fields a little rain would be very satisfactory at this time and would bring the beets along in good shape. The first beets planted last fall are in beautiful condition. Upon making a trip among the fields we were surprised at the fine appearance of the early beets.

#### YOLO.

Capay valley reports state that the fruit crop promises to be very large, no matter whether it rains or not. Especially is this true of apricots and peaches. The only thing to be feared is late frosts.

### Sylviculture.

#### Some More Eucalyptus Calculations.

The Pioneer Eucalyptus Company has filed articles of incorporation with the county clerk of Stanislaus county, says the Modesto Herald. The principal place of business is Modesto and the capital stock is \$20,000, represented by 400 shares of a par value of \$50 per share. J. S. Tully, A. B. Shoemaker and T. F. Griffin are the directors and subscribe for all the stock, Mr. Tully in the sum of \$9000 and Mr. Shoemaker in the sum of \$1000. They expect to place their holdings with friends and other investors.

The purposes of the company are to buy, sell, lease, and mortgage land for the growing of eucalyptus and to do all things necessary for the marketing and the selling of eucalyptus timber, piles, telegraph, and power poles, railroad ties, fuel and other products of eucalyptus.

This is one of the most promising enterprises that has ever been inaugurated in that county. The rapid growth of eucalyptus, the value of some of the species for timber, piles, poles, railroad ties, etc., and for fuel suggests a vast field and splendid dividends. This company has at the outset acquired 160 acres of land in the western portion of the Wood colony—deep sandy soil, subirrigated—and have already planted 95 acres to the Rostrata and forest red gum variety, which are considered the most valuable for timber, poles, ties, etc. They scoured the State to obtain the nursery stock for this acreage and exhausted the supply. The trees were planted about 700 to the acre and they have a 95 per cent stand of the acreage planted. They will complete the planting of the tract next year.

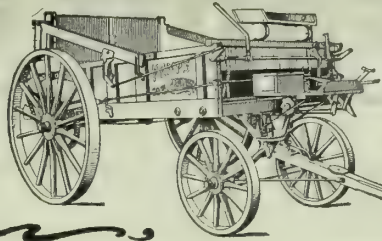
It is estimated that the first cuttings from this tract may be made eight years hence and that thereafter a proportion of the acreage, yearly increasing in value, will be ready for market. At a stumpage rate of even \$1 per tree—and piles are worth \$32 apiece in San Francisco—the revenue will be \$700 per acre. And these trees reproduce themselves after cutting. Aside from these considerations, the land at that time will represent a large proportion of the investment even should the enterprise prove an absolute failure. But there is every reason to believe that it will result in enormous profits.

The company expect to obtain other lands, for cash and other considerations, and to plant them to eucalyptus. Good subirrigated land that is rather too rough for checking may well be devoted to these purposes.

"THE OLD RELIABLE"

**DIETZ**  
**LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS



## MAINTAIN YOUR SOIL'S FERTILITY

WITH AN

**I. H. C.**

## MANURE SPREADER

THE best of all fertilizers is barnyard manure. It is your duty to apply it on the land, so that you will get the most out of it, and avoid the necessity of buying expensive commercial fertilizers.

You can make every load of manure you have go twice as far, by spreading it with one of these strong, durable, right working I. H. C. spreaders.

**Kemp 20th Century** (Return Apron Spreader).

**Cloverleaf** (Endless Apron Spreader).

**Corn King** (Return Apron Spreader).

If you have upwards of a hundred loads of manure to spread, any one of these machines will more than pay for itself the first season.

The spreader will do this by enabling you to cover more ground with the same manure, by getting a better stand of grain or grass, by doing your soil more permanent good, and by greatly decreasing the labor of manure handling.

With an I. H. C. spreader, the work of hauling out and spreading manure is reduced just about one-half, and it is made agreeable work instead of a job to be dreaded and postponed as long as possible every year.

Any way you look at it, an I. H. C. spreader is a good investment. Should you not make such an investment this year?

Every I. H. C. spreader is made so simple, strong and durable, that, with reasonable care, it will last you your lifetime. The International agent in your town will supply you with catalog and all information you desire concerning the I. H. C. spreader he handles. Or if you prefer, write for catalogs, colored hangers, etc., direct to our branch house nearest you.

**WESTERN GENERAL AGENCIES:** Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.**  
(Incorporated)

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. In ordering specify "Sorby."

### HAROLD SORBY | SERWE & PRIEN

(General Agent U. S. A.)

175 Dearborn Street, Chicago.


(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

**THE BOSS LADDER**



We have been making the Boss Ladder since 1895, and thousands of them are now in use. They are lighter, stronger and stiffer than any other make. A 10-ft. ladder weighs 15 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. R. Station in California, on receipt of price—30 cents per foot and prepaid freight.

Driver, Adams & Co., San Leandro, Cal.

### ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### CONOVER'S COLOSSAL ASPARAGUS PLANTS.

Plants exceptionally strong and true to name. Price given on application. Address

W. A. Stewart,  
Rio Vista, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### SURE CURE FOR PILES

ITCHING Piles produce moisture and cause itching. This form, as well as Blind, Bleeding or Protruding Piles are cured by Dr. Bosanko's Pile Remedy. Stops itching and bleeding. Absorbs tumors. 50c a Jar at druggists or sent by mail. Treatise free. Write me about your case. DR. BOSANKO, Philada., Pa.

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50

**\$30,000,000**

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

**San Dimas Citrus Nursery**  
SAN DIMAS, CAL.  
**R. M. TEAGUE,**  
PROPRIETOR.

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author whom no one is better qualified. The subject-matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American condition. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 450 pages. 5 1/2 by 8 inches. Cloth.....\$1.75



# BERRIES



that bring the biggest prices are those which combine fine flavor with good size and shipping quality.

The best results are obtained by using an abundant supply of a complete fertilizer containing 4 per cent. nitrogen, 9 per cent. available phosphoric acid, and at least 10 per cent. of actual

## POTASH

This formula will be found productive of wonderful results with all kinds of berries.

Detailed information is given in our free book—a valuable treatise on scientific fertilizing. It is complete and trustworthy and contains suggestions which will mean money to the man who follows them out. Address

GERMAN KALI WORKS

New York—93 Nassau Street Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

**Eureka Lemon**  
**Valencia and Navel Oranges**  
**Eucalyptus Trees**

Globulus, Rostrata, Rudis, and Tereticoorns

**Phoenix Canariensis,**  
**Chamaerops Excelsa**  
**Loquats, Roses, Etc.**

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,**  
Covina, Cal.

High In Quality

Low In Price

## OUR SEEDS GROW

**Vegetable, Flower**  
**and Farm Seed**

**J. SEULBERGER,**

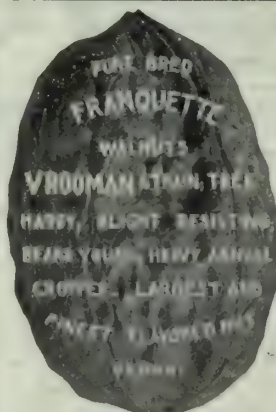
414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

**School of Practical, Civil, Mechanical**  
**Electrical and Mining Engineering**

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination  
Assay, \$25; Blowpipe Assay, \$10. Full Course of  
Assaying. Established in 1864. Send for circular.



Ask us  
about  
Walnuts

The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**

SALEM, OREGON.

Salesmen Wanted.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## The Poultry Yard.

### Duck Growing.

Mrs. Ella L. Layson gives the Petaluma Poultry Journal a sketch of policies and methods for a branch of the poultry industry which is little understood:

Duck raising is a profitable business if one is prepared to do the work properly. As a general thing, one is more successful when making a specialty of the work than when carried on in connection with chicken raising. Otherwise there must be facilities for keeping the ducks and chicks separate. Each should be regarded as a distinct business instead of mixing the two together; the ducks will stand it, but the chickens will not. This does not apply where only a few of each are raised, but where one is making an actual business of poultry raising and is after all the profit there is in it.

There are many farms in this country engaged exclusively in duck raising with an output of thousands of ducks yearly. There is a good market for them in this State, and, with the use of incubators, one is able to market the ducks when prices are the highest, but to strike a good average they should be hatched throughout the season or as late as the eggs continue to hatch well.

Ducks are very hardy and free from disease and are easy to raise, but it requires a good deal of work, as they are heavy eaters and must be fed often. On some of the large duck plants they are fed late at night so as to keep them growing every possible moment. The business must be learned, the same as the chicken business, for it is necessary to have an accurate knowledge of how to feed and manage them. Otherwise one is likely to lose out.

The White Pekin is the most popular variety for market purposes because it is the most profitable. They have snowy white plumage and rich orange-yellow legs. They grow very rapidly, and, when fed all they will eat of the proper food, they are ready to market when ten or twelve weeks old if they are the right kind of stock, for the size and growth of ducklings depend a good deal upon the parent stock. If the breeding stock is inbred or run down in any way the ducklings will be too long in attaining a marketable size to be profitable. They will be small and weak when hatched and unable to assimilate the large quantity of food that is essential for their rapid growth and feathering out. Rapid growth and early to market are the secrets of success.

They are not at all particular as to their quarters, but the houses should have a dry floor, as dampness in their sleeping quarters is injurious to them. They like to run about in the wet, but want a dry, comfortable place in which to sleep. In warm weather they prefer to sleep out doors, but should have some shelter from the fog and wind. It is not necessary for them to have water in which to swim, but it is of advantage if the breeding stock can have this privilege, as the eggs will be more fertile. In mating, five ducks to one drake is about right, but early in the season four would be better.

They should have a chance to run about, as it is natural for them to exercise freely, and they keep in better health. Thus the eggs hatch better and the ducklings are stronger. But the ducklings should be confined in small yards. Otherwise it will take a longer time and more feed to fit them for market.

Duck eggs should not be incubated with hen eggs, as they require more moisture; and if a spoiled duck egg happens to be left in the incubator, it will poison the air and be very injurious to the chicks in the shell. When the ducklings are hatched they must be kept snug and warm for the first few days. The first two weeks they are very delicate and susceptible to cold. After that they are very hardy and do not require brooding. Sore eyes come



### A Suffering Hen

Lice attack the vitality of an infested hen so persistently that there is no "let up" in her misery. There will be a "let up," however, in your profits, for no hen is sufficiently vigorous to support voracious myriads of hungry lice and also lay eggs. Whether you suspect the presence of lice or not, now is the time to begin to use

## Instant Louse Killer

It will kill them if present and prevent their coming if you don't have them. Sprinkle it freely about nests and roosts, dust the hens with it and apply wherever there is the possibility of lice harboring. Instant Louse Killer is the prescription of Dr. Hess (M.D., D.V.S.) and destroys lice on cattle, horses, ticks on sheep, rose slugs, cabbage worms and bugs on cucumber, squash and melon vines. Comes in shaker-top cans and may be used winter and summer alike. Good also as a disinfectant.

**SOLD ON A WRITTEN GUARANTEE**

See that the word "Instant" is on the can.

1 lb. 35 cents 3 lbs. 85 cents

If your dealer cannot supply you, send your order to us.

Manufactured by

**DR. HESS & CLARK, Ashland, Ohio.**

THE PETALUMA INCUBATOR COMPANY  
Petaluma, Cal. Pacific Coast Distributors.

from getting chilled. Sometimes the eyes are closed entirely. Apply vaseline two or three times per day.

They must not be allowed to get wet while in the downy stage, as it will give them cramps. Therefore a drinking fountain is necessary for them, or a trough with slats across the top so as to admit only the head. They must always have water to drink at meal time. They soon render the drinking water very filthy and this is one reason why they should not be kept with chickens.

The digestive organs of a duck are very different from those of a chicken, and they require soft food, although they relish whole grain, but they are unable to assimilate it sufficiently to make it a profitable food for them. They grow much faster if they are fed mash almost entirely with vegetables and animal food of some kind. However, rolled barley makes a valuable addition to their food. They must always have grit, and with their very first meal, which may consist of hard boiled eggs chopped fine and mixed with moistened breadcrumbs. Oatmeal cooked dry and fed a few times will give them a good start. The grit or sharp sand should be sprinkled on their food and coarser grit mixed with their mash as they grow older at the rate of five per cent, and shells should also be provided for them. When five days old feed mash consisting of bran, shorts and cornmeal, using about half as much cornmeal as bran, until about six weeks old, when more cornmeal should be fed and less bran so as to fatten them. Beef scrap or some kind of animal food should be supplied in liberal quantity, as they will grow much faster and feather out sooner than they possibly can without it. Oilcake meal is also good for them and will assist in their feathering out and will also prevent feather pulling, as this habit is induced by lack of feather-making properties in their food. We fed every two hours the first two weeks, after that four times per day. Feed an extra amount at night so there will be some left over for them to eat later on, as it pays to feed them all they will eat, provided they are restricted in their exercise. It is going to take a certain amount of food



to grow them any way, and the quicker they can be made to assimilate this amount the earlier they can be marketed. Thus it becomes a matter of time instead of food.

Keep them well supplied with green stuff such as grass, clover, vegetables or even weeds until the fattening process begins. Then only a small amount is required, as it has a tendency to relax the bowels and the fattening process is retarded.

Ducks are subject to but few diseases, but sometimes they have apoplexy and paralysis, causing them to die suddenly. The cause is usually wrong feeding, a lack of grit, vegetables, animal food, or perhaps they have eaten spoiled food of some kind.

## Patrons of Husbandry.

### Tulare Grange.

To the Editor: At the meeting of Tulare Grange on the 4th, the third and fourth degrees were conferred on one candidate. A letter from S. F. Clifton, Worthy Secretary of Dinuba Grange, was read. Dinuba Grange invites Tulare and Orosi Granges to join them in a picnic to be held in Dinuba, day not named. The Grange instructed the Secretary to accept the invitation for any day named by the other Granges except the 24th or 25th of this month, as these are the days on which Tulare holds its floral carnival.

The subject of the day, 'What is the possibility and scope of diversified farming in Tulare county,' was opened by Bro. Thomas Jacob reading a carefully prepared paper. The subject was discussed by Brothers Lawson, Barber, Wright, Hunsaker, and Sister Morris. It was shown that the soil and climatic conditions of Tulare county make diversified farming eminently practical, and that a diversity of products gives a safer income to the farmer, as a rule, than any one product does; that the most prosperous farmer is the small farmer, and the small farmer adds to the county's population and prosperity more than the large farmer does; that among the farm products for which Tulare county has a ready and remunerative market may be mentioned poultry and eggs, milk, cream, butter, cheese, cattle, horses, mules, hogs; and of the animals named, there are in Tulare county now more of a better grade, and with a better market for each class, than there was when stock raising was its sole industry; that fruit—citrus and deciduous—each in its proper location, can be grown of as fine a quality and as abundant crops as in any part of the State; that many varieties of berries yield largely and pay large profits; that vegetables, potatoes, sugar beets, melons, and asparagus yield large crops of excellent quality. These crops show that in Tulare county there are scope and possibility for diversified farming. It was considered inadvisable for any one small farmer to engage, at one time, in more than a few of these industries, confining himself to such as his soil and location are best suited, and to such as he himself best understands, is fitted for and to which he gives intensive care. With such diversified, intensive, careful farming in Tulare county, failure is unknown.

At the next Grange meeting Brother Henry Hunsaker will read a paper on 'How best we can market our agricultural products.'

Brother I. N. Wright asked that at our next Grange meeting, on the 18th of this month, the benefits of a postal savings bank be discussed. Bro. Wright will speak on the subject. Resolutions of approval have heretofore been adopted by this Grange and by the State Grange, and the Executive Committee of the National Grange is now urging its adoption by Congress.

J. T.



WHEN you buy a harvesting machine, you naturally want to be sure that you are buying the right one.

You want a machine that will not make trouble and lose money for you at your busiest time.

You want a machine that will harvest all of your grain crops—and thus save all your profit for you with the least possible waste.

You want a machine that will be easy on your horses, and give you long service and good service in all conditions of grain—light—heavy—standing—down—tangled—in short, you want a machine that you can always depend upon.

The machine you buy cannot be all this—cannot be right—unless the workmanship in it is right.

Two things are the prime essentials to the best workmanship—they are the best tools and the best workmen—the best facilities and equipment and the most skillful mechanics.

The secret of success in the making of modern machines is in the machinery to make the machines.

Although the International Harvester Company organized with \$60,000,000 worth of equipment, the demand for International machines has compelled the expenditure of \$16,000,000 more on factories alone.

Tens of millions of dollars have been expended so that these factories shall have the best manufacturing facilities and be as automatic as the inventive genius of man can make them.

In the productive activities of the Company, an army of 25,000 employees receive in their pay envelopes the immense wage of \$15,000,000 every year.

Two of the fourteen plants give direct support to 3 per cent of the population of Chicago.

Is it any wonder that the International Harvester Company attracts to its factories the most expert workmen, the most skillful mechanics?

It is the enormous demand for

**Champion, McCormick, Osborne, Deering, Milwaukee, Plano, Harvesting Machines**

which enables this Company to maintain plants of the very highest efficiency and to employ workmen of the highest skill.

Such workmanship could not possibly be maintained upon the comparatively small demand that would come to one independent manufacturer.

In the manufacture of a harvesting machine, each one of the several thousand parts must be made exactly right or the machines will never give good service.

If you examine any part of an International machine, you will find each piece to be as carefully made as though an entire plant had devoted all its resources to making that one piece—every part of every machine being made with the utmost care and consideration for the work it must perform.

The wonderfully automatic machinery which ample capital has enabled this Company to gather together in its plants is the basic reason for this perfection of workmanship and economy of cost.

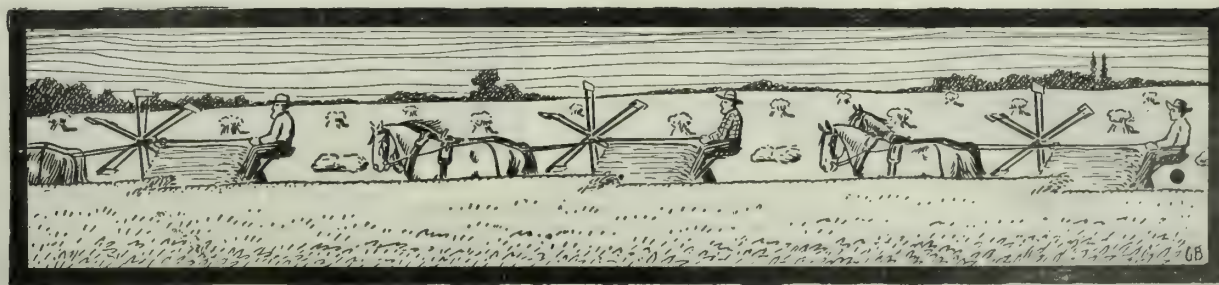
WESTERN GENERAL AGENCIES—Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA**

(INCORPORATED)

Chicago, U. S. A.

**International Line:**—Binders, Reapers, Headers, Header-Binders, Corn Binders, Corn Shockers, Corn Pickers, Huskers and Shredders, Corn Shellers, Mowers, Hay Tedders, Hay Rakes, Sweep Rakes, Hay Loaders, Hay Stackers, Hay Balers, Feed Grinders, Knife Grinders, Tillage Implements, Cream Separators, Gasoline Engines, Pumping Jacks, Manure Spreaders, Weber Wagons, Columbus Wagons, New Bettendorf Wagons, International Auto Buggies and Binder Twine.



**SAN FRANCISCO SULPHUR CO.**  
IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "S" Brand, Sublime Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stiek, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying).  
Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4336.

**PATENTS**

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.



## THE MARKETS.

San Francisco, April 15, 1908.

### WHEAT.

Wheat shows increased activity in the northern markets, but here the movement remains very slow. There is no interest at all on the speculative side, and no transactions in future grain have taken place for several days. The cash grain, while dull, is in a strong position. Since last week there has been a general advance, and nothing is to be had for the prices then prevailing. All supplies of milling grades are firmly held, as supplies are light, and some stock will probably have to be shipped from the north for the mills. So far the millmen have been running on small supplies, and holding back from the market, but now they are showing more inclination to buy.

California White Australian..	1.70 @
California Club.....	1.62½@1.65
California Milling.....	1.65 @
California lower grades.....	1.35 @1.60
Northern Club.....	1.62½@1.65
Northern Bluestem.....	1.67½@1.70
Northern Red.....	1.58½@1.60

### BARLEY.

Shipping and Chevalier are still nominal, with no supplies on hand. Brewing grades are moving moderately at prices that have ruled for some time. The speculative market on this grain has been very active during the week, and futures were advanced sharply on account of the dry weather, though at present there is a weaker tone, and buying is lighter. The advance in futures has had little effect on the cash grain, though choice feed is somewhat higher. Arrivals are quite liberal. There is a good demand in the interior, but the local market is about as dull as ever.

Brewing .....	1.45 @1.50
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.38½@1.50
Common to Fair .....	1.32½@1.37½
Shipping.....	Nominal

### OATS.

Arrivals of oats from the north have been very light, and supplies are closely held for stiff prices, though there is practically no change in values so far. Holders in general are taking no interest in the market at present, as they are confident of a further advance. The demand, however, is not at present large or pressing, and as a result very little movement is reported in this market.

Choice Red, per ctl.....	\$1.55 @1.57½
Ordinary Red .....	1.47½@1.52½
Gray .....	Nominal
White.....	1.50 @1.65

### CORN.

The demand for corn here is still comparatively light and the movement is of small proportions. Stocks on hand are small, as there have been no recent arrivals of any consequence. Egyptian is nominal, with no offerings of either white or brown. All other grades show an advance of about 5 cents over last quotations.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.70 @
White .....	Nominal
Western State sacked Yellow, low .....	1.70 @
White, in bulk.....	1.62 @
Mixed, in bulk.....	1.60 @
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

### RYE.

There has been no trading worth mentioning in this grain for some time. No large quantities are used, and the millmen are fairly well supplied, though little has arrived recently. Prices remain as before quoted.

California .....	\$1.47½@1.50
------------------	--------------

### BEANS.

The continued dry weather is causing a very firm feeling in regard to limas, which have again advanced. Prices on other lines remain as before, though large and small whites are also very firm, with small supplies, and a strong demand both for shipment and for the local trade. Other descriptions are rather quiet, but prices are maintained without difficulty.

Bayos, per ctl.....	\$3.00 @3.10
Blackeyes .....	3.25 @3.50
Butter .....	4.50 @
Cranberry Beans .....	3.00 @

Garvanzos.....	3.75 @4.00
Horse Beans .....	2.25 @2.75
Small White.....	3.40 @3.60
Large White.....	3.60 @3.75
Limas.....	4.50 @4.70
Pea .....	3.75 @4.00
Pink .....	3.00 @3.10
Red.....	3.50 @4.00
Red Kidneys.....	2.75 @3.25

### SEEDS.

Prices on seeds are firmly held, though business is now less active than it has been. There is still a good demand for some varieties, and the market is in a strong position.

Alfalfa.....	19½@ 20 c
Broomcorn Seed, per ton .....	\$22.00@25.00
Brown Mustard, per lb.....	3 @ 3½c
Canary.....	4 @
Flaxseed.....	3 @
Hemp.....	4½@ 4½c
Millet.....	2½@ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal.

### FLOUR.

A larger demand has developed in the eastern market, and some shipping business is reported from Portland, though business is quiet on Puget Sound markets. Locally there is no improvement, the movement being limited. Hardly anything is done here in the shipping way.

California Family Extra, per bbl. ....	\$5.40 @6.00
Bakers' extras .....	5.40 @5.65
Superfine .....	4.20 @4.50
Oregon and Washington, Family .....	4.55 @5.00

### HAY.

The past week has been a very active one in the local hay market. Buyers have generally been anxious to lay in stocks before the drought pushed prices any higher. The advance last week had the double effect of increasing the demand and of increasing the arrivals. Receipts this week went to 3500 tons, or more than 50 per cent more than for the week preceding. Very heavy arrivals have for the time checked the advance, and the light rains and the prospect for more will work in the same direction. While much depends on the weather during the next week or two, it is generally felt that the hay yield will be but moderate.

Choice Wheat, per ton .....	\$18.00@20.00
Other Grades Wheat .....	12.00@17.50
Wheat and Oat.....	12.00@17.50
Tame Oat.....	11.00@16.50
Wild Oat.....	10.00@14.50
Alfalfa .....	9.00@13.50
Stock .....	8.00@10.00
Straw, per bale.....	50@ 90c

### MILLSTUFFS.

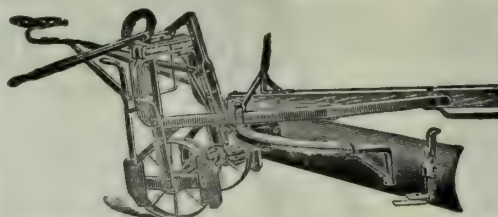
Bran, shorts, and middlings continue very scarce, with very little produced here, and supplies from the north hardly adequate for current needs. Prices are held strongly, though no further advance has been made. The demand, both here and in the interior, is gradually increasing, as the dry weather has caused the green feed to run short earlier than usual. Notwithstanding the advance in barley, rolled barley remains as last quoted. Values of miscellaneous feed stuffs are unchanged, and the demand is about average.

Alfalfa Meal (carload lots) per ton.....	\$22.00@
Jobbing .....	23.00@
Bran, ton .....	30.00@32.00
Broom Corn Feed, per ctl.....	90c@ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots) .....	27.00@
Jobbing .....	28.00@
Corn Meal.....	34.00@
Cracked Corn.....	35.00@
Mealalfa.....	22.00@
Jobbing.....	23.00@
Middlings.....	33.00@36.00
Mixed Feeds.....	26.00@27.00
Oil Cake Meal, per ton.....	37.50@38.50
Rolled Barley.....	29.00@30.00
Shorts.....	31.00@33.00

### VEGETABLES.

All old onions have been closely cleaned up for several days past, only a few odd lots of Australian and Eastern Yellows being held by the jobbers. Shipments have just arrived of Eastern reds and Texas Bermudas, and both lines are selling off at stiff rates. Green onions are lower, with liberal supplies. Asparagus has been arriving in greatly increased quantities and is weak, with the best lots not bringing over 6 cents. The canneries are not yet buying liberally, though the regular jobbing trade is active. Peas are also plentiful, and are coming down, and rhubarb is weak. Garlic is higher, and

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do all

most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

THE BAKER MANUFACTURING CO.

DEPT. I.

706 FISHER BLDG.

CHICAGO.

FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum

stiff prices are asked for small offerings of green peppers.

Garlic, per lb.....	25 @ 35 c
Green Peas, per lb.....	2½@ 3 c
Cabbage, per ctl.....	35 @ 50 c
Onions—	
Eastern Red, per ctl.....	8.50 @ 4.00
Bermudas, per crate.....	2.75 @
New Green, box.....	40 @ 50 c
Tomatoes, crate .....	1.50 @ 2.00
Carrots, sack .....	75 @
Celery, crate.....	1.25 @
Rhubarb, box .....	1.00 @ 1.50
Asparagus, extra, lb.....	5½@ 6 c
Asparagus, No. 1.....	4 @ 5 c
Asparagus, No. 2, box.....	75 @ 1.25

### POULTRY.

Firm prices have been maintained on everything in the chicken line, offerings of most varieties being limited. Broilers are now holding their own, with a slight advance. Small hens are coming in a trifle too freely for trade requirements, and while quotations remain unchanged, they show some weakness. The demand this week for Easter trade has been mostly for good young stock, extra hens and fat geese and ducks. Old pigeons are higher, but squabs are weak.

Broilers .....	\$4.50 @ 5.50
Small Broilers.....	3.00 @ 4.00
Ducks.....	4.00 @ 7.00
Fryers.....	7.00 @ 8.00
Geese .....	2.00 @ 2.50
Goslings.....	3.00 @ 3.50
Hens, extra .....	8.00 @10.00
Hens, per doz.....	6.50 @ 7.50
Small Hens .....	5.00 @ 6.00
Old Roosters .....	4.00 @ 4.50
Young Roosters .....	7.50 @10.00
Pigeons .....	1.25 @ 1.50
Squabs .....	2.00 @ 2.50

### BUTTER.

The continued dry weather is having some effect on the butter market, though so far there has been no particular advance in prices. Producers believe that the output will be materially decreased if the rain holds off much longer. Extras advanced to 22½ cents last Monday, but have now fallen back to former values. The shipping demand shows no falling off, and while arrivals so far continue heavy, the market is always well cleaned up at the end of the week. Some dealers are putting small lots of butter in storage, as they believe that prices will not be lower.

Cal. (extras) per lb.....	22 c
Firsts.....	21 c
Seconds .....	19 c
Thirds .....	18½c
Fresh Packing Stock, No. 1 .....	18½c
Fresh Packing Stock, No. 2 .....	18 c

### EGGS.

Eggs show several changes in price this week, extras being lower, and only steady at best, while all lower grades are quite firm at an advance. This is due to the fact that low-grade stock has been in most demand for consumption, while ex-

tras were going into storage. The storing movement, however, has stopped, as many receivers say it is unprofitable at the prices recently asked. Consequently large lots of extras have been thrown on the market, and find comparatively small demand. Arrivals are not as large as usual at this time of year, but are sufficient, in the absence of a storing demand, to cause considerable weakness.

California (extra) per doz.....	19½c
Firsts.....	17½c
Seconds.....	17 c
Thirds.....	15½c
Dirties, No. 1.....	16 c

### CHEESE.

Prices on all grades of cheese rule exactly as last week. The market is steady, with ample supplies and a fair movement. Local stock is in a rather stronger position than before, on account of the dry weather, which is likely to cause a decrease in receipts.

Fancy California Flats, per lb...	11½c
Firsts.....	11 c
New Young Americas, Fancy....	13½c
Storage, do.....	
Eastern, New.....	Nominal
Eastern, Storage.....	18 c
Cal. Storage, Fancy flats.....	
Oregon, Fancy.....	14 c

### POTATOES.

New potatoes are finding a ready sale, but supplies are plentiful, and prices have again declined. Old Oregon and Lumpoc stock is lower than last week, though firmer than a few days ago. Ordinary offerings move slowly at low prices.

Oregon Burbanks.....	85 @1.05
Lumpoc Burbanks.....	1.00 @1.10
Burbanks, River, bag .....	50 @ 90
Early Rose, ctl.....	1.35 @1.50
Seed Potatoes.....	75 @ 90
Sweet Potatoes, per ctl.....	3.00 @3.50
New Potatoes, lb.....	2½@ 3½

### FRESH FRUITS.

Little interest is shown in apples, though small lots are moving at former prices. Arrivals of strawberries are still limited, though gradually increasing. Prices are well sustained, and all offerings are readily moved.

Apples, fancy .....	1.25 @ 1.75
Apples, common to choice...	60 @ 1.00
Strawberries—	
Longworths, drawer .....	75 @ 1.00
Large varieties, drawer.....	65 @ 75 c
Los Angeles, crate .....	1.75

### CITRUS FRUITS.

The movement in the citrus line has increased considerably this week. There is a strong demand for oranges, and choice stock is moving well at higher prices. Arrivals are still considerable, but clean up better than formerly. Lemons are active and firm, but prices are unchanged. Grape-fruit is higher.



**INSURE YOUR HEALTH AND COMFORT**  
on stormy days  
by wearing a



**SLICKER**  
Clean - Light  
Durable  
Guaranteed  
Waterproof  
\$3.00 Everywhere

TOWER'S  
FISH BRAND

A. J. TOWER CO. BOSTON U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO CAN.

Choice Lemons.....	\$1.75 @2.00
Fancy Lemons.....	2.25 @2.50
Standard Lemons.....	1.00 @1.25
Limes.....	6.00 @6.50
Oranges—	
Navels.....	1.75 @2.50
Mediterranean sweets.....	1.50 @1.75
Tangerines.....	1.25 @1.75
Grape Fruit.....	3.00 @3.25

## DRIED FRUITS.

Packers are watching crop developments with great interest, but it is too early to make any predictions, and conditions in regard to dried fruit show little change. The downward movement of prices continues in most lines, nearly everything but prunes being lower. Raisins, however, are moving at slightly higher prices.

Evaporated Apples.....	5½ @ 7 c
Figs, black.....	2 @ 2½ c
do white.....	2 @ 3 c
Apricots, per lb.....	12 @ 14 c
Peaches.....	7½ @ 9 c
Prunes, 4-size basis, 1907 crop.....	2½ @ 3½ c
Pears.....	6 @ 9 c

## RAISINS.

2 Crown.....	3½ @ 4 c
3 Crown.....	4 @ 4½ c
4 Crown.....	4½ @ 4½ c
Seeded, per lb.....	6 @ 6½ c
Seedless Sultanas.....	4½ @ 4½ c
London Layers, per box.....	\$1.15 @ 1.20
London Layers, cluster.....	1.50 @ 2.00

## NUTS.

Nuts are still quiet, with some demand for small lots in a jobbing way, but no movement of any importance. Prices are held at former figures.

Almonds, Nonpareils.....	13½ @ 14½ c
IX L.....	13 @ 14 c
Ne Plus Ultra.....	12½ @ 13 c
Drakes.....	11 @ 11½ c
Languedoc.....	10
Hardshell.....	7 @ 7½ c
Walnuts, Softshell No. 1.....	13
Softshell, No. 2.....	10
Italian Chestnuts.....	10 @ 12½ c

## HONEY.

Prices on honey still rule as before, but everything is closely held. There is a fair supply of comb, but extracted grades are almost cleaned up. It is said that the dry weather will cause a shortage, if not an entire failure of the crop, in some sections.

Water White, Comb.....	16 @ 17 c
White.....	15 @
Water-white, extracted.....	8 @ 8½ c
Light Amber, extracted.....	7 @ 7½ c
Dark Amber and candied.....	5½ @ 5½ c

## WOOL.

Wool is dull and featureless, with poor prices and no demand for California clips. Buyers show little interest, and some pressure to sell seems to be developing among the growers.

Spring-clip, Humboldt and Mendocino, year's staple.....	20 @ 22 c
Fall clip: Northern free, mountain.....	7 @ 10 c
do. defective.....	6 @ 7½ c
San Joaquin and Southern.....	5 @ 7 c
Fall Lambs, Northern.....	8 @ 10 c
Fall Lambs, Southern.....	6 @ 8 c
Nevada.....	11 @ 12 c

## HOPS.

The situation of the hop market offers little encouragement to holders, as prices are weak and there is very little demand. There is some activity in the north, but this market is very quiet.

1906 crop.....	1½ @ 2½ c
1907 crop.....	4 @ 5½ c
1908 (contracts).....	9 @ 10 c
3 to 5 year contracts.....	10 @ 11 c

## MEAT.

Prices on livestock show no particular change. Arrivals of mutton and lamb have been liberal all week, as growers are putting their stock on the market, in anticipation of a shortage of feed. Dressed mutton and lamb are lower.

Beef: Steers, per lb.....	7½ @ 8 c
Cows.....	6½ @ 7½ c
Heifers.....	6½ @ 7½ c
Veal: Large.....	6 @ 8 c
Small.....	8 @ 9 c
Mutton: Wethers.....	9 @ 10 c
Ewes.....	8½ @ 9 c
Spring lamb.....	11½ @ 12 c
Hogs, dressed, heavy.....	7½ @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	9 @ 9½ c
No. 2.....	8 @
No. 3.....	7 @
Cows and Heifers, No. 1.....	7 @
No. 2.....	6 @ 6½ c
Bulls and Stags.....	4 @ 4½ c
Calves, Light.....	5 @ 5½ c
Medium.....	4½ @ 5 c
Heavy.....	4 @ 4½ c
Sheep, Wethers.....	5½ @ 6 c
Ewes.....	5 @ 5½ c
Lambs, yearlings.....	6 @ 7 c
Spring Lambs, lb.....	7 @ 7½ c
Hogs, 100 to 200 lbs.....	5½ @ 6 c
200 to 300 lbs.....	4½ @ 5½ c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## A TRUE STORY.

It's a long recognized fact that hand cream separators are the best and quickest method to secure all the cream from the milk of three or more cows.

All makes of separators claim to be the best, natural enough, but it was proved at the Pan-American Exposition which was the last public, international test, which was really the best separator by actual tests.

In competition with all other makes of separators exhibited, the U. S. Cream Separator make the record-breaking showing of skimming the milk from about a dozen different breeds of cows in fifty consecutive tests with an average of .0138 butter fat left in the skim-milk.

This remarkable record has never been approached by any other make of cream separator.

Notwithstanding the splendid character of the work of earlier models of the United States Separator, the improvements made in the 1908 U. S. make this separator even more attractive than ever to dairy farmers, who quickly recognize the sterling merits of this marvellous cream producer. For the Improved United States, as proved at the Pan-American Exposition, is the best cream separator on the market.

A beautiful catalogue, No. 148, can be obtained by addressing The Vermont Farm Machine Company, Bellows Falls, Vermont.

IN ANOTHER COLUMN will be found the trade-mark of the R. E. Dietz Company, 60 Lighthouse St., New York City, the largest makers of lanterns and lamps in the world. The legend, "The Old Reliable" Dietz Lanterns, is familiar to many of our readers who are today using Dietz lanterns, and whose fathers and grandfathers have used Dietz lanterns. The Dietz "Bullseye," enclosing the words, "Dietz Lanterns," is a common sight all over the world, the cases carrying Dietz lanterns being thus marked, and travelers see them stacked up on the levee at New Orleans, piled on the wharves at Liverpool and Hamburg, and watch them being transferred to lighters off the coast of Africa and handled by perspiring natives into the go-downs of India. Dietz lanterns have a reputation of over 60 years of excellence behind them, and easily lead the world for strength, good appearance and light-giving power.

Bristol, Conn., June 5, 1900.

Dr. S. A. Tuttle—Dear Sir: I have trained track and road horses for 35 years, and have used everything for leg and body wash that could be used, and pardon me right here for not recommending Elixir to every owner, trainer, and driver in the world, by far the most wonderful remedy for ailments of the horse, and for a leg and body wash it has no equal. I have used and sold over 500 bottles, and I know whereof I speak. No man should be without it in his house or barn. One bottle will convince any trainer if he will use it, that there is nothing like it. Most truly yours, H. T. WHITE.

## SPRAYING NOWADAYS A PRIME NECESSITY.

In beginning another season of fruit culture, growers are again taking up the ceaseless fight against the hordes of insects that menace their success year after year.

A great number will spray this year for the first time; many who have used hand-power outfits heretofore are now looking for higher and more effective pressure. In this connection comes very opportunely an announcement from The Deming Company, of Salem, Ohio, that "The World's Best" line of spray pumps has been augmented by the addition of a power sprayer operated by an engine of 2½ or 3½ horse-power, as preferred.

The new machine is designed along the lines that have proved so satisfactory in The Deming Company's 1½ horsepower outfit, the manufacture of which will be continued, so that the grower may choose the size best adapted to his work.

Literature recently issued by The Deming Company will doubtless prove attractive to those who are interested in the subject of spraying and the development of appliances for carrying it on in the best manner.

## BREEDERS' DIRECTORY

## HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.,** Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH,** breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE—Shorthorned Durhams.** Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## POULTRY.

**SANTA TERESA POULTRY FARM** for White Leghorns. **Wm. HAUSAM, Eden Vale, Cal. Box 45.**

**WILLIAM NILES & CO.,** Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

**GEO. C. ROEDING,** Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, Duroc HOGS,** Choice, thoroughbred Poultry. **William Niles & Co.,** Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

**W. SULLIVAN,**

Agnew, Santa Clara County, Cal.  
Stone's throw from depot.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address  
**P. O. Box 345, Vacaville, Cal.**

## Blake, Moffitt &amp; Towne

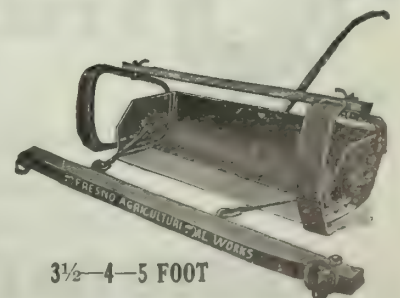
Dealers in **1400 FOURTH ST., SAN FRANCISCO**  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	254
Beckman, Geo. V.....	255
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	255
Bosanko Medicine Co., Dr.....	251
Breeders' Directory.....	255
California Fruit Exchange.....	256
Covina Nurseries.....	252
Croley, George H.....	255
Cutter Laboratory, The.....	252
De Laval Dairy Supply Co.....	247
Deming Co., The.....	—
Dewey, Strong & Co.....	253
Dietz Company, R. E.....	251
Disbrow, F. H.....	251
Driver, Aber & Co.....	251
Driver, E. S.....	255
Fresno Agricultural Works.....	255
Galloway, A. J.....	246
German Kali Works.....	252
Hamlin School, The.....	248
Hausam, Wm.....	255
Hart, Ed.....	255
Hess & Clark, Dr.....	250, 252
Holcombe & Co., R. A.....	237
Howard Cattle Co.....	255
Hoyt's Tree Support Co.....	—
International Harvester Co.....	251, 253
Jackson & Co., T. W.....	251
Lawrence-Williams Co.....	246
Lister, Henry B.....	255
Lynch, John.....	255
McClanahan, E. E.....	—
Meacham, Frank A.....	—
Mountain Copper Co.....	252
National Wood Pipe Co.....	256
Niles & Co., Wm.....	255
Oakland Poultry Yards.....	255
Oregon Nursery Co.....	252
Pacific Coast Business College.....	249
Pasteur's Anthrax Vaccine.....	251
Pear Blight Remedy Co.....	252
Roeding, Geo. C.....	255
San Francisco Sulphur Co.....	253
Santa Teresa Poultry Farm.....	255
Seulberger, J.....	252
Shaw, Henry.....	246
Sharples Separator Co.....	246
Shaw Plow Co., H. C.....	256
Sliva & Bergtholdt Co.....	256
Simmons Hardware Co.....	—
Smith, Francis.....	254
Southern Pacific Railway.....	256
Standard Oil Co.....	248, 251
Stewart, W. A.....	251
Stowe, C. A.....	255
Sullivan, W.....	255
Teague, R. M.....	251
Temple Pump Co.....	—
Tower Co., A. J.....	255
Trumbull Seed Co.....	256
Tuttle's Elixir Co.....	250
Van Der Naillen, A.....	252
Vermont Farm Machine Co.....	250
Wagner, J. B.....	251
Waite, Thos.....	255
West Coast Cresol Dip.....	256
Woodin & Little.....	256

## The Fresno Scraper



3½—4—5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds  
for New York.

937 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.





## NOW READY The Vermorel Torpille Knapsack Sulphuring Machine

We could not supply the demand last season so would advise you to

**PLACE YOUR ORDERS NOW**

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring **EASY WORK AND** saves sulphur. Recommended by users as the **MOST** effective sprayer used for the purpose.

SOLD BY

## THE H. C. SHAW CO.

Stockton, Cal.

General Agents for the United States.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.



## California Fruit Exchange

(INCORPORATED.)

Head Office:  
SACRAMENTO, CALIFORNIA

A 'growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## NATIONAL WOOD PIPE CO.

Patent Machine Banded  
Patent Continuous  
404 Equitable Savings Bnk. Bdg.  
Los Angeles

Made from California Redwood  
or  
Selected Puget Sound Yellow Fir.  
318 Market St., San Francisco

Olympia, Washington  
Dooley Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.



The Famous Mission Train California to Chicago in three days over the

## Sunset Rock Island Route

Sixty miles along the famous Salton Sea, 250 square miles of lake with background of the high San Jacinto Mountains.

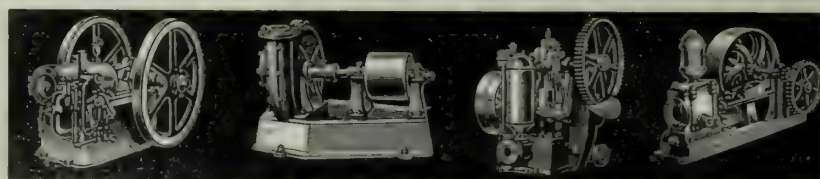
Drawing room sleeping cars. Dining service unsurpassed. Open air observation rotunda. Parlor car—library and cafe—Ladies lounging room—Gentlemen's smoking apartment.

ASK ANY AGENT

## SOUTHERN PACIFIC

OR CALL

884 Market St. 872 Market St.



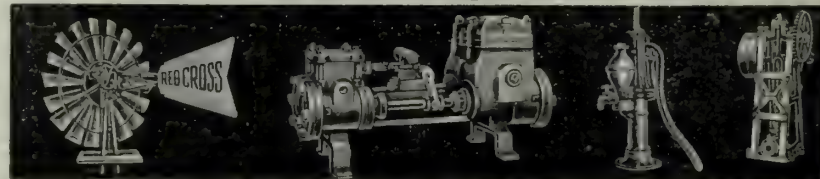
**WOODIN & LITTLE,** 70-72 FREMONT STREET, San Francisco, California

**DEALERS IN PUMPS** FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITWASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.

**WIND MILLS, TANKS, HORSE POWERS.**

**IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES 2 TO 50 HORSE POWER.**

Send for Complete Catalogue—Mailed Free.



## WEST COAST CRESOL DIP

Made of Coal Tar Creosote Oil. Great caution must be exercised with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless.

West Coast Dip is guaranteed to be made from Oil containing 25% Cresylic Acid. Permission was given by the U. S. Dept. to use our Dip for the treatment of Sheep Scab in the highest dilution ever allowed. When thus diluted it costs but a few cents.

For Sale by many Dealers. If not by yours, send direct to us for Trial Offer. **SPECIAL PRICE AND FREIGHT PREPAID.**

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
(Through to Alameda.)

Los Angeles, California

THE BEST

## SEEDS

THAT GROW

FLOWERS, VEGETABLES, FARM.  
SHRUBS, TREES AND BERRY PLANTS.

Write TODAY (a postal card will do) and you will receive Free our 1908 Seed and Plant Annual.

## TRUMBULL SEED COMPANY,

Successors to Trumbull & Beebe.

545 Sansome Street,

San Francisco



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 17.

SAN FRANCISCO, SATURDAY, APRIL 25, 1908.

Thirty-eighth Year.

## THE OLD AND NEW IN AFRICA.

Everyone knows that light is piercing the dark continent in various directions because of the wealth-seeking enterprises of the various branches of the Caucasian race. Explorers have for centuries declared re-discoveries of treasures which were drawn upon in prehistoric times and have constituted secret sources of wealth ever since the civilized world was new. In nearly all forms of literature and in all ages Africa's sunny fountains have rolled down their golden sands, as the missionary hymn has it. We have no idea of adding anything new to the record nor of clearing popular conceptions to any degree whatever. Still, in

appeal to the interest of Californians, and that is that our own citizens have figured prominently in African enterprises, chiefly as experts possessed of exact knowledge, both of precious metals and ways to possess them, but also, to a degree, as promoters of successful enterprises. In this way California talent, insight and training, and, perhaps more than all, the California spirit has ministered to African progress. California engineers began activity there a generation ago and have achieved such success and reputation that younger men are called each year to tread in their footsteps. In other phases of development which follow mining, such as the development of agriculture and horticulture, experienced Californians have been secured and are now occupying leading positions in the science and enterprise of local food production. Thus in another hemisphere, whether measured by latitude or longitude, California has exerted a marked influence and probably will always find a sphere of activity.

of antiquity to be pursued with modern machinery! So long as this genius had only to guard his treasures against the slow digging and carrying of indolent Arabs he might smile at progress, for



Reopening an Ancient Enterprise.



The Beginnings of a City in Newer Africa.



Crossing a River in Rhodesia.

a part of America which is new, and as an accompaniment of the views which we give from time to time of American desert-breaking, it may be interesting to catch a glimpse of pioneering in such an old and famous quarter of the world.

There is another phase of the matter which may

One of the most interesting forms of activity in Africa is scientific research, mainly in anthropological lines. This is one of the things which is to be expected in places where the most ancient races lived and left memorials as they did in Africa. All nations have had some share in the protracted effort to disclose vestiges of the beginnings of mankind as they lie beneath the dust of ages. Excavation and exhumation have been forms of scientific inquiry for generations, while before that they were forms of robbery for generations. It is interesting that even the newest countries of the world have undertaken to add to the sum of knowledge of mankind by such efforts and thus to secure fresh materials for teaching. Both of the great universities of California have, for example, had research parties at work in Egypt, and have found things of note. One of the pictures on this page is a startling revelation of California enterprise, for it shows Stanford University experts at work in the shadow of the pyramids with decidedly up-to-date excavating machinery. What a shock it must be to the genius

he has thousands of years the start of it, but what chance has antiquity against the blasting, steam-digging and automatic loading and dumping of excavating machinery! Perhaps there could be no more impressive demonstration of the scientific method of this advanced day, which is 'to get there' by the most direct and expeditious route. The science of the cloister is almost forgotten when the science of sunshine and the arc light gets under motion.

Other pictures upon this page are suggestive of other activities in Africa. Perhaps in no part of the world is the new in industry taking up the burden abandoned by the old. The Kaffirs in scanty raiment in one picture are sinking a shaft for metals in a place where mining was done generations ago and then forsaken. Newer methods are expected to turn a losing undertaking into a winning one. Another picture shows explorers attacking a river crossing, and the largest plate shows that the beginning of a town in Africa is a little different in appearance from such a beginning in America, and rather more picturesque.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## The Week.

The fleet is steaming majestically up the coast, graciously tarrying here and there to receive patriotic adoration for the ships and social worship for the sailors. The people of California, plunging into the depths of patriotic emotion, are rushing from all interior points to the ocean-side in such numbers and with such reckless tread that pieces of the coast are actually breaking off, and it may be necessary for the geodetic survey to trace anew the shore-line of California. There never has been such an occasion for patriotic fervor and such conflagration is perfectly safe along the beach, for the temperature is not likely to run high enough to set the sea on fire. Besides it is a good thing for our interior people to have a good look at the ocean. They need the conviction that there is plenty of water somewhere although their valleys and hillsides are very scant of it this year. Perhaps too the heavy cannonading of the ships will shake down some heavy showers, and it will be double joy to the people to return to their homes to find the soil wet down so that good cultivation of fruit areas can be secured and something done to the growing summer crops to extend the short pasturage season. Aside from all patriotic inspiration, the coming of the fleet is a fortunate distraction from short finance and short rainfall, and we hope our people will throw themselves unreservedly into the joy of it.

After duly disporting itself along the coast, the great fleet will arrive for its grand entrance to San Francisco bay about noon on May 6, and full programmes of evolutions on sea and land are to be found in all daily journals of central California. A great rush to the bay cities is anticipated and careful arrangements are being made to house the people. The California Promotion Committee announces that 60,000 people can be accommodated, which is thought to be ample in view of the throngs which would naturally find quarters in the suburbs. Information concerning available places can be had at the railway stations and the Ferry building. In its announcement the committee indulges in appreciative tribute to what may be seen on San Francisco bay: "It is only at San Francisco that the entire aggregation of nearly fifty warships of all classes will be congregated, and here will be the greatest pageant and most interesting of all the celebrations and receptions. At the other ports parts of the great combined fleet will be seen, but in San Francisco the entire number will pass up the bay in noble array to its anchorage, and the visitors and residents will be treated to such a spectacle as the world has never gazed upon." This grand entry is set for 2 p. m. on Wednesday, May 6.

As we write there is a rainy condition of the atmosphere covering the upper coast region and likely to extend inland. The water dropped is insignificant thus far, but the attitude of the elements must be regarded as promising. There may be water enough to pull through considerable hay

and even to make grain on the earlier sowings, while wild feed and newly sown alfalfa will be much benefited. The fruit crop is widely promising, although some local disfavours are reported, and water enough to facilitate good cultivation will help out in size and quality. Although it is too late to make much grain except in the slower districts near the coast or on the low moist lands of the valley which are often too wet, a good wetting will mean much money and a more cheerful spirit certainly.

If we had more grain this year we might enjoy an incidental benefit of the coming of the fleet which will now accrue to our northern neighbors if they can pull through the great wheat crop they have promised. The fleet of foreign ships sent along with the men-of-war as colliers have found it impossible to get anything but a wheat charter for the return trip, and as a result charter rates have almost been cut in two, and £22 6d. is quoted for steamships. Grain exporters claim that they have been paying to grain raisers the total amount of the saving in shipping charges and that the difference between Seattle and Chicago grain prices was never so small. They claim also that the growers gain approximately what it cost the Government to send the fleet around the Horn. That is a pretty broad claim!

The Stockton Independent is right in holding that a year of short rainfall has less terror for California than when the State was more largely dependent upon export wheat grown by dry farming. We have indulged in that view ourselves on diverse and sundry dry times during the last score of years and we are sure it is true. At the same time one should not exaggerate even such a comforting assurance. It is almost too much to say "the fear of the spectre of a dry spring or a dry year has lost most of its terrors for central California." Anyone who knows farming, even under irrigation, knows that much dependence is still placed upon rainfall in places where it is usually large enough to do some very necessary and desirable things to the soil and to the plant. Even when the cereal crops are not considered there is a great deal of comfort and wealth in adequate rainfall at the proper season. Though, therefore, we are quite ready to agree with our contemporary in rejoicing that we are less dependent upon shallow-rooting winter growing crops than we once were, we still desire to record the honest opinion that it is better to encourage people to be brave under such deprivation as may come to them than to try to make them believe that there is nothing much the matter.

There is a very encouraging note in the achievements of the canners since the great fire losses of two years ago and the financial panic of last autumn. At a meeting in this city last week of the California Fruit Canners' Association, which owns about thirty canneries, it was stated that the past year was the most active in all branches of the work, and that in the output and distribution new records have been established. The sales amounted to nearly \$10,000,000, the largest in the history of the association, and that in the face of the money stringency, which diminished the demand for goods since last October. Up to that time the shipments had been the heaviest on record, and the earnings equal the dividends for three years. The total resources of the association are reported at \$5,005,117. As one of the anchors of the great fruit and vegetable producing interests of the State these indications of the solidity and prosperity of the canning industries are very gratifying.

The Summer Session of the University of California, which will open in Berkeley on June 22 and continue for six weeks, has special points of interest for our readers because it is planned to disclose to the school teachers a wide range of opportunities for study along other lines than the daily routine of the school-room. Among the new features which appear upon the programme of the coming session are courses in manual training, domestic science, agriculture for teachers in the public schools, and forestry. It is hoped in this way to help teachers to deal more directly with the phenomena and vital interests of their environment.

Upon another page will be found the full programme of the Fruit Growers' Convention next week in Riverside. We tried to impress the desirability of attendance upon our readers last week, and by looking at what will be doing there they can judge how well our assurance of profit was placed.

The second anniversary of the great earthquake and fire in San Francisco passed last week without special note. It is just as well perhaps to anticipate the future and look upon the affair merely as a historic incident which marked the arising of a newer and greater metropolis. To note the incident from this point of view the Promotion Committee writes that the city of San Francisco which two years ago was in great confusion, and its streets filled with debris, has had a wonderful reorganization. When it is considered that over one hundred million dollars has been put into buildings alone, one can realize the immensity of the work accomplished. In addition the city has had a splendid house-cleaning, and it is now pronounced one of the cleanest and most healthful cities in the United States. It will be worth while to come down to see the fleet just to get an idea of how bright and beautiful the new city is becoming.

## Queries and Replies.

### Is It Attainable?

To the Editor: Will you kindly tell me the best kind of forage plant to stand the drought of July and August? We have no rain from June until the last of September, and sometimes until November. There are thousands of acres of land which only produce pasture during the spring months, and dry up and are then apt to be burned over by forest fires. If you know of a grass that you think will stand, I would like to try it. We have 640 acres of land, and we can only cultivate part, and the rest will only produce pasture for two or three months in the spring. The country is rough. The winters are warm enough for cattle to live without shelter all winter. Oats, wheat and barley are grown. Alfalfa does well, but alfalfa and clover need irrigation. Egyptian or Kafir corn grow well, but need cultivation.—Farmer, Calaveras County.

We have been looking for thirty years for such a plant as you describe as desirable, and have not found it. There is nothing that we can recommend as capable of furnishing succulent pasture on dry uplands during the long, dry season without irrigation. You will have to rely upon dry pasturage on part of your land, improving part of it by winter growing plants which will give you a freer growth than the wild plants do during the rainy season. Of these plants rye is one of the best, but such annual plants will not maintain verdure during the dry season. We regret such a discouraging answer, but California has always lacked verdure during the long, dry season, and perhaps it is too much to expect to



ever attain it, except by irrigation. Much can be done, however, to improve the pasturage during the long season of rain-moisture, by care against over-stocking and especially by allowing each year a part of the land to go unpastured during the latter part of the winter and spring, so that native annual plants have a chance to seed freely. When you think of the dry season as an offset against the snow season at the East, even such lands as you describe do have a very respectable pasturage season.

#### Shy-bearing Prunes.

To the Editor: In our district, known as the Clare District, we have been very successful in growing apples, pears, apricots, peaches, Zante currants, sultanas, and plums, but cannot get prunes to set. The trees grow to perfection, flower, and set, but the fruit all falls off as the pit is forming. This happens every season and applies to both Fellenbergh and other varieties of prunes. On the other hand the golden drop, the egg, and other plums, growing side by side bear heavy crops. Have you had any trouble like this in California? If so, what have you tried to remedy the falling of the fruit? I shall have to cut down several acres of fine trees, as they are quite unprofitable.—Subscriber, South Australia.

We have the same trouble with some plums which are called prunes, viz: the Italian or Fellenbergh, the German, and the Robe de Sergeant are all shy bearers in some places in California, and for that reason the trees have been largely grafted over to the French prune (prune d'Agen), or to other plums which are more regular in bearing. The silver prune (probably a seedling of Coe's Golden Drop) is also too shy for comfort. Your situation seems to be different from ours, because you rate the Golden Drop as a good bearer. This is not a matter which can be settled by analogy. You must graft over your trees to whatever plums or prunes are profitable and good bearers with you. The failing varieties say as plainly as they can that they do not like you, and you will have to respect their opinion and grow those which have different likings.

Of course, the shy bearing of certain plums is largely caused by lack of pollination, either through the constitutional trend of the variety or through lack of acceptable pollinating agencies. Bearing can be induced in many cases, no doubt, by either planting or grafting-in of effective pollinating varieties. But this is not always profitable. For instance, there are many instances that the Tragedy can be brought to greater bearing by the presence of Clyman, but an early variety like the Clyman is not worth growing for sale in a late district, and then, too, the Tragedy is not of much account as a prune when you get it. For such reasons it is generally better to graft over to varieties which are good of themselves, both in bearing and selling.

#### Personal Examination Essential.

To the Editor: I purchased a 15-acre apple orchard last October. The business is new to me. I seek some pointers from you as to the care of the trees. One-half of them are Pearmains, other half some red apple. The crop was 1767 boxes of Pearmains and 400 boxes of red apples. There seems to be something wrong with the red apples. The ground under the Pearmains is half covered with thick growth of Bermuda grass, and not so much on other half of the place. There is some alkali on the latter half. All the trees are same age: some say 10 years, others say 18 years. The trees have not been pruned for some years. Are the trees too old to prune?—New Owner, Los Angeles County.

Whether it is worth while to undertake the rejuvenation of the apple trees which you mention depends upon two things: first, whether the trees are really thrifty and only need pruning, insect

killing, and cultivation to enable them to put forth strong, new growth; second, whether the soil is rich enough and free enough from alkali to warrant the amount of time and labor which the rebuilding of the trees will require. Really, these questions cannot be settled except by personal inspection of the trees, and it would be worth your while to get some practical apple grower in your district to inspect the property for you and give you advice. It is too risky to give an opinion unless one can see what he is talking about.

#### Pear Blight in Sonoma Valley.

To the Editor: I forward some twigs of my pear trees, which are affected with some sort of "curl leaf"; however, it differs from curl leaf in that this also affects the fruit as well as the leaves. I have asked a number of orchard men of this valley what this is, but none seems to be able to give me much light upon the subject. Kindly advise me if possible what this is, whether it is a serious malady, and if there is any remedy. Some trees seem to be quite badly affected. I sprayed with Bordeaux about two weeks ago.

On a few of the twigs you will find another pest also. I have been unable to find out what the real name of these is from my neighbors; some say one thing and some another, although I am told that it is harmless.—Grower, Sonoma Valley.

Your pear trees are affected by the pear blight, the bacterial disease which is now working such havoc all through our pear districts. It is very difficult of control. We have already published very full reports of its nature and effects. If you will send to Mr. J. W. Jeffrey, Horticultural Commissioner, Sacramento, and ask him for a report of the Fruit Growers' Convention, held in Santa Rosa, December, 1905, you will find a paper on the pear blight by Mr. M. B. Waite, Government Expert, which will give you full information as to the serious nature of the disease and the best thing to do to arrest its progress. In the report of the plant pathologist of the University of California Experiment Station, 1906, you will find a discussion of the treatment of the pear blight on a large scale, covering districts, etc. It will be necessary for your growers to study into this matter carefully, so as to understand just what disease you have to deal with and how difficult it is of treatment.

The scale insect on one of your specimens is one of the large Lecanium scales, which does not usually become numerous enough to do much harm on pear trees. It is the blight to which you have to pay particular attention. The Bordeaux mixture is a good spray for the pear scab, which perhaps you also have in your valley, but it has no particular effect on the pear blight.

#### Merely Frost Effects Apparently.

To the Editor: I send some apricot twigs on which the blossoms seem to have failed after opening. Is there any disease present, or is it frost injury? We have had temperature as low as 23°, but I have been told that there is not apt to be injury by frost until after the jackets fall from the little apricots. What can you say about it?—Apricot Grower.

The specimens have been carefully examined by plant disease experts, and they report that they can see nothing except frost effects upon the specimens. We cannot confidently assure you concerning the relative liability of embryo and more advanced fruits to frost injury. That would be an interesting subject for investigation. What you say about the greater danger to fruits after the blossom jacket falls agrees with the common opinion of fruit growers on that subject, although we are quite sure that a little lower drop in temperature will be destructive to fruit in any condition from the bloom onward. The apricot blossoms open progressively, and if we could depend

upon a low temperature to destroy a considerable part of the bloom we should have better fruit and save the cost of hand thinning. Failure of blossoms is often due to root injury from standing water in the soil. They appear, even open and then go back. If this has anything to do with your case, the leaves will also fail. If you have good foliage, you have probably only frost phenomena present.

#### Bad Roots Probably.

To the Editor: I am sending you under separate cover several twigs taken from Muir peach trees for your inspection. You will notice the dead buds and lack of foliage. Some of the trees are very badly affected, while others are only partially so. I notice trees in other orchards as well as my own affected in like manner. They were sprayed in December with the Bordeaux spray. Can you suggest the cause and a remedy?—Grower, Fresno County.

There does not appear on the twigs which you send any clue to the unfortunate condition which they are in. Your December spraying must have checked the peach blight, if there was any of that disease present before you sprayed, because there is no indication on these twigs that the trouble comes from that source. The difficulty is to be looked for in the roots; either as the result of water standing too near the surface, the presence of alkali, or something of that sort which would cause the roots to decay and the top to die back.

#### Striped Squash Beetles.

To the Editor: I send some bugs which are working on my melon vines and are eating them up completely.—Farmer, Fresno County.

The insects which are eating your melon vines are Diabroticas, commonly called striped squash bug. These insects have a very bad reputation. They spend their larval stage in the ground living upon roots, and inasmuch as the pest is underground during the greater part of its life and a very active flier during its perfect state, also because it is very difficult to poison, horticulturists have been greatly disappointed in their efforts to reduce it. The insects can be driven to some extent by the use of smoke; that is, by the building of fires of damp straw, or other such materials, on the windward side of the plants, the pests may be forced to seek other feeding grounds on the lee side.

#### Pollenizing Cucumbers.

To the Editor: I am raising cucumbers under cover and have been hearing conflicting reports as to pollenization of them. Is it necessary for them to be pollenized to bear fruit this year, or is it to cause the seed to be fertile for a following crop?—Amateur, Long Beach.

The fertilization of the blossoms of the cucumbers is necessary in order to insure the setting of fruit for the current year. It is, of course, also necessary to secure fertile seed for subsequent planting, but the point chiefly to be observed by those who are forcing vegetables is to secure the current crop.

#### Old or New Sulfur.

To the Editor: Is sulfur from last year good to use on mildewed vines, or does it lose its effectiveness through age?—Vine Grower, Sonoma County.

Sulfur does not lose effectiveness against mildew because of its age. Of course, if it should have gathered moisture and become granulous through the adherence of the particles, it must be thoroughly dried and crushed, but this trouble does not usually appear.



## Horticulture.

### GLEANINGS FROM A VISIT TO THE WALNUT GROWING CENTER OF FRANCE.

An account of a visit to the French walnut growing district, written by Mrs. Emily M. Vrooman, as a personal letter to Mrs. Harriet K. Strong, was read at the University Farmers' Institute at Whittier. At our earnest request Mrs. Vrooman consented to the publication of her paper. Readers of the PACIFIC RURAL PRESS already know Mrs. Vrooman as the planter and owner of the famous walnut orchard at Santa Rosa.

To write what I saw and think of the French walnut industry must involve the partial rending of a long sustained halo and the revealing of many shadow pictures.

Concerning the halo—French walnuts (the best only) are justly credited with two qualities which are vital in most localities, and desirable in all.

1st. They are late blooming and hardy, thus escaping late frosts and securing more regular and reliable crops.

2nd. The flavor excels in richness and quality, and its excellence has been faithfully perpetuated by grafting, which process of culture alone secures fruit invariably true to variety.

Tullins is a small French hamlet situated about twenty-five miles west of Grenoble, in the narrow, undulating, fertile valley of the Isere river, which has its origin in the Alps. And this is the centre of that walnut growing district of France which produces the finest of table walnuts, known as the Grenoble walnuts.

These trees are all grafted upon seedling stock when four to six years old, and, unlike our method of grafting at the ground, their grafts are inserted eight or ten feet higher. The grafting is done only by experts, who receive one franc, or twenty cents, for each graft that matures. The trunks are kept free from limbs for a space of fifteen to thirty feet. No pruning is done, and the trees grow tall and spreading, as do forest trees. The trees are usually planted in two to three rows in hollow squares around the owner's little farm, along creek banks, lanes, and roadsides, and sometimes scattered through large vineyards. Very few acres are devoted, as with us, entirely to the walnut, but the planting is being slowly extended. One peasant had sold 500 grafted trees of last year's preparation, and intended to graft 500 more in the spring of 1908. Some of his grafted trees were exported to America.

In planting trees the spacing is done to suit the fancy of the planter, and varies from 15 to 50 feet. In many cases these trees have grown to be 100 to 150 years old. With increasing years, however, the quantity of fruit decreases until the old tree is valued by the owner only for its wood, from which most, if not all, of the gunstocks of militant Europe are made. The trunks and main limbs of these trees are universally and thickly covered with moss, which ultimately kills them; and yet I saw no dead limbs or other evidence of the so-called "die-back," anywhere.

The high limbing of the trees permits the growing of crops, grain and maize close about them, and that this is a source of soil depletion is clearly shown by the small product of nuts per tree.

One fact must be borne in mind: walnut growing about Tullins is never a business, but an accessory. The farms upon which the walnut trees grow are universally owned by the peasant, who lives upon and works them. His holdings range from three to five, and in rare cases even to thirty acres. And when a peasant plants a walnut tree, it is planted for his children. The trees do not commence to bear until fifteen years of age, and only at twenty-five years do they average a product of one hundred pounds per tree.

Our visit was made at the very commencement of harvest, and in no case did we see a tree which in our experienced judgment held fifty pounds of nuts. To be sure, the crop of 1907 was less than one-half of normal. The trees had not yet rallied from the unusually cold season of 1906, and then followed the hot winds of June, 1907. In our judgment, the small product was also directly traceable to the soil impoverishment caused by the continued cropping. Yet under all conditions there, this

cropping is unavoidable, for what peasant family can wait fifteen years for returns, or give his land to so dilatory a crop?

The French walnut grower has many enemies to face. Hot winds dry up his growing crops, hailstorms cut off the fruit before it ripens, the red worm, most abundant in dry seasons, destroys 25 to 50 per cent of the crop. Blight or black nuts are ever present, all in varying degrees according to the character of the season. I made earnest effort to secure for friends some grafts from trees which were free from black nuts. That was an impossibility. Nurserymen and peasants all declined my commission upon that condition. They do not regard the blight as a pest, but look upon the black nuts in the light of tombeaux or wind-falls. No remedies, no sprayings are ever applied to destroy the pests named. That would entail expense which the poor peasant can not afford, and besides which, he knows nothing about such propositions.

There is absolutely no co-operation, nor organization among the walnut growers. The ignorant, provincial peasant knows that he has a choice product, and he believes that every man's hand is against him. He considers it necessary to withhold all knowledge of his treasure from strangers, and friends as well, so far as possible, lest they deprive him of some advantage.

We were doubly cautioned at the consular office and by friends that the less we seemed to know about walnuts during our tour of inspection, the more we might learn. Any direct question would be met with silence or refusal. There are only two artificial driers in all this Tullins region. Admission to one of them was denied point-blank; at the other the first question asked was: "Who are these ladies?" Our official guide replied that we were American tourists whom he had asked to come and see some of the good things in this part of France. Upon this showing we were admitted and cordially entertained. In this great warehouse of a dealer or buyer of walnuts, we saw fully a thousand 220-pound sacks of walnuts, filled and sewed ready for shipment, and eight to ten employees were busily sacking the remaining nuts. And these were nuts grown in 1906, secured from the owners by driblets and only at the eleventh hour. Yet here was the harvest of 1907 actually in progress.

It is with greatest difficulty that the nuts can be secured for shipment. If a buyer comes early in the season the poor suspicious peasant believes it is because prices are going up—and there is no sale. If a buyer offers good prices, he thinks prices are going higher, and again there are no sales. The growers in 1906 received from six to 10 cents per pound, according to quality.

The peasant, his wife and children harvest their own crops, and presumably cure and prepare them for market, but through their unwisdom a sorry product is offered for sale. Everything is jumbled together—dirty nuts, black nuts, wormy nuts, half-hull-covered nuts, mouldy and poorly cured nuts. These are taken to the warehouse rooms where they are washed and assorted as best they may be, and shipped, chiefly to America.

A branch of walnut industry, new to us, was found in one warehouse, where a dealer in cracked meats had hundreds of fifty-five-pound boxes of half meats nicely packed and ready for shipment to New York and Boston. Two tables in this room were piled high with cracked and shelled nut meats. At one table ten women sat at work separating the whole halves from the broken meats. The whole halves were shipped for the confectioners' use, while French thrift found a revenue from the oil gotten from the broken meats. This culling gave a possible profit, because handled by women who get but 30 cents a day for their services. These nuts were also from the crop of 1906, while that of 1907 was in process of harvesting. For this delinquency no explanation was given, and I could only surmise that it was simply "their way." It may be interesting to know that these nut meats are obtained from the cullings, the small, and the half-black nuts.

So much for the "Home of the Walnut," the trees, the growers, and their methods. Now to the point most vital to the American walnut planter. And my notes, it must be understood, apply solely to that section of France which grows and exports the famous Grenoble walnut. And about one-third of the walnuts exported from France come from this region.

There are four varieties of French walnuts known to commerce—the Grenoble or Mayette, the Franquette, the Parisienne, and the Chaberte. The Mayette alone is exported under its own name. The others are mixed together, and with others sent from Bordeaux are shipped under the name of "Grenoble Commercial Walnuts." This was done in 1906, and the same caper will be continued in 1907 and 1908.

The quality and flavor is alike in the Mayette and Franquette. Of the Parisienne I could learn nothing except that there were some trees of that variety grown about Tullins, but that the nuts were not esteemed, and that the variety is not being propagated now. The Chaberte, delicious in flavor, but very small, is called a wild nut, because it grows on stony hillsides where no others will thrive. It is never grafted, and is sold exclusively for a cracked meat to confectioners. Those Chaberte trees still standing in the valley have been grafted to better varieties.

The Mayette is similar in size and shape to the ordinary California soft-shell, and is always described as being able to "set up on end." Its flavor is par-excellence, and all the best points of table walnuts are found in this variety. The Franquette is like the Mayette in all points except shape. It is longer and slightly larger.

I went to this center of the walnut industry intending to regraft my Franquette walnut orchard if a better variety were found. Knowing the points of excellence similar in the Mayette and Franquette varieties, I anxiously inquired why the latter was considered second in rank. An honest peasant enlightened me. "The Mayette has a soft shell, while the Franquette has a hard shell." I tested his statement then and there, and found it true. I could crush the Mayette in my hand. I could not crush the Franquette with the same force. Samples brought home, however, proved that our soil or climate had eliminated this objectionable feature from our Franquette walnut, for as grown here, it is as easily crushed as is the shell of the Mayette. Again, the long nut carries, ounce per ounce, more meat than does the round nut, hence I am giving my purchaser more value for his money than the vendor of the round nut can give. And since I have never known walnuts to be served or sold "setting up on end," but rather in a recumbent scramble, that objection was waived, and having found nothing better, my Franquette walnut orchard at Santa Rosa will not be re-grafted.

EMILY M. VROOMAN.

Cloyne Court, Berkeley, Cal.

### THE OREGON CHERRY FAIR.

To the Editor: At a recent meeting of the Salem Board of Trade the following committee was appointed to take charge of our annual Salem Cherry Fair: F. W. Power, C. A. Park, and H. S. Gile. The Salem Cherry Fair is one of the best horticultural displays of fine fruit that we have in the northwest. It will be held about the 10th of July (date to be announced later). About thirty to forty cups will be offered as premiums, and a large number of diplomas and other prizes. In connection with the cherries there are displays and premiums for general fruits, roses, and sweet peas, and we desire as many nurserymen and florists present as possible. The Salem Cherry Fair, being held just after the meeting of the Pacific Coast Association of Nurserymen, affords nurserymen attending that meeting the opportunity to attend our Fair without inconvenience to themselves. We would very much like to have a representative of your paper present and extend a special invitation to all nurserymen, florists, and horticulturists to be present. Announcements of program and premiums will be made in a later issue.

F. W. POWER.

Salem, Oregon. Chairman Cherry Fair Com.

### PROCESSING AND PACKING PRUNES.

The Oregon Agriculturist publishes a letter from someone whom it describes as "one of Oregon's most successful prune curers," as follows: "I have been in a good many of the packing-houses during the packing season, and have seen large prunes steamed and watered so much that you could almost wring the water out of them. I



called the packer's attention to it; and he said they were not too wet. Ever since the practice of steam-processing has come into use it has been the cry of the packer to have the prunes dried harder, but when they reach the packing-house no man could tell whose prunes were originally dried too much or too slack. I know that slack-dried prunes will not keep any length of time. Nor will they keep if well dried in the first place if they are afterward soaked with water. I believe in placing the blame where it belongs. The packer can tell when he receives prunes whether they are dried right, and should refuse to take those which are not dried enough. Nor should he spoil good prunes by dopping them with water. When I pack prunes I proceed as follows: I wash the prunes in hot water and then put them in the dryer and bring them up to a temperature of from 180 to 190°F and then pack them hot. Pack them closely in the box, so as to exclude flies or moths and as near air-tight as possible, and either Italian or French prunes can be kept a year without sugaring or moulding."

#### THE FRUIT GROWERS' CONVENTION AT RIVERSIDE.

The programme of the thirty-fourth California Fruit Growers' Convention, to be held in the Loring Opera House, Riverside, California, on April 28, 29, 30, and May 1, 1908, is as follows:

**Tuesday, April 28, 9:30 a. m.**—Call to order by the chairman. Invocation. Address of welcome, S. C. Evans, mayor of Riverside. Address, Governor J. N. Gillett. Opening address, J. W. Jeffrey, State Commissioner of Horticulture. Official business.

**Tuesday Afternoon, 1:30 O'Clock.**—Walnut Culture and Top Grafting to Increase Production, J. B. Neff. Discussion, conducted by Prof. H. J. Ramsey. The Present and Future Status of Our Grape Industry, O. E. Bremner. Discussion, conducted by George C. Roeding. Parasites and the State Insectary, S. A. Pease. Discussion, conducted by Prof. A. J. Cook.

**Wednesday, April 29, 9:30 a. m.**—Proper Handling of Citrus Fruits, J. H. Reed. Discussion, conducted by G. Harold Powell. Packing House Equipment, C. E. Rumsey. Discussion, conducted by P. J. Dreher. The Citrus Protective League, Elbert Lyon. Discussion, conducted by Charles C. Chapman.

**Wednesday Afternoon, 1:30 O'Clock.**—The California Lemon, C. C. Teague. Discussion, conducted by R. C. Allen. Health and Disease in the Citrus Tree, Prof. Ralph E. Smith. Discussion, conducted by V. V. LeRoy. The University Farm School, Judge Peter J. Shields. Discussion, conducted by Prof. E. J. Wickson.

**Wednesday Evening, 8 O'Clock.**—Reception tendered by the Woman's Club of Riverside to visiting members.

**Thursday, April 30, 9:30 a. m.**—Investigation of Hydro-cyanic Acid Gas, R. S. Woglum. Discussion, conducted by Frederick Maskew. Sulphuring Fruit and the Pure Food Law, Arthur R. Briggs. Discussion, conducted by B. E. Hutchinson. Some Relations Between Soils and Fruits, Prof. W. W. Mackie. Discussion, conducted by James Mills.

**Thursday Afternoon, 1:30 O'Clock** (Horticultural Commissioners' session, in charge of S. A. Pease).—What Is the True Value of a Certificate in Shipments of Nursery Stock? C. E. Bemis. Causes of New Infestations, P. D. Fowler. Relations of Horticultural Commissioners to Nurserymen, H. P. Stabler. Quarantine Between California Points, R. P. Cundiff. General Discussion.

**Thursday Evening, 7:30 O'Clock.**—The White Fly and Its Control, Illustrated With Stereopticon Views, by J. W. Jeffrey and E. K. Carnes.

**Friday, May 1, 9:30 a. m.**—Maintaining the Fertility of the Orchard, Frank L. Palmer. Discussion, conducted by Prof. Ralph E. Smith. Date Growing in Southern California, Prof. S. C. Mason. Some Points in the History of Caprifigation and in the Life History of the Fig, Walter T. Swingle. The Eucalypts for Use and Adornment, F. P. Hosp. Discussion, conducted by Leonard Coates.

**Saturday Afternoon.**—Excursions through the orange groves to neighboring towns.

The convention is held under the auspices of the State Commission of Horticulture. The local committee of arrangements is as follows: Harry B. Chase, James Mills, E. W. Holmes, C. E. Rumsey, and J. H. Reed.

#### SOME OF THE MORE SUCCESSFUL OF THE LESS GROWN SEMI-TROPICAL FRUITS.

By Mr. C. P. Taft of Orange, Cal., at the University Farmers' Institute at Whittier; revised for publication in the PACIFIC RURAL PRESS by the author:

These fruits, while not commanding the attention given to walnuts, oranges, vegetables, and kindred topics habitually discussed at Farmers' Institutes, are nevertheless quite worthy of consideration, and, even commercially speaking, have a by no means unimportant future. I venture to make this assertion, not only because I am an enthusiast on the subject, but also because I consider it justified by my experience.

Some twenty years ago, more or less, I began to test such semi-tropical fruits as gave any promise of success, commencing with the loquat. I have during this time fruited seedlings of this fruit running up to nearly 2000 or perhaps more. I have also tested numerous Avocado seedlings, several varieties of the Anona, many kinds of guavas, the Feijoa Sellowiana, carissas, sapotas, eugenias, mangos, papayas, pepinos, etc.

**The Loquat.**—Of these the most successful, perhaps because the longest worked with, is the loquat. Some of the many seedlings I have fruited are superior to anything of the kind in California, and so far as I can find are even the best in the world. While California climate may in part account for this, yet it cannot wholly do so, for numerous named varieties from other countries, furnished me by the Department of Agriculture, have all proved inferior to those originated at home. As a direct result this fruit has now an established market, being one of the leading fruits on the stands of Los Angeles during the spring months.

By a selection of early and late ripening kinds the season now extends over February, March, April, and May for steady picking with more or less thrown in during January and June for good measure. To illustrate, my Early Red is nearly all gone at the present writing. The variety I have named the Premier is over one-third picked, while the Victor is hardly touched as yet.

As to profits, a well cared for orchard of budded trees, in this vicinity at any rate, can hardly fail to net \$300 per acre after the eighth year, or even sooner. They are heavy and regular bearers, as much so as any trees I know.

**The Avocado or Alligator Pear.**—This remarkable fruit comes to us primarily from Mexico or Central America. Indeed, it is quite within the limits of legitimate speculation to assume that its original home may have been the lost continent of Atlantis; that it has come to us by way of Yucatan or Guatemala, and that in Atlantis it was brought to such a high state of perfection that after thousands of years of comparative neglect it still retains qualities of wonderful interest.

In the opinion of very many people the Avocado is the best of all fruits. I know of none whose votaries are more enthusiastic. It makes the best of all salads, as it stands midway in its composition between fruits and nuts, embracing many of the attractive qualities of both. There seems to be a fascination in its flavor which lingers on the palate, and to those who know its taste, the price, like that of champagne, is a secondary consideration. Hence we find fruits imported from Mexico, Hawaii and other countries selling at \$3 and more per dozen wholesale and the demand constantly growing.

It is hardly probable that here in California we can ever produce fruit quite equal in size to the largest from the tropics, but there are smaller and harder varieties which are no whit inferior but rather better in flavor and richness which have been found to do well. These are from local or Mexican seeds whose ancestors for many generations have grown in a climate much like our own. In southern California there are perhaps a hundred trees old enough to bear. Of these about ten produce abundant and regular crops. Fortunately they are so located as to indicate that there is a

considerable area adapted to Avocado. Of these first class trees one or two grow at Hollywood, two or three in Los Angeles, one at Monrovia, one at Santa Ana, and I have two or three. One of those at Hollywood is probably the most prolific, but the size of the crop and the amount received for it I hardly dare to put in print, lest I appear foolish to the uninitiated.

It is from these trees that we must establish our groves. Probably the safest plan is to plant in orchard seedling trees, direct from the can or pot in which they are started, and bud over those which prove unsatisfactory, for many have found the Avocado, like its near relative the Camphor, rather cranky about transplanting. When balled though it buds readily enough.

As there is an uncommonly great variation in the time of blooming and also in the period required for the fruit of different types of trees to come to maturity, an orchard may be obtained by selection which will bear continuously. This is of course very desirable to the consumer and immaterial to the market grower, as there is plenty of demand at all times.

To conclude with just a word of prophecy: The next 'craze' will be about the Avocado.

(To be concluded.)

## The Field.

### WATERMELON GROWING.

Mr. J. C. Ostergard gives the California Cultivator his method of growing watermelons in southern California:

The best soil for watermelons is generally described as a rich sandy loam. There are, however, many varieties of this soil; the best is what is termed decomposed granite, such as compose most of the California mesa lands. The soil formed of decomposed sandstone is the poorest, as in that case there will be a lack of phosphorus and potash, both of which are highly essential to the growth of a good watermelon. Where the soil is too rich in nitrogen, the melons will have thick rind, the flesh will be coarse and stringy, besides lacking in flavor and sweetness. Heavy soils are very likely to be productive of mildew destructive to the leaves and vines.

**Time of Planting.**—As watermelons are of tropical origin, the atmospheric and soil warmth must correspond closely to the conditions prevailing at the tropics and subtropics, otherwise the seed, if planted, will rot if not sprouted before planting. Even if sprouted, the plant will chill and die if too cold, if the soil temperature does not reach 70° at least once in 24 hours, the plant cannot live and thrive.

The earliest successful planting in California is about March 15, and that early only in the most favored sections, and then with favorable weather. Shallow planting should be the rule. With early planting cover with about one inch of damp soil, press it gently, and afterward with the hoe throw over the pressed surface a half inch of loose earth, which will prevent it drying out.

**Varieties to Plant.**—For many years the Georgia Rattlesnake watermelon was the favorite of the Pacific Coast. Next came Kalb's Gem; it met with some success, but soon dropped out of the race. The Sweetheart and the Cuban Queen came and shared the fate of the above, as did Kleckly Sweet and a host of others. Rattlesnake still held the field when the Chilian burst into the melon world, and in one short season proved its supremacy. This was eight years ago. But every living thing is the natural parent of its successor, so out of the Chilian evolved the Angeleno, a melon that promises to claim the field as its own inside of the next few months. For shipping, the Angeleno, Chilian, Rattlesnake, and Kolb's Gem are favored in the order named. For the home garden, plant Angeleno, Chilian, Kleckly Sweet, Phillipino and the Sweetheart, in the order named. For an early good melon plant Florida Favorite. Do not plant earlier than here advised, or the chances are ten to one that the plants will be destroyed by lice. Do not forget to bluestone your seed. To omit this is to invite disaster.

**Mode of Sprouting Melon Seeds.**—Dig a square hole about eighteen inches deep, make a small fire



in it. When it is well started add small pieces of wood until the hole is nearly full. As soon as it ceases to smoke, cover the red coals over by putting a barrel head over it. Do this in the morning, and at the same time put the melon seed to soak in warm water. Place in a warm spot. In the evening pour a bucketful of warm water into the hole. Feel with the hand that it is not too hot. If it is, pour in as much cold water as is needed. When the soil feels blood warm, put your seed in bags—stocking leggings will do—and place in the hole. Pour in enough warm water to cover the bags. Now put in a suitable piece of board or a piece of tin over the bags, fill in with dry bags or old clothes, or even with the ground, covering tightly with boards. Next morning get another bucketful of warm water and pour over the seeds. Cover as before, repeat in the evening, cover well. Next morning the seed will be found nicely sprouted, ready for planting. To prevent breaking, carry the seed in water; if sprouting too fast, remove to a cool place.

### POTATOES BY IRRIGATION.

Owing to the shortage of rainfall there may be more people growing irrigated potatoes this year than usual, and the conclusions from practice in Colorado, where the irrigated potato is common, may be interesting and helpful. Professor Pad-dock of the Colorado Experiment Station outlines the best methods with ditch water as follows:

Use alfalfa sod whenever possible. Plow in the spring, from the latter part of April to the middle of May, usually about eight inches deep. Finish the day's work by harrowing all the land that has been plowed with a smoothing harrow. After the ground has been plowed see that it is well leveled so that there will be no high or low places. Harrow a sufficient number of times to put the ground in fine tilth; use a disc if necessary.

The seed is planted with one of the standard makes of planters. As four horses are commonly used on a planter, the ground will be pretty thoroughly packed. To relieve this condition the ground is cultivated immediately after planting. This will help to kill out weeds and alfalfa. A heavy four-shovel cultivator drawn by four horses is used. The shovels are set to throw the soil toward the rows and to run as deep as they will go. The depth will vary from eight to twelve or thirteen inches. This operation leaves the soil loose, but more or less lumpy, and with an uneven surface, especially on heavy soils. The smoothing harrows should immediately follow the cultivator to re-establish the soil mulch.

The number of cultivations depends upon weather conditions and upon the rapidity of the growth of the vines. The cultivator is used a second time as soon as the plants are large enough so that the rows can be easily followed. This time the shovels are not run quite so close to the row, but to the same depth unless the plants are much developed. Sometimes two cultivations are all that are given, but ordinarily a third follows the second by a week or ten days, and if the vines do not get too large or irrigation becomes necessary, cultivation is continued. Each time the cultivator is used more soil is thrown toward the potato rows and the hollows become deeper, thus ditching is easily done.

Ditching and irrigating are delayed as long as possible. The rule is not to irrigate if it can be avoided until the potatoes are in bloom or the tubers are set.

The ditching is done with a narrow double-mouldboard plow. Three horses are attached and the plow is run twice in each row at about the depth of cultivation, or ten to twelve inches. The ditching takes the place of one cultivation, and if the ground is hard, or if the first irrigation fills the ditches to any extent, the operation is repeated so as to make the ditches deep enough to keep the water below the surface of the potato ridges.

From the above it will be seen that much attention is given to keeping the soil loose and porous; also that the potatoes are grown in high ridges. This system has been evolved gradually by our best growers in an unconscious effort to combat disease. It is a complete success on good potato soils, and much may be done with the heavier soils by following the plan mentioned.

**Irrigation.**—First, do not irrigate potatoes up if it can possibly be avoided. Wetting the land at this time is very likely to bring on attacks of disease which will result in a poor stand and serious injury to the plants throughout the growing season.

Ordinarily the first irrigation should not be given until the tubers are set. If the tubers have a chance to form in a comparatively dry soil, the majority of them will be formed at one time; then when water is applied all will have an equal chance to develop; the result will be a crop of even sized potatoes.

The water should always run shallow in the furrows, never deep enough to stand around the tubers, but a sufficient amount applied so that the moisture may seep up into the ridges. In this way the soil about the growing tubers may be kept damp but not soggy. This is the ideal condition for the potato plant but unfavorable for growth of potato diseases.

An effort should be made to keep the soil moisture uniform by frequent light irrigations. If the ground is allowed to become dry, the growth of the tubers is checked; then when water is again applied, second growth starts in, which results in knobs and irregular growths. The tubers of some varieties crack badly under this treatment.

It is essential that the potatoes should mature in comparatively dry soil. If the soil is kept wet until harvest time, the tubers contain an excess of moisture, and this necessarily results in poor quality. Then, too, potatoes dug when the soil is wet present a poor appearance on the market, because of the quantity of soil which is bound to stick to them.

In order to have the soil in proper condition at digging time, and the potatoes of the best quality, it is necessary to stop irrigation three or four weeks before the usual time for maturity.

### THAT SQUIRREL POISON.

Readers will remember that we have had some discussion as to whether the California combination of strychnine and cyanide was the same as the patented preparation for which some of the middle west States have been paying a royalty. We have had a letter from Mr. Lantz saying that the patented preparation is different. However, here is another combination of the two poisons in somewhat cheaper form, as published by the Colorado station. When the ground is dry and green feed scarce this will certainly kill squirrels, and it may of course be made in any quantity desired, the only requirement being that the ingredients be used in the proportions given:

Strychnia sulphate .....	1½ ounces
Potassium cyanide .....	1 ounce
Oil of anise.....	1 teaspoonful
Syrup .....	1 quart
Wheat .....	1 bushel

Dissolve the strychnia sulphate in three-fourths of a pint of boiling water. Dissolve the potassium in the mixing vessel and add the potassium cyanide. Stir thoroughly. Then pour in the solution of strychnia sulphate, stirring meanwhile. Add the oil of anise. The poisons will not dissolve together and when they are mixed the cyanide tends to make the strychnine go to the bottom. This makes it necessary to keep the mixture thoroughly stirred before pouring it over the wheat.

The wheat should be put in a tight vessel of some kind and the mixed poisons poured over it. Stir the wheat thoroughly till every grain is well moistened. Then sprinkle in very slowly a pound or two of fine corn meal, stirring the wheat at the same time, so that each kernel receives a light coating. Only sufficient meal should be used to exactly take up the extra moisture. The kind of syrup used is immaterial. Its chief office is to make the poison stick to the wheat. It may be sugar syrup, sorghum, or molasses.

The wheat can be most readily handled in an old pail and distributed with an old spoon. Scatter about a teaspoonful in and around the mouth of each hole that is occupied by dogs. To aid in the work and prevent the omission of holes, the ground may be marked off in strips or blocks by the use of sticks with pieces of muslin tied to them for markers. The above amount of poison will be sufficient for a thousand or twelve hundred holes.

## Fruit Preservation.

### CRYSTALLIZING FRUITS.

To the Editor: Could you kindly give me a description of the process employed for crystallizing fruit.—Fruit Grower, Ben Lomond.

There is nothing easy about this, not even the description of it, and if the enquirer does not get weary even before he finishes the reading, we shall be rather surprised. However, here goes for an outline of the process based upon European practice and capable of much variation in appliances in accordance with American inventive genius.

The kinds of fruits preserved by this process are mainly the following: Pears, cherries, apricots, pineapples, plums, figs, citrons, oranges, melons, etc. The crystallizing process of all the fruits named differs but little, but it requires a certain skill and delicacy of manipulation which can only be acquired by experience. Glazed and crystallized fruits are generally confounded, the only difference consisting in the exterior coating of sugar which forms the final stage of the process. Until that final stage is reached the method of preparing them is identical, the value of each being the same.

The most important aim of the manufacturer is to extract the juice of the fruit and replace it in the pulp with liquid sugar, which, in hardening, preserves the fruit from fermentation and decay, while retaining its original form and consistency. To secure these results the fruit must be fresh, free from blemish and in a perfect condition of ripeness. The latter requisite is all important, while difficult, as the ripeness differs with the fruit, thus rendering a fine discrimination in the gathering, assorting and transporting of the different varieties before the process of crystallization is entered upon. These preliminary points being attended to, the first stage of the process is bleaching, or whitening the fruit, which is done by placing it in abundance of water and allowing it to simmer over the fire and stirring it. The fruit thus treated should be suspended in a copper vessel, to prevent injury from the heat. This is sometimes done also with steam. Each kind of fruit is bleached differently, stone fruit, for instance, being placed in cold water over a slow fire, and removed with a skimmer as soon as it rises to the top of the water. The amount of cooking is regulated by the degree of softness it has acquired, and this is ascertained by the ease with which a pin penetrates the pulp or meat. It should be noted that fruits having a tough skin require a longer time to bleach than those of a harder consistency. When the whitening process is completed the operation of crystallizing is begun by dipping the fruit into hot melted sugar for a moment, and then allowing it to drain and dry. It should then be washed lightly in lukewarm water, put in earthenware dishes and placed in a warm oven for a couple of hours. The next stage is to cook some sugar over a slow fire in a copper dish at 105 degrees and place the fruit in it for a few minutes and skim; then remove the dish from the fire and place it on a table slightly inclined, and collect the sugar on the side with a spatula. When the sugar begins to whiten roll the fruit in it, one or two at a time; remove it with a fork and place it on galvanized or tinned wire sieves or grates over earthenware dishes or candy moulds. If the fruit is soft cook it a little more, and stir the sugar longer with the spatula than if it be hard or dry. Keep the glazing sugar for future use and if necessary renew it by adding more sugar. Should the sugar become pasty cook and stir it longer, or replace it with fresh glazing.

To glaze or candy the fruit it should be dipped in hot melted sugar for a moment and then dried in a warm oven. When dry cook some sugar over a slow fire to ninety-five or one hundred degrees. Place the fruit side by side between two galvanized wire sieves or grates in a candy mould; pour the sugar carefully over the fruit and then place the moulds in an oven heated to 105 degrees. When the fruit is sufficiently candied, which is usually effected in five or six hours, remove and let the fruit drain and dry.

When the fruit is hard or dry it may be candied by the cold method, the candy then being



finer and less liable to granulate. Cook the glazing to ninety-five or one hundred degrees; place the fruit in the glazing in the evening and remove it the following morning, when it is allowed to drip and dry.

From the above the skilled confectioner will infer that the successful practice of this difficult art depends largely on judgment and skill for many conditions, independent of any formula, may operate in favor of or adversely to the desired results. The nature of the soil from which the fruits have been produced must first be carefully considered. Confectioners prefer, therefore, to select the fruits grown on a dry soil, as such are more palatable, damp soil producing those too soft or of insufficient firmness of fibre to support the fabrication.

The process is also modified by the variety of the fruit used, and its degree of hardness or ripeness; and the exact adaption of the syrup thereto is also a requisite to complete success. Pineapple, for instance, demands a density of syrup of only eighteen degrees, while other fruits of less consistence require a syrup up to a maximum of forty-two degrees, according to their kinds.

Again, some fruits must receive a special preparation. Thus citron, mandarin and bitter oranges should be soaked first in a bath of sea water, often changed, which gives them firmness, and removes a disagreeable flavor which often renders them unfit for use. All fruits produced around Bordeaux, apples excepted, may be crystallized, but the more fat or mealy the fruit the less easily the syrup penetrates into the pulp; thus oranges admit the absorption freely, and plums less easily. Oranges are gathered when the fruit is hardly formed, having barely the taste of fruit and continuing until, when nearly ripe and full of size, they begin to be slightly colored.

If the question be raised, why so profitable an industry as this may not be successfully prosecuted in our country, the answer is that cheap sugar and cheap labor lie in the foundation of it, and in these lines France has the advantage of us. Great effort has been put forth in California, and a superb product has been produced, but the rewards have been small.

## Sheep and Wool.

### THE GOVERNMENT AND THE RANGES.

To the Editor: Correspondence having a most important bearing on both grazing and irrigation interests in the West has been made public by Secretary James Wilson, of the Department of Agriculture. Questions relating to the proposed prohibition of grazing on streams supplying water for irrigation have occupied the attention of the Departments of Agriculture and the Interior for some weeks, and a co-operative investigation has been agreed upon with the hope that the problem may be settled to the satisfaction of all interests concerned. In giving out the two letters bearing on the investigation, Secretary Wilson said:

"A recent addition to the Southern division of the Tonto National Forest in Arizona made at the request of the United States Reclamation Service to protect the watersheds of the Verde and Salt rivers and a subsequent order to close the area to sheep and goat grazing after April 1, 1909, have brought up questions which have a most important bearing on two great industries of the West, stock-raising and farming on irrigated lands.

"Requests from irrigators and officials of the Reclamation Service that efforts be made to restrict grazing by sheep on the watersheds of streams used for irrigation, on one hand, and protests to the Forest Service by the stockmen, on the other, have given rise to a situation which can only be settled by a very careful investigation, which has been agreed upon by the Secretary of the Interior and myself. The investigations will be made with the one end in view, that the use of every resource must be for the greatest good to the greatest number.

"The investigation of the land to consider whether it is necessary to restrict the grazing of sheep and goats on the watersheds will be made

by the officers of the Reclamation Service and the Forest Service in co-operation, who will meet the stockmen on the ground during the coming summer and thrash out the whole problem. If it is found that a limited number of sheep and goats can be allowed to graze on any of the ranges on the watersheds of the streams in question, the order prohibiting grazing will be modified so as to protect the interests of the sheepmen and at the same time check any tendency there may be to overgraze the forest or damage water supply used for irrigation. Because of the important bearing of the problem on grazing matters in the West, I deem it wise to make the correspondence public at this time in order that there will be no chance of misunderstanding on the part of any interest.

"The protection of the watersheds and streams supplying irrigation reservoirs depends primarily upon the possibility of giving full protection to all areas where grazing is allowed. The fewer forest officers there are to attend to the grazing business on the National Forests, the more land will have to be closed to grazing. It must be remembered, therefore, that any reduction in the force of the Forest Service would necessarily be an attack on the entire grazing industry of the West. Past experience has proven that stock can be allowed to graze, under proper regulation, on areas from which it would be necessary to exclude it if the range could not be properly patrolled. The same situation is true regarding the permanent improvements. The more water that is developed, the more division fences that are constructed, the more roads, trails and bridges that are built, the more permanent the range will be and the more stock it will carry."

The correspondence given out is as follows:

Secretary Garfield to Secretary Wilson—Referring to our recent correspondence regarding co-operation between the Departments, there is one very important matter which at this time should be called to your attention, namely, the grazing of sheep on portions of the National Forests located on areas tributary to streams used for irrigation.

Requests have come to me in writing and orally from irrigators and from the officials of the Reclamation Service that every reasonable effort be made to restrict grazing by sheep on the lands from which water flows to the streams used in irrigation, or to reservoirs constructed for conserving the water supply. There are many complaints of overgrazing because of resultant injury to the irrigators. At this time, when the subject of the use of the grazing lands during the coming season is under consideration, it is advisable to give this matter even more careful consideration than in the past.

My trip through the West last summer and interviews with numerous men representing varied interests has led me to the conclusion that the question of sheep grazing as affecting irrigation is one to which we should devote much attention, if we are to aid in the conservation of the water resources for the greatest benefit to the largest number of citizens.

I have the honor to request that, as far and as rapidly as may be practicable, sheep be restricted on, or when necessary, excluded from watersheds of streams now or immediately to be used for irrigation, and that as to other watersheds held for future irrigation projects, sheep grazing be carefully restricted. Such restrictions are needed not only for the lands reclaimed by the Federal Government, but, as well, for those reclaimed under the Carey and Desert Land laws.—James Rudolph Garfield, Secretary of the Interior.

Secretary Wilson to Secretary Garfield—In reply to your letter 20, in which you ask for the restriction or exclusion of sheep within the National Forests upon the watersheds of streams used for irrigation, I have the honor to inform you that the allowances of stock upon the different National Forests for the season of 1908 have already been made, and in many cases meetings of the stockmen have already been held and range allotments agreed upon. Therefore, it would greatly unsettle the sheep business and cause much just criticism if a reduction in the number of sheep already officially determined should be made for the season now about to open.

In making the allowances for this and for preceding seasons careful consideration has been

given by the Forest Service to the protection of the watersheds of streams used for irrigation, and as fast as was consistent with fair notice to stock owners reductions in the number of stock have been made wherever they appeared essential to stop damage from overgrazing. The Forest Service is necessarily the guardian of the interests of both the irrigator and the sheepman and must be careful to give one as square a deal as it gives the other, neither more nor less, keeping the greatest good to the greatest number always in plain sight.

Without doubt, further restrictions must be made in certain localities and I shall be very glad to have the Forest Service, if agreeable to you, in co-operation with the Reclamation Service, make a thorough investigation of this matter during the coming summer. In this way we can determine what reduction, if any, in the number of sheep is necessary to stop damage to the watershed of any streams used for irrigation. I will be guided by the results of these investigations in making the grazing allowances for next year.

I recognize the primary importance of irrigation to the West, and the duty of protecting it fully and fairly. At the same time I want to call your attention to the relation of the sheep industry to the general welfare of the western people. The facts warrant a very careful consideration of the questions presented by you. In the past few years the policies of the present National Administration have resulted in an enormous increase in the number of sheep in the United States, as well as in almost doubling their per capita value and the value of the wool product. It would be most unfortunate if after thus giving an industry care and support, it should be curtailed by restrictive measures except when such measures are clearly necessary for the proper protection of other and larger agricultural interests.

The forage upon vast areas of desert range can be utilized only by winter pasturing of sheep which are grazed within the National Forests during the summer. In such cases non-use of the summer range means loss of the winter range also. The market for the products of agricultural lands in many localities is largely dependent upon sheep feeding during the winter. It is therefore evident that the interests of many irrigators, as well as those of almost all western sheepmen, are involved in this question.

It has been suggested that were sheep excluded from all National Forest ranges their places would be taken by the cattle of nearby settlers. This would be true in some localities, but there are large areas of grazing lands within the National Forests that could not be used to advantage for cattle grazing on account of distances from settlements, roughness of the country, and the kind of forage produced. The exclusion of sheep from these areas would mean the entire loss of their forage crop.

The foregoing considerations should, I think, be given due weight in making the investigation of sheep grazing which it is proposed to undertake. Every effort should be made to utilize the forage crop, the loss of which would be a loss to the whole West. But I recognize that the water supply as well as the forage crop must be used and above all conserved and protected that no single industry can properly be allowed to dominate the situation, and that the use of the National Forest ranges must be subject to the restrictions necessary for the proper care of the forests and the protection of the watersheds of streams.—James Wilson, Secretary of Agriculture.

### Dust Sprays.

To the Editor: Will you kindly tell me if there is a dry spray known which is effective against the codlin moth, without being injurious to the foliage of the tree. Last season I used paris green and lime, which burned the leaves and caused them to fall. My orchard is situated on a steep hillside, where it would be very difficult to handle a wet sprayer.—Farmer, Santa Cruz.

We have never had clear testimony of the value of the so-called dust sprays in California. If anyone has succeeded with them, other than the use of sulfur-dust for mildews of vine and apple, we would be glad to know of it.



## The Home Circle.

### The Happy Gardener.

When you die, earth-lover,  
Flowers shall be your cover;  
Braver than the purple pall  
Spun to veil dead kings withal.  
You are weaving, day by day,  
Beauty for the sun to slay—  
The fleeting pageant of delight  
That dwells within a garden bright.  
You this Persian carpet spread,  
And named it a sweet-william bed.  
You painted this great lambent screen  
Of larkspur, lillied white between  
You hang vine garlands, low and high,  
Ripe for Bacchus, reeling by.  
You are the over-lord of grapes  
And plums, and all alluring shapes  
To win the eye and tempt the tongue,  
Gloved liquid honey, leaves among.  
Living, you, an earth-born guest,  
Are of men the mightiest;  
And when you die, earth-lover,  
Flowers shall be your cover.

—Alice Brown.

### The Voice of the Fiddle.

The fiddle is naught if it is not human,  
With the soul of a bird and the voice of a woman,  
The heart of the hill and the melody  
Of a thousand ages of wind on the sea!

The fiddle is fine when they wake who will  
The sobs and laughter that leap and thrill  
From buried valleys of bird and rose,  
The lovers that deep in its heart repose.

The fiddle is spring with the chrysalis gloom,  
Blown by the breath of the birth of bloom,  
Till hill and meadow are honeycomb sweet  
With dew of the clover beneath love's feet!

The fiddle is joy in the midst of a tree,  
Trembling to tell of the deeps of its glee,  
Shouting and ringing and bursting with pain,  
Then whispering sadly—a woman again  
—Baltimore Sun.

### Cupid's Confederate

Alec pushed open the door of the library, where May was sitting at her desk. He came over to her with a soft, sliding hobble. The child had been a cripple from his birth.

"May," he said, laying one little hand on her arm, "Mamma wants you directly. She's got a dreadful headache."

His sister laid down her pen. Something unusual in her face filled him with concern.

"I'm sorry to bother you," he said, sympathetically. "Was it some particular letter, May?"

There was a sound in her throat, like choking, Alec thought. She put him aside almost brusquely, and then turned back to give him a swift, remorseful caress.

"Very particular, little comfort," she laughed, unsteadily. "But it will have to wait, for mamma can't." She went to the door, and Alec heard her go slowly and wearily down the hall.

Steadying himself by his crutch, Alec slipped into the vacant chair, and looked at the letter as it lay on the desk. The stamped and addressed envelope beside it said: "John M. Barry, 64 Lake Avenue, City." Alec glanced up at the clock on the mantel, and a bright thought struck him. May had often done as much for him when his fingers grew too tired to finish his letter to grandma or Aunt Belle. It lacked twenty minutes of the postman's time. He took up the pen and went carefully over the sheet, gravely inserting a comma here and there. Much of it was Greek to him, but the suppressed pain of renunciation that breathed between its lines cut his faithful little heart; and he made out

one fact that set his brown eyes staring: May was going to marry Doctor Brice!

He gave a gasp and went on with his reading. The main part of the letter seemed finished, as it ended with, "So this must be our last good-by." There remained only, Alec was sure, to sign, fold, and seal it. So he dipped the pen in the ink and wrote, in the unformed, but dainty running hand he had learned of her, the only teacher his cramped little life had known: "Your own loving—May." That was the way, he remembered, that she signed the letters she wrote him from the mountains last summer. He blotted the sheet and put it in the envelope. Then he hobbled downstairs and out to the box. When the carrier came to collect, it was safely there.

Alec went very soberly about his small duties the rest of the day. When May missed the letter, he told her that he had mailed it because he knew it was nearly time for the postman. He was a little disappointed that she did not thank him more heartily; but he forgot it in the growing unhappiness of what the letter had revealed.

After tea that evening, while May was putting their invalid mother to bed, Alec, passing the library door, saw Doctor Brice standing on the hearth with his hat in his hand. He went in.

"Won't you sit down, doctor, while you're waiting? Mamma will be ready for you in a few minutes, I think," he said, quaintly.

The doctor smiled and took the indicated chair.

"Your sister is with her, I suppose?" he asked, with attempted carelessness.

Alec drew up a hassock, and, sitting down, slipped his hand confidently into the strong white one on the other's knee, which instantly clasped it warmly. He loved the doctor, with his big, breezy, happy ways; but there was that letter!

"Mamma never likes any one else to fix her for bed," Alec said, turning his eyes to the fire; then he added: "So you're going to marry May, doctor?"

The big hand closed spasmodically over the small one, and then relaxed. It was the question the man's whole being had asked for weeks, and whose answer he was seeking to-night. He bent over the child with a little curiosity and much light in his eager face.

"Did she tell you that, Alec?" he asked.

Alec shook his head.

"I read it in her letter to Jack," he answered. "Mamma called her to come right off, so I finished it and took it to the box;—and it was in time."

The light went out of the doctor's eyes, but the question did not. He looked very keenly into the pure little face.

"And you read her letter?" he asked, in an odd voice.

Alec nodded. "May always does that for me," he answered, "and it was very nice to help back again; though she didn't make any mistakes, hardly, as I do. But it wasn't that I was thinking about," he concluded.

There was a short silence.

"Jack Barry, I suppose you mean," the doctor ventured, and instantly despised himself that he had let the question get outside his throbbing heart.

"Yes," Alec answered. "She said: 'It is the last good-by.' Doctor—" he hesitated.

"Well?" said the doctor, almost sharply.

Alec twined his feverish fingers around the others. "I—I wish you—wouldn't marry May."

The hot blood flooded the doctor's face and then receded leaving it white to the bearded lips. The hand that the child clung to trembled.

"Why not, Alec?" he got breath to ask at last.

Alec moved uneasily. "It's hard to—explain," he said, slowly. "Of course we all love you, 'cause you've been gooder to us than anybody in the world. When mamma says so, May always tells her, 'I know it.' But for all that, it seems as if—as if Jack is different, somehow."

Doctor Brice let go the little hand, and, getting up, began pacing the floor with heavy strides. A flood of jealous, bitter anguish was let loose in his soul. Different, indeed, with his own fifty-odd years! He realized it all at once; he, who had that very day arrogantly told a friend that a man does his best work past sixty! He rarely remembered to count his wealth and position any advantage; but at that moment he would gladly have exchanged them both for Jack Barry's comparative poverty and twenty-four years.

Little Alec still sat watching him from the hassock with anxious and unhappy eyes. He went back and sat down with a mighty effort at self-control.

"Did May say that, Alec?" he asked, in a low, uneven voice.

Alec looked longingly at the big hand, withheld now. It grieved him to hurt his friend, but he must save May, at any cost.

"No," he replied slowly. "It was what mamma said made me think it, I guess."

There was a protracted silence. Then the doctor spoke, with effort apparent even to the child.

"Then why do you suppose, if—if May wasn't willing, she said in that letter that she would—marry me?"

Alec's eyes clouded with perplexity. "I don't know," he said. "But mamma talked and talked, and asked didn't she care what her own people suffered, to let her have her own foolish way."

Doctor Brice "knew." Clear and sharply etched through his misery, the truth burst upon him. The anguish of it brought the perspiration out in great drops on his temples. She was accepting him for his money, not for herself, but because of the comfort it would bring her invalid mother. A hundred little things stood out before him, plain now, in this pitiless light: her reserve with him, which he had told himself was only girlish shyness; her mother's virtual falsehoods. It was the old story of selfishness against sacrifice; and he had been an unsuspecting ally, who would willingly have laid down his life for her sake!

Shading his eyes with his hand, he sat silent so long that Alec grew nervous. But he got up at last.

"I'll think about what you've been telling me, Alec," he said, in a strained, uneven voice. "And you'll promise to say nothing of this to—to your sister?"

Alec rose, steadying himself by his crutch.

"I promise," he answered. "You aren't going, Doctor Brice?"

"Yes." The big man shook himself. "Tell your mother I'll call—again." He put out his hand, and the boy, with a quick breath, laid his own within it. "Good-by, Alec." The next

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

moment the child was lying close to the great shoulder. He felt it shaken by one long, dry sob; then something warm and trembling touched his forehead. Five minutes later May came in, to find the room vacant, except a little tearful heap of humanity on the rug before the fire.

That evening the trolley-car on which Jack Barry was riding home from the office collided with a switch engine in the suburbs; so he journeyed back cityward in an ambulance, and the fatal letter found him next morning in the hospital, with a broken leg and many bruises.

He read it through, and turned away his face; but the nurse caught a glimpse of his drawn white lips, and vowed remorsefully that she would have given a week's salary if the letter were back in her pocket unopened. He lay all day miserable and silent, and toward evening fever came on. All night he moaned and muttered, waking next morning weak with suffering, but in his senses. Feebly he got out May's letter, and read it over. Toward the end his eyes brightened. He called the nurse.

"How long will I have to lie here like a mummy?" he asked.

"Two weeks at least," she answered. Jack made a harsh comment, but the nurse looked relieved, notwithstanding his haggard face and sunken eyes. She understood people; and it is a good sign when a patient begins to grow savage.

"Would you write a note for me?" he asked, after some thought. "I couldn't make my mark, even, I'm afraid."

So the nurse wrote at his dictation: "May, will you postpone your decree long enough to come and see me just once? Your own—Jack." And, being sympathetic as well as acute, the nurse surreptitiously added:

"His life may depend on you;"—which in a sense was undoubtedly the fact.

So it happened that two hours later a pale girl with frightened eyes followed the nurse into the private ward. Then, with a greater heartbeat than was good for his weakened state, Jack reached out his one uninjured arm and drew his visitor close to him, while the nurse walked obligingly away, without even an injunction of quiet, that staple commodity of her kind.

It was thus Doctor Brice found them when he made his morning tour of the ward. He stopped short when he recognized the girlish figure, and a



quick change passed over his face. But his battle had been fought—and won. Some shadow of his old quizzical self twinkled into his eyes as May rose, flushing, from her seat, and tried to withdraw her hand from Jack's, ineffectually, since the young man defiantly held it fast.

"Don't let me disturb you, my child, or your patient," he answered their embarrassed greetings. "I've only a moment." He stooped down and laid his steady fingers on Jack's wrist. "Barry," he said, with mock solemnity, "I should pronounce your case decidedly encouraging if it were not for the symptoms of matrimonial fever setting in. You need careful nursing." He threw back his head with a laugh unnaturally merry, and turned to the door.

"You have my best wishes," was his parting salutation; "though I tell you frankly it is a sea upon which I should never dare venture."

He was gone in a moment, his work done, thoroughly, if bunglingly, he told himself with grim satisfaction. The lovers sat staring into each other's puzzled faces. The flush deepened in May's cheeks, but Jack's eyes were dancing.

"Don't you understand, darling?" he cried, jubilantly. "He has jilted you for the shameless flirt you are! You'll have to marry me now. There's no loophole left you!"

Through the strange, new sweetness of her freedom, something in the doctor's looks pricked May's gentle heart like a physical pain. But she forgot it when Jack spoke out, suddenly, drawing her to him again.

"Do you know, sweetheart, that I'd never have had the nerve to send for you if it hadn't been for that heavenly little signature in your letter."

"My signature?" she repeated. "Why, I did not sign it." Then she told him. He took out the letter and showed it to her, and they laughed together.

"So even Alec knew you belonged to me," Jack said, triumphantly. "After the doctor's jealousy, then, I owe this to him," he added. But how much in truth he owed to Alec, only the great-hearted doctor ever knew.

#### Pith, Point, and Pathos.

The fearful are always faithless.

Romance is too often nothing but reality on a temporary spree.

Nothing pleases a woman so much as to hear a man deny the faults she is confessing to him.

There is a lot more fun in attending to everybody else's business than in managing your own.

If a man can think of nothing to say and therefore keeps silent, he gets a reputation for wisdom.

The seeming size of a bill depends on whether you have it to pay or have it paid to you.

A woman can get a lot of fun from puzzling over what kind of a past a silent man must have had.

Just as soon as a girl declares she can see nothing in a young man it is a sign she is beginning to love him.

Some men love their fellow-man only in the sense that the cannibals do.

It is funny how certain a woman who finds herself getting fat is to try to act kittenish.

The lot of the poor man would be unendurable if there were no rich men for him to declaim against.

#### Kiss Me, Sweet.

Kiss me, sweet! Thy wary lover  
Can your favors keep and cover  
When the common courting jay  
All your bounties would betray.  
Kiss again—no creature comes—  
Kiss! and score up wealthy sums  
On my lips thus hardly sundered  
While you breathe. First give a hundred,  
Then a thousand, then another  
Hundred; then unto the other  
Till you equal with the store  
All the grass the Romney yields,  
Or the sands in Chelsea fields,  
Or the drops in silver Thames,  
Or the stars that gild his streams  
In the silent summer nights,  
When youths ply their stolen delights,  
That the curious may not know  
How to tell them as they flow,  
And the envious, when they find  
What their number is, be pined.

—Ben Jonson.

#### Honor for National Hymn—Band Won't Play It for Coatless Men.

The sound of the first bar of the national hymn brings every naval man who hears it to attention. The mental attitude is one of intense respect as well. That anthem never becomes a bore to the officers and men. Its notes are a call to duty, and the salute, when it is ended, is a public pledge of fealty to the flag. No music is played on ship more carefully and with more earnest effort to get every shade of feeling out of the notes. Reverence for the time is a living thing, and after one has been on shipboard for a week he begins to feel ashamed of the public indifference to the tune ashore. Let one incident reveal the regard for the hymn on shipboard. We were steaming just below the equator on the way to Rio Janeiro one evening, when showers made it impossible for the band to play on deck. The concert was held in a casemate and the humidity added great discomfort to the intense heat. The members of the crew on duty had stripped to their undershirts and trousers. The musicians had also thrown off their coats. Their faces ran with sweat as they played.

Every concert ends with the "Star-spangled Banner." It was time to play it. All the musicians stood up and the men who had crowded in to hear the music came to attention, but not one move toward lifting his baton would the bandmaster make until every one of his men had put on his coat and hat. They might play Strauss waltzes and even Wagnerian selections in their undershirts, but no note of the national hymn could be played until every man was in dress befitting the occasion. All this is nothing unusual, but it is impressive to the man who sees it for the first time.—Sun's Correspondent with Evans's Fleet.

#### Roast Rabbit.

First, to skin the rabbit, cut off the feet at the first joint, then loosen the skin of each side of the slit in the belly. Now push the hind legs (free) inward; then the shoulders; strip the skin from the back, leaving the tail on. Now comes the most critical point—the skinning of the head. Should it be for roasting, the ears should be left on; if for boiling, cut them off. Draw the skin very carefully off, using a knife where the skin is firm. If this is not done, the rabbit will be decapitated instead of skinned. Truss the rabbit by drawing the legs close to the body, the hind ones forward and the front ones backward; pass a skewer through them and the body. Skewer the head firmly between the shoulders. Fill the rabbit,

before trussing, with veal stuffing. It will take three-quarters of an hour to roast. Serve with gravy and green apple or currant jelly.

#### Sentence Sermons.

Set your heart on flying and lose life.

The selfish cannot know satisfaction. It takes a clean heart to keep a clear head.

The greatest gain in any life is the loss of greed.

Greatness never was bought by the sale of goodness.

There can be no right manners without right motives.

He who has no time to get ready is never ready at any time.

No church can be cleaned properly by soft soaping the saints.

A man is worth what he gives the world, not what he gets from it.

The self and the sacrifice in any gift is the only measure of its worth.

Half the friction of life comes from having our tongues too well oiled.

Envy is the habit of losing our own happiness while longing for another's.

The sermons that do most effective work in this world are those on two legs.

The lines of eternal grace in any character have to be cut with extremely sharp tools.

There is no promise of a crown of righteousness for proficiency in regulating your neighbors.

A good life is impossible until one knows that there is ever something more desirable than living.

You cannot cancel the custom of preying on your fellows by occasional praying to your Father above.

The danger of treating current topics in the pulpit is that commonly there will be a number of people in the congregation who know more about them than the minister does.

Locking the heart against the drafts of sympathy is the swiftest way of impoverishing the whole life.—Chicago Tribune.

#### Gingersnaps in Kansas.

Gingersnaps are supposed to be made of flour, water, ginger and molasses, but Dr. S. J. Crumbie, secretary of the board of health, found one today that, in addition to these ingredients, contained a piece of six-penny nail about half an inch long, half a dozen pieces of glass as big as a pinhead, an equal number of pieces of stone of the same size, some cat hairs, and a considerable quantity of dirt. The "snap" was made by a Chicago cracker company and is being sold in Kansas. Dr. Crumbie has notified the company that it must quit sending such adulterated stuff into Kansas, and he has also asked the Federal pure food department to prosecute the manufacturer.—Topeka Dispatch to Kansas City Star.

#### He Aimed Higher.

He kissed her hand.

She withdrew it hastily and gazed reproachfully at him.

"I didn't think it of you," she said, almost tearfully. "I had always considered you a young man with ideals and"

"I—I am sorry if I have offended," he stammered. "I"—

"Well," she said bitterly, "I certainly expected you to aim higher."

So he took heart and made new resolutions and things.

#### The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

PACIFIC COAST BUSINESS COLLEGE  
SAN JOSE, CAL.

#### Loving Care.

Give us flowers while we live; make us happier by kind words and consideration. Many a life would have been a better and happier one had we given the flowers and tears before instead of after death. Too often we discover that we had had among us a good man or woman, a hero or genius at the death of some neighbor. Readers, we have many good and brave people living right in our midst who would appreciate kind words and deeds. We meet one that is courageous, whose life is almost a tragedy. We find in persons sweet patience under the most trying circumstances. Why not reward them with a few kind words of approval, why not encourage others to greater effort by a little praise, a word of assurance born of confidence. Pour on the oil of gladness and expect to find a hero. Don't wait till he cannot be benefited by your thoughtfulness. So give us the flowers, music and good thoughts while they will help us.—Pajaronian.

#### Chaff.

Old Skinflint (a millionaire)—Rigson's getting very extravagant.

Old Squeezem (another millionaire)—What's he been doing now?

Old Skinflint—Bought a paper this morning and read only half of it.

Cook—Hello, Fred, old fellow! Well! Well! I haven't seen you since the old days, when we used to run around together.

Hook—No, Fred. Ah! those old days! What a fool I used to be then!

Cook—I tell you, I'm glad to see you. You haven't changed a bit, old fellow.

Mrs. Brown—We are going to give a progressive euchre for the poor. I love to do something for the poor!

Mrs. Jones—So do I! I love to play progressive euchre for them.

"They say money ruined him."

"Yes, it did."

"How did he get it?"

"He didn't get it. His rival got it."

Mrs. Ferguson—George, what do you have to do when you want to draw some money out of a bank?

Mr. Ferguson—You have to put some money in the bank beforehand. That's always been my experience.

"I was a little surprised," observed the new minister, "to see your husband get up and walk out of church during my sermon."

"It's just as well you mentioned it," replied the lady. "I ought to tell you that my husband often walks in his sleep."

While cutting down a large cherry tree in the Ladoga cemetery, near Crawfordsville, Ind., workmen found that the tree had enveloped a marble tombstone two feet in height and about fourteen inches in width.

During the last 39 years the percentage of the world's total coal produced by the United States has increased from 14.32 to 37, and this country now stands far in the lead of the world's coal producers.



## Horse Owners! Use

GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## AGRICULTURAL REVIEW.

### BUTTE.

State Horticultural Commissioner Jeffery appeared before the board of supervisors to urge measures for the protection of the fruit industry, and congratulated Butte on having the best olive growing section in California. Oranges, olives, and grapes are in danger from pests unless care be exercised. He urged co-operation on the part of the supervisors. Had care been exercised four or five years ago Oroville would have been saved much expense in eradicating the white fly. Mr. Jeffery stated the horticultural commission should try to eradicate the noxious weeds, such as the thistle.

Chief August Mayer of the national plant introduction garden at Chico has announced that he is authorized by the Department of Agriculture to distribute to the farmers of the Sacramento valley 1000 pounds of corn seed. The corn is of two varieties—Yellow Flint and Hybrid No. 120. The former produced at the garden last year 75 bushels to the acre, and 1000 pounds of this was saved. The latter is a product of the department. Of the two there is on hand at the garden 1000 pounds and sufficient of both varieties will be given free of charge to plant two acres. The seed, however, will be distributed only to those who guarantee to give the seeds careful attention after they are planted and report to Chief Mayer the progress noted. The securing of the heaviest producing varieties of corn is one of the aims of the Department of Agriculture and L. L. Zook, a corn expert of the department, from Washington, D. C., has arrived in Chico and will spend the summer at the garden conducting further experiments with the corn.

### FRESNO.

The Arakelian Brothers are preparing a 320-acre tract at Keystone, which they will set to fruit trees and grapes. Two hundred acres are being planted to Malagas, Muscats, Golden Chancellor, and Thompson Seedless. They have also planted 2000 Smyrna fig trees and 6000 apricot trees of the Tilton variety.

### MONTEREY.

It is stated that one of the largest apple drying and evaporating plants in the State is to be built in Watsonville. The new plant will incorporate all the very latest mechanical devices for the handling and drying of fruits and, it is claimed, will have a capacity for handling 2500 tons of apples per season.

### NAPA.

It is reported that hog cholera has broken out among the swine at the Veterans' Home at Yountville, and

20 animals have died in a few days, and as many more are infected. A quarantine has been established by the Deputy State Veterinarian.

### NEVADA.

The supervisors of Nevada county have passed an ordinance almost identical with the one in force in Sierra. It places a tax of 3 cents per head on every sheep or lamb in the county, providing the owner is engaged in the raising, herding, or grazing of sheep. Annual licenses may be obtained, and a license collector shall have the right to count the sheep belonging to any person, company, or corporation. Failure to pay the license within 15 days after commencing business in the county will subject the owner to an additional penalty of 10%. No scabby or sick sheep will be permitted to be brought into the county. No sheep corrals shall be maintained within 100 yards of a public highway, or within a quarter of a mile of any public building or schoolhouse. A severe penalty is provided for failure to live up to the ordinance.

Forest Supervisor M. B. Elliott of the Tahoe forest reserve states that many owners have made application for permission to take their sheep and cattle to the mountains for forage earlier than the rules of the national forest allow. Cattle are not permitted within the reserve prior to May 15, and sheep cannot enter before June. The cattlemen are worrying over these rules, for they contend that unless they are permitted to take their cattle to the mountains soon they will suffer for want of forage.

### ORANGE.

Orange News: A local grower received from Florida four years ago a few young cherimoyer, or "custard apple" trees. Tuesday he exhibited an unusually large specimen of the fruit, for which he had been offered \$1.25. This offer he refused, as he wishes to plant the seed himself. The specimen weighs 1½ pounds, is 13½ by 17 inches in circumference, and the tree from which it was picked has several more upon it.

### SACRAMENTO.

On account of the continued dry weather and north wind, the asparagus beds are not being worked much this season. A few showers would loosen up the top of the ground and the asparagus would grow in a hurry. The yield is about one-third of what it was last year.

### SAN BENITO.

Hollister Advance: Careful inquiry regarding injury from frost develops the fact that the most damage to apricots resulted in the San Juan valley, where loss will amount to 50 per cent. In spots in the Hollister valley the apricots have been touched, but the frost will save otherwise necessary thinning. Some damage resulted to almonds.

### SAN LUIS OBISPO.

State Veterinarian Keane found some cattle with fever ticks. The owners refused to disinfect them, so Keane seized the drove in behalf of the State and put the cattle through a disinfecting process. A suit was brought to compel the owners to pay the expenses and has just been decided in favor of the State Veterinarian.

### SHASTA.

Considerable damage was done by

## Take Care of the Chicks

It is said there is a mortality of 50% among young chicks every spring. This means a tremendous loss. Think how great the poultry industry would be if even a fraction of these lost chicks were saved to become egg producers or fat market fowls. Care and proper feeding at the time of hatching and during the first days of the chick's life are absolutely essential to its well-being.

Begin as soon as the chick takes food regularly and give a little of Dr. Hess Poultry Pan-a-ce-a once a day in soft food. If you do this and chicks are kept dry and warm, your losses will be very slight.



## DR. HESS Poultry PAN-A-CE-A

was formulated by Dr. Hess (M. D., D. V. S.) for the express purpose of meeting and overcoming the hundred and one ills that perplex the poultryman. While it is beneficial in many ways and also destroys germs, its greatest worth is as an assistant to the digestive organs. Its use makes the largest possible per cent of food available for healthy growth. Hence chicks mature early, hens lay many eggs, and market birds fat quickly. Endorsed by the most prominent poultry men in the United States and Canada. Costs but a penny a day for 30 hens.

Sold on a written Guarantee.

1½ lbs. 35c. 5 lbs. 85c.  
12 lbs. \$1.75. 25 lb. pall \$3.50.

Send two cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK,

Ashland, Ohio,

INSTANT LOUSE KILLER KILLS LICE.

THE PETALUMA INCUBATOR CO.,  
Petaluma, Cal., Pacific Coast Distributors.



frost to fruit trees in and about Cottonwood. Prunes as well as peaches and pears suffered harm. The Earl Fruit company reports that though a considerable amount of the fruit was nipped by the frost the big orchards will yield almost an average crop. Stock on the ranges is faring badly because the north winds have dried up the feed, and the absence of rain has retarded growth of grass.

### SISKIYOU.

Bee: The finest trainload of beef cattle shipped from Gazelle was for the market at San Francisco. The stock had been fed during the winter months near Etna. It is expected that one or more trainloads of beefs will close this season's supply, and in view of the continued dry spell the cattle raisers consider themselves fortunate, as the supply of feed is now becoming scarce in Scott valley.

### SOLANO.

A Cordelia orchardist has started picking his 1908 cherry crop, and has over 200 persons—men, women, and children—employed.

### SUTTER.

Yuba City advices state that while rain would be very much appreciated at present, the fruit crop will not suffer to any great extent if no more rain comes. The apricot crop this year will be a record-breaker. For several seasons the apricots have been failures. This year there will be a bumper crop, and the fruit promises to be of large size and luscious. With the wheat and grain the scarcity of rain will damage the crop to a considerable extent. In many parts of the county the farmer and orchardist are getting their gasoline pumps in readiness and irrigation will commence soon. They are well equipped for irrigation, and nothing will be lost by the scarcity

of rain on the sections that have appliances ready for getting water on the tracts.

### TEHAMA.

Sacramento Bee: Owing to the dull market for sheep, only four sales of any consequence have been made this spring, the last of which was 1350 head of wethers at \$2.60. There was such slow sale for sheep last fall that many sheepmen carried over a surplus stock, and now have too many sheep for their range. This condition is made worse by the existing feed conditions. The continued dry spell has made the feed so short that there is hardly enough to pasture sheep until time to go to the mountains, and no dry feed for fall, so the outlook is discouraging. Many of the wool growers carried their fleece over from last fall, as the market was off, and now two clips are on hand, and the market is still dull.

### TRINITY.

Stock are being driven from the winter ranges in Shasta and Tehama counties to the summer ranges in Trinity county. The drives are being made a month earlier than customary because the continued drouth has dried up the feed in the valley country. Grass on the mountain ranges in Trinity is not up to standard.

### VENTURA.

Oxnard Courier: There are 12,741 acres of beets planted, as shown by the regular weekly field reports of the American Beet Sugar Co. There were 10,702 acres shown to have a stand of beets and 8132 acres thinned, thus leaving but little more than 400 acres yet to be thinned of the total acreage planted. The beet crop is far enough along to know that there will be a beet crop, rain or shine.



**DO YOU KNOW**  
THE WET WEATHER  
COMFORT AND  
PROTECTION  
afforded by a



**TOWER'S  
FISH BRAND  
SLICKER?**  
Clean - Light  
Durable  
Guaranteed  
Waterproof  
\$3.00  
Everywhere

A. J. TOWER CO. BOSTON U.S.A.  
TOWER CANADIAN CO. LTD. TORONTO, CAN.

## The Poultry Yard.

### Chickens Give Turkeys Black-head Disease.

We have had so many inquiries about black-head in young turkeys that we hasten to give a new view of the trouble as described by Mr. C. S. Valentine in the Tribune-Farmer on the basis of recent publications by the Rhode Island experiment station which has done much work with turkeys:

Since the summer of 1905 this station has been working in collaboration with the United States Bureau of Animal Industry. Dr. Leon J. Cole being a member of the station council, assisted in breeding and pathology by William F. Kirkpatrick.

As far back as 1902 the season's work showed that poults hovered by fowls were so virulently affected, even on ground that had carried no turkeys for two years, that only one out of 32 poults hatched in the spring remained alive at the beginning of winter. And this one, on being killed, showed signs of the disease. From this and seemingly corroborative experience the experimenters grew more and more convinced that the common fowl, while seldom succumbing to this disease, was nevertheless a host for it and a means of passing it on to any turkeys running in the same range. The bulletin put out last November summarized that poultry yards are heavily infected; that common fowls with the adult turkeys spread the disease, producing parasites broadcast by means of the droppings; that no breed tested up to 1907 is immune; that older turkeys resist far better than very young ones, and that dry, sandy soil is preferable for range, as the parasites seemed to be easily killed by drying. Because of these facts turkeys should be raised away from the house and separate from all ordinary fowl. The experiments also demonstrated, as noted, that poults may be successfully raised on restricted areas, a point noted being that during this handling they pass through two marketable stages with little loss, these stages being those of the broiler and the small roaster. Thus it is possible to dispose of them without the long holding which always increases risk. To sell a turkey just as one has a start for a good frame for 15 or 20 pounds of meat does not meet the farmer's wife's conception of the profit in turkeys, I know, but it is quite evident that turkey raising in the future must be along different lines from those depended on in the past. Therefore, it behooves us to look at the problem from all points of view.

In strongest possible contrast to the old, haphazard method so often followed is the station conception of present necessities, which includes "unremitting care and attention" during the earlier weeks of their existence. "The turkey attendant should not attend to the ordinary fowls unless he understands the danger of carrying the infection to the turkeys and provides against it." Two points emphasize the necessity for such extreme care: (a) That according to the report, more than four-fifths of the young turkeys exposed to infected yards die before they have reached the age of six

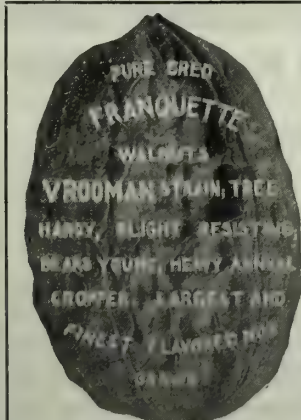
weeks; (b) "There is, as yet, no known efficacious remedy, and in the writer's opinion there is probably no medicinal remedy discoverable which can be economically administered. The comparatively small value of the individuals is likely to forbid the perpetual use of a preventive medicine, even if any were known; and the remedies usually advised are given in too small quantities to result in anything except a waste of time and money."

One favorable point seems to be pretty well established—namely, that the egg is never infected. The artificial hatching to which reference has been made was, in fact, a combination process, the eggs being incubated under turkey or other hens until the 25th day, when they were wiped with a cloth dipped in 90% alcohol and transferred to the machine. They were brooded till a month or more on a cement or board floor. "If the natural method is followed throughout, the hen and recently hatched poults should be put for a time on a board floor, but should afterward be removed to a safe place distant from hen runs. Every fact so far learned adds a link to the circumstantial evidence that may convict the common hen as a carrier of the disease organism. If this be the case, hens and turkeys should neither live together nor be near neighbors."

When placed in infected yards, two weeks sometimes suffices for the disease to run a fatal course in very young poults, three weeks for older ones, and not much longer for adults. If birds are to recover, or if the disease is to take the chronic form, these stages follow the three weeks after invasion, and persist indefinitely at times.

The station people have reached a point where they say that, on account of the absence of any other very common disease, every droopy turkey is at once considered as being affected with black-head. It is said also that most of the deaths occur during storms, and that many more might recover if kept from exposure and given extra care during bad weather.

Although the liver is usually affected, affection begins with the caeca, or blind pouches, extending, later, to the liver. Diarrhoea is usually present, but may not be if the disease is slight in the caecum. In many of the older poults the droppings will be rather liquid, and stained with the orange yellow which is the most characteristic symptoms. If birds have died, any one may see enlargement of one or both caeca and the spots on the liver, which may run from one-fifth of an inch to three times as large. "Sores" and "scabs" are the words applied to these spots by the experimenters. In cases where liver has only recently been attacked the sores are small and smoky in color. Later, they show a white spot with a dark ring, and still later they are yellowish white, sometimes three-fifths of an inch across. The livers are also enlarged. It is thought, however, that in many cases, death is not caused primarily by the disease itself, but by climate changes, bacteria and starvation acting on an enfeebled organism.



Ask us  
about  
Walnuts

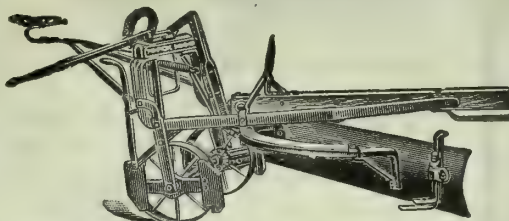
The kind  
for  
Commercial  
Planting.

Large,  
Rich and  
Prolific

Costs nothing to investigate.  
Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.  
Salesmen Wanted.

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do al-

most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

# Back East Cheap

Low rate summer excursion tickets sold to Eastern points on these dates:

**April 29, 30. May 4, 5, 6, 7, 13, 14, 15.**  
**June 3, 9, 10, 11, 15, 16, 22 to 28, inc.**  
**July 6, 7, 8, 28, 29.**  
**August 17, 18, 24 and 25.**

HERE ARE SOME OF THE RATES:

<b>Omaha</b>	.	.	.	<b>\$ 60.00</b>
<b>Council Bluffs</b>	.	.	.	<b>60.00</b>
<b>Kansas City</b>	.	.	.	<b>60.00</b>
<b>Chicago</b>	.	.	.	<b>72.50</b>
<b>St. Louis</b>	.	.	.	<b>67.50</b>
<b>New Orleans</b>	.	.	.	<b>67.50</b>
<b>Washington</b>	.	.	.	<b>107.50</b>
<b>Philadelphia</b>	.	.	.	<b>108.50</b>
<b>New York</b>	.	.	.	<b>108.50</b>

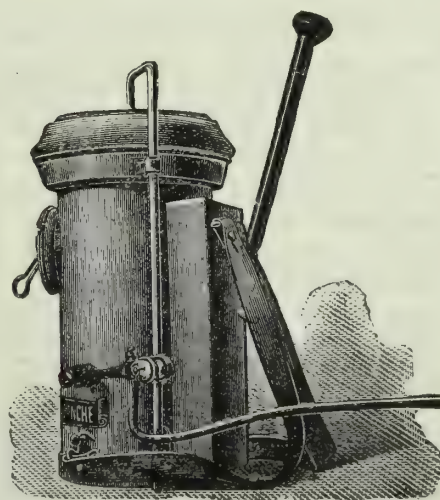
In some instances rates are slightly lower on April sale dates.

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## NOW READY

### THE VERMOREL TORPILLE KNAPSACK SULPHURING MACHINE



We could not supply the demand last season so would advise you to

**PLACE YOUR ORDERS NOW**

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring **easy work** and saves sulphur. Recommended by users as the **most effective** sprayer used for the purpose.

**SOLD BY**

## THE H. C. SHAW CO.

Stockton, Cal.

General Agents for the United States.

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Sublime Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

**AGENTS FOR**

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4336.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.





## The Roof That Is a Roof

A roof that gives only half the service that a roof should be only half a roof. REX Roofing makes the roof that is a roof. REX gives full service and full protection. It keeps out wet and dampness, it protects stock from extremes of temperature, wind cannot penetrate it or blow it off. Falling sparks or firebrands do not ignite it. It will not rot, melt, crack, peel, blister or curl, and withal

## REX FLINTKOTE ROOFING

has the greatest durability—because it is made *honest all through*. Its quality is in its body as well as in the surface coating—it is made of dense long-fibred felt. Any farm-hand can lay REX Roofing—everything needed but the hammer comes in the roll.

### Write for Book and Samples—Free

Make the fire test, try its strength, note its pliability; and when you go to your dealer's, be sure you are given the "Look for the Boy" trade-mark kind.

**J. A. & W. BIRD & CO.**  
91 India Street, Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & Co.,  
San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Port-  
land, Seattle, Tacoma, Spokane.

"THE OLD RELIABLE"

## DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

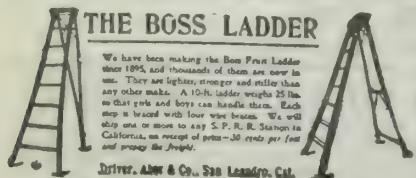
## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address  
**P. O. Box 345, Vacaville, Cal.**



### THE BOSS LADDER

We have been making the Boss Ladder since 1875 and thousands of them are now in use. They are lighter, stronger and safer than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. R. Station in California, on receipt of price—35 cents per foot and postage the freight.

Durham, Allen & Co., San Leandro, Cal.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1884. Send for circular.

## Sheep and Wool.

### Good Shire Sheep for California.

A writer for the North Pacific Rural Spirit, who recently saw the late importation of Shropshires made by H. P. Eakle, Jr., and T. B. Gibson respectively, is of the opinion that nothing better in this line has ever been brought to the Pacific Coast. In Mr. Eakle's lot of 110 are nine head of prize winners at the big fairs last fall and winter. The ewe lamb which performed the extraordinary feat of winning grand championship over the females of all ages at the International, is among the number, also some good imported ewes from the flocks of such noted English breeders as Corbett, Butter and others. Two of these show sheep go to J. W. Marshall, of Dixon, Cal.

Mr. Eakle also brought out a small bunch of Hampshire ewes. Most of these have already dropped large, hardy lambs that look like they would be proof against the hardships of the range.

Mr. Gibson bought 16 head of young Shropshire ewes and they are an exceptionally fine uniform bunch of ewes. They are the modern type of the breed, being covered to the very nose tip with wool. They are all above the average of flock sheep and are certainly a splendid foundation for their owner.

Mr. Gibson also brought out several young Poland Chinas, mostly boars, for supplying his customers. Some of these are from the herd of H. F. Brown, of Minneapolis, and some of them from the Iowa Agricultural College at Ames. One of the latter will be retained by Mr. Gibson for use as service boar and show ring hog. He is a very promising young fellow.

### Sheep in Nevada.

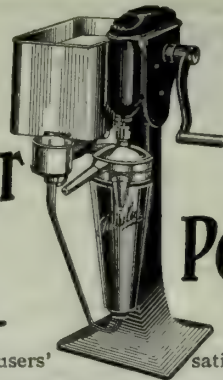
W. J. Griswold of White Pine county, Nevada, writes the following to the American Sheep Breeder: For the most part the sheep business in this section has been very satisfactory. The wool clip last spring was about the average, the prices for same ranging from 19 to 22 cents per pound. The surplus sheep disposed of brought from \$3.25 to \$4.50 per head. Those prices were derived for yearling wethers. The weather to date has been ideal for sheep, the feed on the open range being fair, and not to exceed six inches of snow, and, for the most part, not more than four inches. Everything points to a small percent of loss for the winter of 1907-08. The wool crop should be good this spring, but what the price will be for same no one seems to venture a figure. There are a great many Idaho and Utah sheep ranging on the eastern border of Nevada, and they are mostly in good condition. The government now has the scab question in hand in Nevada and it is to be hoped that scab will soon be a thing of the past. There were a great portion of the sheepmen in this section who shipped in new sets of bucks. Those bucks were sold to them for Rambouillet, and, while there is no doubt but what they will improve in weight of fleece in some cases, they are in no sense, only in name, Rambouillet sheep; just what we years ago used to call Spanish Merinos.

I take great pleasure in reading the letters from the different sheepmen published in the Sheep Breeder. Some of them are quite amusing where they suggest the care of the ewes, the lambs and the ram, but how different with us out here where there is no hay, no grain and only the mountains for shelter; still the increase is about 90 per cent and the winter losses not more than two per cent, and one manager looks after the welfare of from 5,000 to 30,000 head of sheep.

### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.

# The Tubular Separator Leads All in Popularity



Popularity means users' satisfaction.

Satisfaction includes efficient service, easy operation, increased profits—that the Tubular does better for users than other separators.

Not what words may say makes these conditions true. What the Tubular does in the dairy is the basis and proof of our claims.

Dairy tests tell—you can make a test.

We arrange for proof, so that dairymen and dairywomen may be assured in advance of these facts; so they may know what a Tubular will do for them in their dairies.

Here are our claims of what the Tubular is and does:

### Cleanest skimmer of any separator made

<b>Easiest to Handle</b>	<b>Least weight to Turn</b>
<b>Most Convenient Supply Tank</b>	<b>Most Economical to Run</b>
<b>Simplest in Build</b>	<b>Most Durable in Use</b>
<b>A Stranger to Repairs</b>	<b>Economizes Oil and</b>
<b>Is miles ahead of any other in easy cleaning.</b>	

Many differences you can see with your eyes.

Other differences we are ready to prove.

Catalog free, telling scientific and mechanical reasons for Tubular difference from and superiority over other separators. Ask for No. 131.

But seeing the Tubular is still better. Write and ask us to tell you about it, where you can see it, and how you can prove for yourself what Tubular Service will mean for you and for your dairy, right at home.

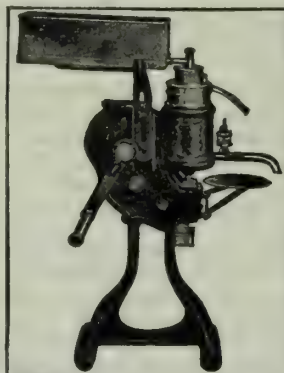
## The Sharples Separator Co.,

WEST CHESTER, PENNA.

Toronto, Can.

San Francisco, Calif.

Chicago, Ill.



## The BEST Improved!

# 1908

IMPROVED

## U.S. CREAM Separator

It gives us much pleasure to receive daily the good words dairymen are saying, the country over, about the 1908 Improved U.S. Cream Separator. Why not—YOU—join this army of satisfied users.

Do get interested and send for general information catalogue No. 149 at once. A postal brings it to you. Address all letters to

### VERMONT FARM MACHINE CO., Bellows Falls, Vt.

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N. Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

### PROMPT DELIVERY ASSURED

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

## The Dairy.

### Raising Calves Without Milk.

Prof. H. G. Van Pelt of the Iowa Agricultural College tells the Orange Judd Farmer about raising dairy calves without milk and describes the new condition in dairying which makes it more necessary than formerly to undertake to raise and train heifers for the dairy. He says:

Confronting the dairyman who is producing milk for condenseries or the city milk supply the most perplexing question is that of acquiring cows of sufficient ability to keep the dairy herd up to a

profitable producing standard. In years gone by it was possible to buy good, fresh cows; milk them as long during one period of lactation as they proved themselves to be profitable and then fatten, sell them with little or no loss, and buy others equally good to fill their places. That time is now past, because the western farmer has learned the value of a good dairy cow, and keeps her at home on his own farm or demands her real value from a prospective buyer.

The demand for dairy products has grown so rapidly that the demand for good cows far exceeds the supply. The result is that dairy cows, of superior merit, are high in price, and difficult if not almost impossible to buy. Almost without warning this serious condition





**Long Lived Harness**

The old harness will do double service if you treat it now and then with a softening application of

**EUREKA Harness Oil**

Made especially to preserve harness leather. Lasts a long time without drying out. Gives a fine, black finish. Just what everyone needs who keeps a driving horse. Made by

**STANDARD OIL CO. (Incorporated)**

of affairs has come upon the dairyman, and he begins to look for a cheaper and more efficient source from which to draw members for his herd.

GET GOOD HEIFER CALVES AND RAISE THEM.—There is only one remaining by which the herds may be continued even up to the present standard, or improved as they should be. The farmer and dairyman must use good bulls, raise the heifer calves, develop the young heifers, and give the best of care and feed to the resulting cows. But he who sells the whole milk has lacteal fluid in no form whatever with which to raise the calves. Now the fact presents itself that to raise calves without milk is quite a difficult task. During the first three weeks of the calf's life it is quite if not absolutely impossible. But after this short period of time undoubtedly excellent calves can be reared without any milk at all.

The newly born calf should be allowed to remain with the mother for the first two or three days. It is thus enabled to obtain the colostrum (or first milk), which is so essential in starting the work of the digestive apparatus. This is of advantage to the mother also, because the nursing of the youngster tends to relieve the inflammation which is invariably present in the udder to a greater or lesser degree at freshening time.

For two weeks following the time when the calf is taken from the cow it should be fed twice daily from a clean pail about five pounds of whole milk fresh from the cow. This is not a great amount, but is enough to make the calf grow well, and remain just a trifle hungry, so that at an early age it begins looking for some other source of food supply. In most cases when between two and three weeks of age the calf begins nibbling at bits of hay or straw lying about its stall. This is a good indication that a great deal of nourishment would be taken from clover, alfalfa hay or some grain if the youngster had access to it. A mixture of cracked corn, whole oats, bran and oilmeal in equal parts, supplemented with either clover or alfalfa hay and a small amount of corn silage, makes an excellent ration for young and growing things.

But yet the calf is too young to rely wholly upon dry, solid feeds for sustenance, and some nourishment in liquid form must be furnished for a time in addition to the small amount of solid food he will consume. For this purpose oilmeal mixed up in form of a gruel is much liked by calves, starting with a smaller amount and increasing to one pound of oilmeal daily per calf, mixed up in hot water, and allowed to cool to about 80 degrees. There are many commercial calf foods on the market, but these as a rule are quite high in price.

SOME ADVOCATE HAY TEA FOR CALVES.—One of the most reasonable methods of raising calves without milk was advocated years ago by Stewart in Feeding Animals, and later referred to by Henry in Feeds and Feeding. Stewart's theory was to boil hay that had been cut early, thus extracting the soluble nutritive constituents. "The

extract contains all the food elements required to grow the animal, besides being as digestible as milk." Usually the hay tea in itself contains too small an amount of nourishment and too much water. To overcome this objection Stewart added middlings and flaxseed, and referring to an experiment in rearing calves with hay tea he says: "We tried an experiment by feeding two gallons of hay tea in which one-fourth of a pound of flaxseed and one-fourth of a pound of wheat middlings had been boiled, to each of five calves 30 days old. This experiment was continued 60 days, with a gradual increase, during the last 30 days, of middlings to one pound per day. These calves did remarkably well, gaining an average of a little over two pounds per head per day."

Two pounds gain daily is large for calves and really more than can reasonably be expected from the feeding of skim milk, and the ration of hay tea, middlings and flaxseed meal is so cheap and easy to make that when it becomes generally realized that good results can be obtained through its use, the dairyman will have solved well the problem of supplying cows to the dairy that are each generation better and more productive than those of the preceding generation. Then will dairy cow improvement begin for sure, and we will cease to be content with cows of the common low grade that are, as a rule, being milked today.

## Forestry.

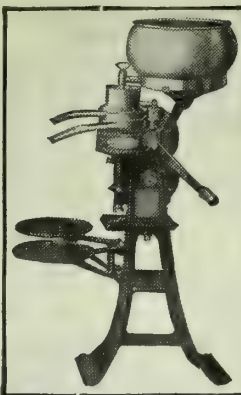
### Forest Cover and Reservoir Filling.

One of the most serious problems confronting engineers today is the silting and destruction of large and costly reservoirs for the development of power, irrigation works, and other purposes. Foresters have always pointed out that forests exert a beneficial influence in lessening erosion and silting, and that filling of reservoirs can be prevented only by the protection of watersheds. A letter to Forester Pinchot from J. B. Lippincott, consulting engineer of the city of Santa Barbara, Cal., throws light on this subject. Mr. Lippincott writes:

"It was determined that the city should excavate a tunnel through the Santa Ynez Mountains back of the town. This tunnel will be 19,600 ft. long and is now nearly half finished. It is proposed then to build a storage reservoir on the river, impound flood waters, and discharge them through the tunnel to the coastal plain around the city. The one grave question was the silting up of any reservoir that we would build, as the river was very muddy in flood, and samples of flood water sent to the Geological Survey gave results that were rather discouraging. Consequently, the city bought two reservoir sites so as to use the second in case the first was destroyed ultimately by silting. The city also appealed to the Forest Service for assistance. The Santa Ynez reserve was created, private lands largely eliminated from our drainage basin, and a vigorous policy was inaugurated by the Forest Service to prevent fires and overgrazing.

"For the past three years we have had no fires in the basin above our proposed diversion point and overgrazing has been prevented, sheep and goats being entirely excluded. During the past three years we have also had good rains, giving vegetation a good chance to grow.

"I have just returned from an inspection trip to the river. It was in moderate flood, discharging about 500 second feet from its basin of 220 square miles above our diversion point. The river was as clear as one of the high Sierra streams. There was practically no silt in it. Over three inches of rain had fallen during the week. The higher peaks were covered with snow, which may in part have aided the stream. None of us had ever before seen the Santa Ynez clear in flood before."



## The 1908 Improved DE LAVAL CREAM SEPARATORS

Ten years ahead of all others in every feature of separator practicability

**Ten new styles--Ten new capacities  
Ten new prices**

A size for every dairy, from the smallest to the largest.

**BEAUTIFUL IN DESIGN  
PERFECT IN CONSTRUCTION  
EVERLASTING IN DAILY USE**

The result of thirty years experience in building separators

Send for handsome new catalogue illustrating and describing machines in detail and to be had for the asking.

**DE LAVAL DAIRY SUPPLY CO.**

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00

593 pages Well Illustrated.

\$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## BREEDERS' DIRECTORY

### POULTRY.

SANTA TERESA POULTRY FARM for White Leghorns. Wm. HAUSAM, Eden Vale, Cal. Box 45.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE, POLAND-CHINA, Duroc HOGS, Choice, thoroughbred Poultry. William Niles & Co., Los Angeles, Cal. Established 1876.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years. Importer and Breeders of all Varieties of Land and Water Fowls. Stock for Sale Dept. 31, 320 McAllister St., S. F.

### HORSES AND CATTLE.

JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal., Breeders and Exporters. Established 1876.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY. BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

### BUFF ORPINGTONS

Eight years careful selection gives our COMMONWEALTH STRAIN world-wide reputation for size, egg production, and SHOW RECORD UNEQUALLED ON PACIFIC COAST. Stock and eggs, prices right. Catalogue free.

W. SULLIVAN, Agnew, Santa Clara County, Cal. Stone's throw from depot.



# THE MARKETS.

San Francisco, April 22, 1908.

## WHEAT.

Buying has been active in the Chicago market, and prices are higher. There is no advance in San Francisco, except on northern red, but the tone of the market has been very strong, partly as a result of the advance east, and partly on account of the dry weather, which will probably cause a shortage of California grain. Speculative buying was active a few days ago, but there is no interest in futures at present. A much more active inquiry is reported for cash grain than for some months past, and the millers are taking on considerable wheat at current prices.

California White Australian..	1.70 @
California Club.....	1.62 1/2 @ 1.65
California Milling.....	1.65 @
California lower grades.....	1.35 @ 1.60
Northern Club.....	1.62 1/2 @ 1.65
Northern Bluestem.....	1.67 1/2 @ 1.70
Northern Red.....	1.60 @

## BARLEY.

The local market on barley has been very firm all week, especially on the speculative side. Future prices show a considerable advance, and have been fluctuating in response to varying reports. Conditions indicate a small crop, and both May and December grain have been in demand. Cash barley, however, is still rather slow, no movement whatever being reported in shipping or chevalier, and with only a moderate demand for brewing. The cash grain, however, receives comparatively little interest. The best that is offered will not bring over \$1.42 1/2, and general offerings of northern stock move at \$1.37 1/2. There is no strong demand for any line.

Brewing .....	1.45 @ 1.50
Chevalier .....	Nominal
Good to Choice Feed, per ctl..	1.38 1/2 @ 1.42 1/2
Common to Fair .....	1.32 1/2 @ 1.37 1/2
Shipping.....	Nominal

## OATS.

Arrivals of oats have been light, as they have been for some time, but there is no demand, and prices are the same on all grades. All stocks, however, are in strong hands, and are being closely held, with little offering at present prices. The Government has advertised for 5000 tons of oats for shipment to the Philippines next month. As supplies are small all over the country, the requirements of the Government may have some effect on the market, but so far it has caused no change.

Choice Red, per ctl .....	\$1.55 @ 1.57 1/2
Ordinary Red .....	1.47 1/2 @ 1.52 1/2
Gray .....	Nominal
White.....	1.50 @ 1.65

## CORN.

White and mixed grades from the Western States show a very slight advance, but other lines of corn are as formerly quoted. A moderate lot came in a few days ago, but there is very little offering. The demand here shows no increase, and the market is dull. Egyptian corn is cleaned up and nominal.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	1.70 @
White .....	Nominal
Western State sacked Yellow .....	1.70 @
White, in bulk.....	1.63 @
Mixed, in bulk.....	1.61 @
Brown Egyptian.....	Nominal
White Egyptian .....	Nominal

## RYE.

Only California rye is now offered, and this moves very slowly at prices last quoted. With no arrivals of any consequence during the week, offerings are small, but buyers are taking no particular interest in the market.

California .....	\$1.47 1/2 @ 1.50
------------------	-------------------

## BEANS.

Bean prices remain exactly as they were last week, though the market is rather firm on most varieties. Limas are still strong, on account of the poor crop prospects, and both large and small whites are held firm. There is still a fair movement of these to other markets, and stocks held here are light. Local

business is also active. Most descriptions are in about average demand.

Bayos, per ctl.....	\$3.00 @ 3.10
Blackeyes .....	3.25 @ 3.50
Butter .....	4.50 @
Cranberry Beans .....	3.00 @
Garvanzos.....	3.75 @ 4.00
Horse Beans .....	2.25 @ 2.75
Small White .....	3.40 @ 3.60
Large White .....	3.60 @ 3.75
Limas.....	4.50 @ 4.70
Pea .....	3.75 @ 4.00
Pink .....	3.00 @ 3.10
Red .....	3.50 @ 4.00
Red Kidneys.....	2.75 @ 3.25

## SEEDS.

There is no movement in alfalfa seed just now, as the demand has fallen off entirely. Stocks, however, are well cleaned up. Prices last quoted still prevail on other seeds, with a moderate demand.

Alfalfa .....	Nominal
Broomcorn Seed, per ton .....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3 1/2 c
Canary .....	4 @
Flaxseed .....	3 @
Hemp.....	4 1/2 @ 4 1/2 c
Millet.....	2 1/2 @ 3 1/2 c
Timothy .....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

Some improvement is reported in the shipping demand for northern grades, and the price has again been advanced. This market, however, remains dull, with no movement of large proportions either for shipment or local trade, and prices on all California grades remain stationary.

California Family Extra, per bbl. ....	\$5.40 @ 6.00
Bakers' extras .....	5.40 @ 5.65
Superfine .....	4.20 @ 4.50
Oregon and Washington, Family .....	4.90 @ 5.40

## HAY.

The good prices offered for hay this week have drawn quite a lot to this market, the total arrivals for the week being 3280. This is a large figure for this time of the year. The large receipts have, however, been readily absorbed and the market is now well maintained at the latest advance. A number of holders in the country are holding for still higher prices, and it is understood that speculators are buying and holding considerable quantities. Many are still of the opinion that the crops are in a position to be saved if rain should come now. The outlook is for a large yield of alfalfa.

Choice Wheat, per ton .....	\$18.00 @ 20.00
Other Grades Wheat .....	12.00 @ 17.50
Wheat and Oat .....	12.00 @ 17.50
Tame Oat.....	11.00 @ 16.50
Wild Oat.....	10.00 @ 14.50
Alfalfa .....	9.00 @ 13.50
Stock .....	8.00 @ 10.00
Straw, per bale.....	50 @ 90c

## MILLSTUFFS.

Feedstuffs have shown very little change for some time, but bran is now a little higher, with none offering below \$30.50, and very little at that. A marked scarcity of supplies still exists in bran, shorts, and middlings, as the mills are not putting out enough to supply the market. Arrivals from the north have continued light. The demand, though limited by the prices, is very brisk, all offerings being quickly taken. Mixed feeds are also quoted higher, but other lines are moving about as usual at former prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing .....	23.00 @
Bran, ton .....	30.50 @ 32.00
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocanut Cake or Meal at Mills (in 10-ton lots) .....	27.00 @
Jobbing .....	28.00 @
Corn Meal.....	34.00 @
Cracked Corn.....	35.00 @
Mealalfa.....	22.00 @
Jobbing .....	23.00 @
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Rolled Barley .....	29.00 @ 30.00
Shorts.....	31.00 @ 33.00

## VEGETABLES.

Eastern onions are again cleaned out of the market. Moderate offerings of Australian yellow are in demand, and bring firm prices. Texas Bermudas have arrived in large quantities, causing the

market to weaken, though these also move off well. Garlic is easier. Supplies of asparagus are running lighter, but prices are as before. Rhubarb is higher. Peas are more plentiful, selling by the sack at \$1.25 to \$1.75. String beans from Coachella are selling at high prices, 20 cents a pound being quoted. Green peppers are again offering.

Garlic, per lb.....	20 @ 25 c
Green Peas, sack .....	1.25 @ 1.75
Cabbage, per ctl.....	35 @ 50 c
Onions—	
Australian, per ctl.....	5.00 @ 5.50
Bermudas, per crate.....	2.00 @ 2.25
New Green, box.....	40 @ 60 c
Tomatoes, crate .....	1.50 @ 2.00
Carrots, sack .....	75 @
Celery, crate.....	1.25 @
Rhubarb, box .....	1.00 @ 1.75
Asparagus, extra, lb.....	5 1/2 @ 6 c
Asparagus, No. 1.....	4 @ 5 c
Asparagus, No. 2, box.....	75 @ 1.25
Green Peppers, lb.....	25 @ 35 c

## POULTRY.

While supplies of chickens are rather light this week, the firmness has not been maintained, some lines showing a decline. Arrivals of California stock have been especially small. A large quantity of stock held over from last week, however, had a depressing effect, the recent high prices having brought in large shipments for several days. The demand has been somewhat below the average, retailers being largely stocked and unwilling to buy. Small broilers and fryers are lower, and old roosters are weak.

Broilers .....	\$4.50 @ 5.50
Small Broilers.....	3.00 @
Ducks.....	4.00 @ 7.00
Fryers.....	6.50 @ 8.00
Geese .....	2.00 @ 2.50
Goslings.....	3.00 @ 3.50
Hens, extra .....	8.00 @ 10.00
Hens, per doz.....	6.00 @ 7.00
Small Hens .....	4.00 @ 4.50
Old Roosters .....	4.00 @ 4.50
Young Roosters .....	7.50 @ 10.00
Pigeons .....	1.25 @ 1.50
Squabs .....	2.00 @ 2.50

## BUTTER.

The shipping demand for butter has continued to keep the market in a strong position, all grades being higher than last week. At the opening of the week, some handlers tried to force prices down in order to begin storing, but were unable to do so, as all offerings have been quickly taken up at current prices. Supplies were large at the opening, but local business has been quite active, and prices have advanced instead of declining as expected. The shipping demand, however, is likely to fall off from now on, and dealers look for prices at which they can store.

Cal. (extras) per lb.....	23 c
Firsts.....	22 1/2 c
Seconds .....	21 1/2 c
Thirds .....	19 1/2 c
Fresh Packing Stock, No. 1 .....	19 1/2 c
Fresh Packing Stock, No. 2 .....	18 1/2 c

## EGGS.

Eggs have shown considerable fluctuation during the week, but prices are again high and fairly firm. Storage speculators, both here and in the country, are buying heavily, keeping a high price on extras, while the retail trade refuses to take extras at present figures. The demand for consumption has turned more to lower grades, which have now also advanced.

California (extra) per doz.....	22 c
Firsts.....	19 1/2 c
Seconds.....	17 c
Thirds .....	16 c
Dirty, No. 1.....	17 1/2 c

## CHEESE.

Some changes are noticed in prices of cheese, with a firmer tone on local grades. The demand is about average, but receipts of California flats are somewhat lighter, causing a rise of 1/2 cent. New York storage goods are plentiful, and have dropped 1 1/2 cents. Other grades are unchanged.

Fancy California Flats, per lb...	12 c
Firsts.....	11 1/2 c
New Young Americas, Fancy....	13 1/2 c
Storage, do.....	13 1/2 c
Eastern, New.....	Nominal
Eastern, Storage.....	16 1/2 c
Cal. Storage, Fancy flats.....	14 c
Oregon, Fancy.....	14 c

## POTATOES.

New potatoes are slightly higher, with a continued demand and somewhat small-

er supplies. Supplies of old stock are large this week, and dealers are taking little interest in the market. Prices are in general as last quoted, but everything is inclined to weakness, with Oregon stock lower. Sweet potatoes have taken a drop.

Oregon Burbanks.....	85 @ 1.00
Lompoc Burbanks.....	1.00 @ 1.10
Burbanks, River, bag .....	50 @ 90
Seed Potatoes .....	75 @ 90
Sweet Potatoes, per ctl..	2.00 @ 3.00
New Potatoes, lb.....	2 1/2 @ 3

## FRESH FRUITS.

Apples are in the same position as before, with plentiful supplies and little demand. Stocks in storage are estimated at about 25,000 boxes. Cherries should be in within the next week or two, as some have already been shipped east. Arrivals of strawberries have been large, and prices in general have declined. The demand so far is light, and some goods are held over from day to day. Los Angeles stock is especially plentiful, and much weaker.

Apples, fancy .....	1.25 @ 1.75
Apples, common to choice...	60 @ 1.00
Strawberries—	
Longworths, chest .....	12.00 @ 14.00
Cheneys, chest .....	8.00 @ 10.00
Large varieties, chest.....	7.00 @ 9.00
Los Angeles, crate.....	75 @ 1.25

## CITRUS FRUITS.

Citrus fruits are firm at present, with the market in good condition. Prices show very little change. Arrivals of oranges are moderate, and stocks are kept well cleaned up. Grape fruit is active and higher, and limes are also higher, with light supplies.

Choice Lemons.....	\$1.75 @ 2.00
Fancy Lemons.....	2.25 @ 2.50
Standard .....	1.00 @ 1.25
Limes.....	6.50 @ 7.00
Oranges—	
Navels .....	1.75 @ 2.50
Mediterranean sweets .....	1.50 @ 1.75
Tangerines.....	1.25 @ 1.75
Grape Fruit .....	2.75 @ 3.25

## DRIED FRUITS.

Prunes are reported more active in the east. Locally there is little business, but prices are steadier, with some slight advances. Apricots, peaches, and pears are higher. Raisins show little change, except for London layers and clusters, which have declined.

Evaporated Apples .....	5 1/2 @ 7 c
Figs .....	2 1/2 @ 3 c
Apricots, per lb.....	12 @ 15 c
Peaches .....	8 @ 9 c
Prunes, 4-size basis, 1907 crop..	2 1/2 @ 3 c
Pears .....	7 1/2 @ 9 1/2 c

## RAISINS.

2 Crown .....	3 1/2 @ 4 c
3 Crown .....	4 @ 4 1/2 c
4 Crown .....	4 1/2 @ 4 1/2 c
Seeded, per lb.....	6 @ 6 1/2 c
Seedless Sultanias .....	4 1/2 @ 4 1/2 c
London Layers, per box .....	\$1.10 @
London Layers, cluster.....	1.25 @

## NUTS.

Walnuts are running short, and supplies are closely held. Almonds are moving at former prices, but offerings are somewhat larger. Buyers show little interest, and there is no particular activity in any line.

Almonds, Nonpareils.....	13 1/2 @ 14 1/2 c
I X L.....	13 @ 14 c
Ne Plus Ultra.....	12 1/2 @ 13 c
Drakes.....	11 @ 11 1/2 c
Languedoc.....	10
Hardshell.....	7 @ 7 1/2 c
Walnuts, Softshell No. 1 .....	13
Softshell, No. 2.....	10
Italian Chestnuts.....	10 @ 12 1/2 c

## HONEY.

Prices are firm, but unchanged. Supplies of extracted are strongly held, but there is a moderate jobbing movement in comb, which is in larger supply.

Water White, Comb .....	16 @ 17 c
White .....	15 @
Water-white, extracted .....	8 @ 8 1/2 c
Light Amber, extracted .....	7 @ 7 1/2 c
Dark Amber and candied .....	5 1/2 @ 5 1/2 c

## WOOL.

Several changes are seen in quotations but the market is very dull, and the quotations are practically nominal. There is no improvement in the eastern market, and local buyers take little interest in offerings.

Spring-clip, Humboldt, year's staple.....	20 @
---	------

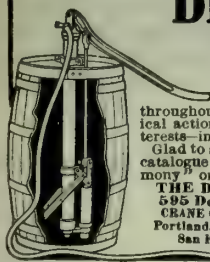


**Farmers! You Should Spray**  
 Spraying is cheap but effective insurance against crop destruction—the best policy is a

**DEMING Sprayer**

Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.

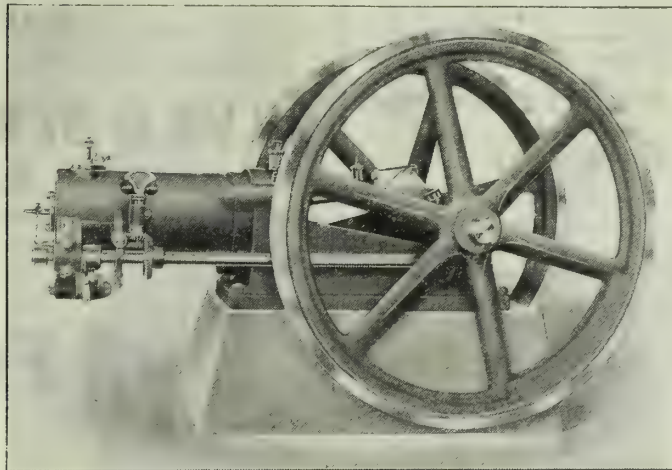
**THE DEMING COMPANY**  
 595 Depot St., Salem, Ohio.  
 CHASE CO., Pacific Coast Agents,  
 Portland, Seattle, Spokane, Tacoma,  
 San Francisco, Salt Lake City.



# The Doak Gas Engines

STATIONARY, PORTABLE, HOISTING AND MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.

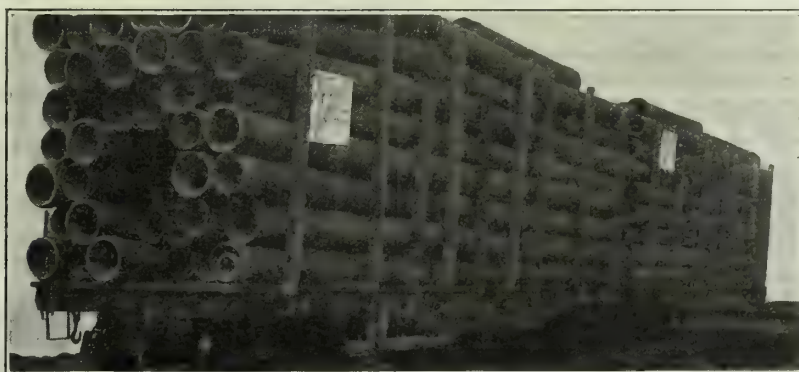


If you want the best, the most reliable, the most economical and the simplest engine in the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

## Doak Gas Engine Co.

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
 Sales Office and Factory: 4th and Madison Streets, Oakland.



## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

## NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
 LOS ANGELES OFFICE—404 Equitable Bank Building.  
 NORTHERN OFFICE—Olympia, Washington.  
 SALT LAKE CITY—Dooley Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fluke. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved

methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**THE BOOK OF CORN.**—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages, 5 by 7 inches. Cloth.....\$1.50.

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	267
Beckman, Geo. V.....	269
Bird & Co., J. A. & W.....	268
Blake, Moffitt & Towne.....	272
Breeders' Directory.....	269
California Fruit Exchange.....	272
Covina Nurseries.....	272
Croley, George H.....	269
Cutter Laboratory, The.....	269

De Laval Dairy Supply Co.....	269
Deming Co., The.....	271
Dewey, Strong & Co.....	272
Dietz Company, R. E.....	268
Disbrow, F. H.....	268
Doak Gas Engine Co.....	271
Driver, Aber & Co.....	268
Driver, E. S.....	269

Fresno Agricultural Works.....	—
Galloway, A. J.....	272
German Kali Works.....	—

Hamlin School, The.....	264
Hausam, Wm.....	269
Hart, Ed.....	269
Hess & Clark, Dr.....	266
Howard Cattle Co.....	269
Hoyt's Tree Support Co.....	272

International Harvester Co.....	—
Jackson & Co., T. W.....	267

Lawrence-Williams Co.....	266
Lister, Henry B.....	268
Lynch, John.....	269

Meacham, Frank A.....	—
Mountain Copper Co.....	272

National Wood Pipe Co.....	271, 272
Niles & Co., Wm.....	269

Oakland Poultry Yards.....	269
Oregon Nursery Co.....	267

Pacific Coast Business College.....	265
Pasteur's Anthrax Vaccine.....	272
Pear Blight Remedy Co.....	272

Roeding, Geo. C.....	269
----------------------	-----

San Francisco Sulphur Co.....	267
Santa Teresa Poultry Farm.....	269
Seulberger, J.....	272
Shaw, Henry.....	272
Sharples Separator Co.....	268
Shaw Plow Co., H. C.....	267
Silva & Bergholdt Co.....	272
Simmons Hardware Co.....	—
Smith, Francis.....	—
Southern Pacific Railway.....	267
Standard Oil Co.....	269
Stowe, C. A.....	269
Sullivan, W.....	269

Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	267
Tuttle's Elixir Co.....	—

Van Der Naillen, A.....	268
Vermont Farm Machine Co.....	268

Wagner, J. B.....	272
Waite, Thos.....	269
West Coast Cresol Dip.....	272
Woodin & Little.....	—

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

**ASPARAGUS.**—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth.....\$0.50

**THE NEW ONION CULTURE.**—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and experiment stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth.....\$0.50

Northern Humboldt and Mendocino.....	12 @ 14 c
San Joaquin.....	8 @ 11 c
Fall Clip, northern, free.....	7 @ 8 c
Southern Coast.....	7 @ 10 c
Nevada.....	9 @ 12 c

### HOPS.

Left-over and new crop hops are still selling at former prices, with little prospect of improvement. Contracts for the next crop are being made at lower figures. The movement is very small.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 5 1/2 c
1908 (contracts).....	8 @ 10 c
3 to 5 year contracts.....	10 @ 11 c

### MEAT.

Dressed meats are steady at prices last quoted. Live stock is easier, especially on steers, calves, sheep, and lambs, all of which are lower.

Beef: Steers, per lb.....	7 1/2 @ 8 c
Cows.....	6 1/2 @ 7 1/2 c
Heifers.....	6 1/2 @ 7 1/2 c
Veal: Large.....	6 @ 8 c
Small.....	8 @ 9 c
Mutton: Wethers.....	9 @ 10 c
Ewes.....	8 1/2 @ 9 c
Spring lamb.....	11 1/2 @ 12 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

### LIVESTOCK

Steers, No. 1.....	8 1/2 @ —
No. 2.....	8 @ —
No. 3.....	7 @ —
Cows and Heifers, No. 1.....	7 @ —
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	4 @ 4 1/2 c
Calves, Light.....	5 @ —
Medium.....	4 1/2 @ —
Heavy.....	3 1/2 @ 4 c
Sheep, Wethers.....	5 1/2 @ —
Ewes.....	5 @ —
Spring Lambs, lb.....	6 @ —
Hogs, 100 to 200 lbs.....	5 1/2 @ 6 c
200 to 300 lbs.....	4 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

### ROMANTIC BUT UNHEALTHY.

The modern farmer demands the best he can get, for he prizes health and strength and comfort and long life more than picturesque decay and romantic prettiness. Nowadays, even the shingle roof is disappearing before the competition of the better and more durable composition roofing. The "Rex Flintkote" roofing, advertised in our pages by the long-established and well-known firm of J. A. & W. Bird & Co., Boston, Mass., is better than any "moss-grown roof" in the world—better looking to a modern man or woman, and better wearing than the now "moss-grown roof" was when it was new. It sheds water absolutely, turns wind perfectly, lasts for a generation, and is so fire-resistant that you can place a live coal on it and it won't burn. Prove this by sending for a sample to the manufacturers who will also send you a booklet which tells all about roofing.

### Prefers Caustic Balsam to Other Preparations.

Please send us your pictures of "famous horses." We have a good sale on Gombault's Caustic Balsam and it gives good satisfaction. People come back for it and take it in preference to similar preparations at one-third the price.—Homestead Pharmacy, Homestead, Iowa.

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseed-ing it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50



## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**

(General Agents U. S. A.)  
161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)  
San Francisco. Los Angeles. Seattle.

## Now is the Time to Fertilize

Vineyards and Alfalfa fields need phosphoric acid. Our Superphosphate is nothing more or less than gypsum with a high percentage of water soluble phosphoric acid. Just the thing for vines and alfalfa.

Mixed fertilizers suitable for every crop grown under the sun sold under the MOCOCO brand of

**THE MOUNTAIN COPPER COMPANY, Ltd.**  
150 Pine Street San Francisco

## WEST COAST CRESOL DIP

Great caution must be used with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless. Permission of U. S. Dept. to use our dip for Sheep Scab in highest dilution ever allowed.

IF NOT SOLD BY YOUR DEALER, SEND TO US FOR TRIAL OFFER.  
SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818—826 SAN FERNANDO ST.  
Through to Alameda.

LOS ANGELES, CALIFORNIA.

### Eureka Lemon

### Valencia and Navel Oranges

### Eucalyptus Trees

Globulus, Rostrata,  
Rudis, and Tereticornis

### Phoenix Canariensis,

### Chamaerops Excelsa

### Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,**

Covina, Cal.

### Red Gum and Sugar Gum

for April and May.

\$2.25 ..... per 100  
\$10 ..... per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

**HENRY SHAW,**

320 River St. Santa Cruz, Cal.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

High In Quality

Low In Price

## OUR SEEDS GROW

Vegetable, Flower  
and Farm Seed

**J. SEULBERGER,**

414 Fourteenth Street, Oakland, Cal.

Send for Illustrated Catalogue.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
PAPER Blake, McFall & Co., Portland, Oregon

# PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.



## California Fruit Exchange

(INCORPORATED.)

Head Office:

**SACRAMENTO, CALIFORNIA**

A growers' organization maintaining its own exclusive selling agencies for

## DECIDUOUS FRUITS

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

# HOYT'S TREE SUPPORT

PATENTED NOV. 26, 1901.

PATENTED SEPT. 22, 1903.

## A USEFUL THING IS A JOY FOREVER

The Propless Prop that Properly Props a Tree



Hoyt's Tree Support on the Tree.

## Over Three Million Sold Since Introduction in 1903

After your trees have broken down, overloaded with fruit, don't howl about your hard luck. The preventive is CHEAP, EFFECTIVE, PERMANENT.

For Full Particulars and Descriptive Booklet write

## MacDONALD & SONS

**WATSONVILLE, CALIFORNIA**

General Agents for the HOYT TREE SUPPORT COMPANY.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 18.

SAN FRANCISCO, SATURDAY, MAY 2, 1908.

Thirty-eighth Year.

## THE NEW SAN FRANCISCO.

It is two years since the earthquake and fire. While, in April, 1906, San Francisco lost about 325,000 out of the 500,000 of the City's population, the return has been so nearly complete that the population is estimated today at 485,000. In the meanwhile the cities around the Bay—that is, Oakland, Alameda, Berkeley, Sausalito, etc.—have gained 135,000 inhabitants, so that the community by the Golden Gate has actually increased by 120,000. Immigration of home-seekers was evident before the earthquake-fire, hence it is manifest that the disaster did not deter those who wanted to live hereabouts. The fire destroyed buildings and contents valued at \$350,000,000. About \$180,000,000 has been paid in insurance. In the past two years building permits have been granted representing structures valued at \$117,514,495, distributed among 14,370 buildings. Of these, 69 were of the best or Class A type, and they are valued at \$16,452,000. In constructing these 14,370 buildings, there has been spent \$47,007,797 in labor. There are now 200 hotels in the burned district alone. The financial storm, of October last, found San Francisco in a sensitive condition by reason of local need for money in reconstruction, but the banks stood the strain and the commerce of the City suffered only a temporary depression.

The heart of the old San Francisco, at the meeting of Kearny and Montgomery streets, with the great cross-town artery of Market street, is now adorned by several splendid new buildings. On the southeast corner of Market and Second is the Balboa building; on the corresponding corner a block farther west is the Bank of the Metropolis; at the intersection of Post and Montgomery is the First National

Bank. These are fast approaching completion and already add greatly to the appearance of the City. The site of the old brick structure of the Palace Hotel is now surmounted by an 8-story steel framework that, in a year more will mark the restoration

of a caravanserai famous the world over. The St. Francis, on Union Square, has been rehabilitated and a third wing added, so as to improve the proportions and add largely to the capacity of this hotel. The Fairmont was nearing completion in April 1906; it was not injured structurally and now proudly crowns the crest of California hill, occupying a site unequalled for panoramic view. Looking westward from the lower end of Market St., there is now to be seen the prow of the big Phelan building, a triangular structure standing on the gore made by the meeting of Market and O'Farrell streets with Grant avenue. It is a huge structure of 11 stories of steel, covered with cream colored tile, and presenting an appearance likely to remind the traveler of the Flatiron in New York. We give herewith a photograph of this building, as typical of the new San Francisco and as suggesting, by the name of its public-spirited owner, the fight for civic decency that more than many buildings of steel or stone has marked the renewed life of San Francisco. The earthquake shook other things besides the ground under the City, the fire consumed a corruption that was not all physical, the glare of the holocaust threw light on many dark doings. The moral upbuilding of San Francisco may not be as apparent to the traveler from east or west as the architectural rejuvenation, but surely it is the more important. In November last the corrupted and corrupting municipal government was driven out of office by the vote of outraged citizenship; and while much of the slime of a dirty kind of politics is still apparent in many a by-way, there is a better spirit abroad. The "warder of two continents" has set a watch on herself.



The Phelan Building and Market Street. The Flood Building in the Distance. Temporary Structure in Right Foreground.



The Fairmont Hotel, Which Overlooks the Restoration of San Francisco.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS  
E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., April 28, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.38	33.25	42.23
Red Bluff.....	.09	19.02	23.15
Sacramento.....	.03	11.65	18.88
Mt. Tamalpais.....	.42	23.17	22.79
San Francisco.....	.11	16.57	21.23
San Jose .....	.12	10.99	21.16
Fresno .....	.80	7.01	8.87
Independence.....	T	5.29	8.71
San Luis Obispo.....	.10	17.84	19.38
Los Angeles.....	.52	11.47	15.04
San Diego.....	.34	8.38	9.52

## The Week.

The rains brighten things and the moist air is helping some crops even more than the measure of water which has fallen. Judged by actual precipitation, the rain was only a small installment of the amount needed, although in some places it answered a very good purpose. It does, however, brighten things both in the open and in the heart of man, and the latter is very valuable indeed in this year of distractions.

Judging by the last telegrams from Washington the sulphur bogy is going to take a long sleep, and the California fruit men will certainly not make any noise likely to wake it up. The following is the statement from Washington, April 24th:

"No investigation of the use of sulphur in curing California fruits will be made until a year from next fall. This decision was reached yesterday in this city by the referee board appointed by President Roosevelt. It means, of course, that the California fruit growers and driers will be able to continue with their established methods without Federal interference for two more seasons. One reason for this action by the referee board is that Dr. Taylor, the California member of the board, has been designated to visit Europe, there to investigate the uses of benzoate of soda in preparing fruit for the market. Dr. Taylor was in Washington yesterday and secured passports for his European trip. It is reported that he will sail tomorrow and that he will not return until one year from next August."

This action of the referee board justifies all that Californians claimed, viz: that there was no knowledge or reason in the rules which have cost this State so much. The investigators will wait until they know something, and that is just right.

In our last issue we had a line that the Summer Session of the University of California would make a special effort to show school teachers how they could introduce the rudiments of agricultural science and art into their daily work, and thus interest rural children in their own environment. This work in California is only part of a

movement which is sweeping through all our educations of higher learning. At the Minnesota State School of Agriculture, which is a branch of the University of that State, the Summer Session will, according to its announcement, have this as its prime object: "To bring country teachers and school superintendents together and reveal to them the methods and instrumentalities employed to impart agricultural education, to the end that teachers in primary and higher schools may be equipped to inaugurate elementary instruction of this kind, and that school superintendents may be moved to use their position to advance and extend the work." All this is fine. To teach agriculture it is of course necessary to have teachers who know agriculture as well as how to teach, and all normal institutions are doing their best to supply that kind of teachers. What a wonderful change is coming over the face of our educational beliefs and materials. It has been a long, long time on the way, but it is arriving all right now.

Probably most of those who are now working for the improvement of the rural schools hold as a great motive the retention of young people in rural pursuits as a thing good not only for them as citizens, but for the good of the whole country. This is a worthy and valuable motive. Some people are, however, disposed to be panicky on this subject, as they are on other subjects, and to move frantically because of the thought that the rush of rural population to the towns is peculiar to this country and the product of some unfortunate condition of mind into which the American people has fallen. It is therefore interesting to emphasize the fact that the movement to towns is not simply an American movement, nor due to any particular degeneration in our national mind. It is a world movement, and when so recognized we may labor for its correction more coolly and patiently. The following is from a recent report by U. S. Consul Ifft at Aunaberg, Germany:

"The rapid transformation of Germany from a country where the rural village was for centuries the principal factor, into one in which the city population is very largely in the majority, is causing both economists and statesmen serious thought. Today attention is frequently called to the necessity of administrative reforms, due to the fact that in many sections of the Empire the rural population is becoming very small, and that practically everywhere the cities contain not only the larger part of the population, but control the bulk of the wealth as well. At the founding of the German Empire, in 1871, the rural communities (those with less than 2000 population) contained 64% of the population of the Empire. In 1905 the rural population was 42½% of the whole."

The consul who reports these facts does not undertake to account for them nor to point out remedies, except that they are supposed to reside in administrative reforms. Possibly that is so: that would certainly be the claim of the Agrarian party, and if so we trust such reforms will be attained. We apprehend, however, that it is due to the extra emphasis which Germany has placed upon commercial and manufacturing supremacy. The legend "Made in Germany" may hold the secret of it. When a nation forgets its food supply and strives singly for commerce and manufactures, its population will be irresistibly drawn to centres given to these activities, which are of course the cities. The fundamental remedy, it seems to us, is to correct the popular sentiment and to lay, for national independence and prosperity, a broader foundation. Education in Germany has during the last third of a century developed wonderfully along technical lines of in-

dustry and the sciences which underlie them, and though agriculture is largely provided for, the sentiment and ambition of educational leaders have been largely on the "Made in Germany" and "Sold from Germany" lines. The agricultural spirit of the country has become relatively depressed, and of course the rural population has decreased.

We have now in this country, fortunately, a very different public sentiment, as is shown by the remarkable interest in agricultural education. We are ambitious in commerce and in manufactures, but both deal more largely with soil products than in Germany, and they therefore become promotive of the agricultural interest. Our development is likely to be more symmetrical, and increasing taste for rural residence and activity is to be anticipated. Surely the way to attain is not so much through administrative reforms as through educational effort. So far as protection to our national agriculture goes, we are now, perhaps, in much the same position which Germany must assume if she is to maintain her food-producing population. We need, then, not so much reform as education to disclose the opportunities which American agriculture offers, and this seems to be the very need which nearly every influential citizen is endeavoring to supply. The present popularity of all grades of educational effort for agriculture demonstrates that fact.

The Fruit World seems to be trying to convince itself that the PACIFIC RURAL PRESS is discouraging eucalyptus planting because we have manifested some doubt about the colossal figures of profit which some projectors are promising. We submit to our own readers that that is not a fair conclusion. We are promoting the planting of eucalyptus upon what seems to us a rational basis, and with anticipation of reasonable profit. We see and hear too much of the disappointment and even the destitution which follow various so-called agricultural enterprises which are projected upon a boom basis, that we cannot with any conscience give aid or comfort to such affairs. It is the boomer who is doing his worst to discourage eucalyptus planting, because he can only impose upon those who know nothing about agriculture, and is therefore foisting fallacious schemes upon those who have no judgment to protect themselves with and no experience to enable them to realize the sufficiently profitable returns which are attainable. The truth about eucalyptus is good enough for anyone but a boomer.

It is interesting to note that the State Dairy Bureau of California moved April 1 into permanent quarters in the St. Clair Bdg., 16 California St., this city, where it occupies rooms on the eighth floor. In its new location it will have convenient quarters for its offices and laboratory. The building is a reinforced concrete structure and a model in strength and equipment for office purposes. It is in the centre of the dairy produce business. Since the big fire the Bureau has located itself three times, and to get into quarters where it can perform its work conveniently is a source of much satisfaction to those connected with it.

How large and interesting are some of the special undertakings which our new specialty farming brings in its train. We read in the Denver Field and Farm that a Colorado man has assumed a contract to harden off eight acres of tomato plants for a canning factory. His job is to do the transplanting between the hotbed and the field, and the work is now going on. There will be



plants enough for 600 acres of tomatoes when finally set in the fields. The eight acres of plants are covered with canvas every evening and removed the next morning, to protect the tender plants against possible frosts and still let them have the sunlight in the daytime.

Here is an instance of yellow agriculture! Lompoc, Cal., recently shipped 20 carloads of mustard seed to points in the East. The cars were not small-sized either, for each one held 500 sacks of 80 pounds each. The trainload represented a value of \$35,000, and in honor of the event it was decorated with flags and bunting.

## Queries and Replies.

### Prune Lice and Scale.

To the Editor: Our prune trees are affected to a great extent by a small green louse or aphid that is on the under side of the leaves and causes the leaves and branches to become covered with a honey dew. In some places the limbs are covered with little warts, the color of the bark and very tender to the touch. Upon opening them we find a cluster of white eggs. Are these the eggs of this green louse? Is there any remedy that can be applied now that will kill the lice and also those eggs? Will their presence damage the growth of the trees which have very little fruit on them? What kind of a winter spray would kill the larvæ? We have been troubled by the fruit dropping and the top limbs dying back. Would they cause this trouble?—Subscriber, Selma.

You have to deal with the prune aphid and the prune scale. They are not related to each other, but both reduce the vigor of the tree. The eggs under the scale produce young scales, not aphids. You should spray for the lice with kerosene emulsion, and this will also kill young scales which ought to be hatching out fast now or a little later. Kill the lice now anyway, using a nozzle that will enable you to reach the under sides of the leaves. Next winter attack the prune scale with the resin wash, so as to knock out those which escape your present treatment. It would be a question whether the dropping of the fruit was due to these pests. It was probably due in part to them. The work of the scale is to be blamed with the die-back unless your trees are also weakened by standing water or alkali in the soil. All three evils would work to the same end.

### The Peach Worm.

To the Editor: Both almond and peach trees put out splendidly until the shoots were about five inches long, when they died. The almond trees have not a shoot left on them. In examining the shoots I found a little worm in each one, and it seems the worm begins at the end of the shoot and works toward the tree. The trees were sprayed in December and March with the Bordeaux spray, and a few days ago I put sulfur and paris green on them.—Grower, San Joaquin County.

You have a bad attack of the peach worm. Your Bordeaux treatment would control the blight and curl leaf, but would have no appreciable effect upon the peach worm. The sulfur and paris green probably did little good to anything. To kill the peach worm the tree must be thoroughly sprayed with the lime salt and sulfur wash just as the buds are swelling and before the blossoms open. There is probably nothing that you can do to advantage this year.

### Here and There.

To the Editor: As a constant reader of your paper I should like to ask what is the earliest date of ripening of the apricot and of the grape in California. A dispute has arisen in our farmers' society concerning some stationery printed for

the secretary's use, in which it claims that New Mexico is as early as California. Our elevation is about 4000 feet. As secretary, I object to signing my name to any such statements unless they are capable of proof that these fruits are as early here. For two years I was a resident of Tulare and Bakersfield, California, and so far as I know the only thing that is earlier here than in California is the frost.—Subscriber, New Mexico.

The first apricots come from the very early regions of the Sacramento Valley and from the interior of Southern California, near Yuma, during the month of May. The earliest grapes from the same districts come in June. These early fruits are from three to four weeks earlier than the same varieties ripen in other parts of the State. Our districts which have an altitude of over 4000 feet are late and not early districts, and we have no altitude of 4000 feet which is suitable for the apricot, although the grape does go to that elevation.

### Peas for Plowing Under.—Use of Lime.

To the Editor: When field peas have been sowed for fertilization, at what stage of development should they be plowed under—before or after podding? Is slaked lime useful about orchard trees?—Patron, Sonoma County.

Field peas sown for plowing under should be allowed to attain as much growth as possible while the tissue still remains succulent. The appearance of green pods does not interfere with this condition, and they are, therefore, not undesirable. One of the chief things to secure is that the peas be plowed under before the soil becomes so dry that their decomposition will be rapid. They should rot down and not dry under the ground, or else much moisture available for summer growth of trees or other plants will be sacrificed.

Slaked lime is desirable as an application to heavy soils—that is, to clay loams and adobes, because they are rendered more friable by the action of lime, and cultivation is more thorough and easier. So far as plant food goes, there is seldom anything to be gained by the application of lime, because our soils are already of a calcareous character.

### Carob and Algaroba.

To the Editor: We appreciate your reply in the Rural of April 11th, in regard to carob and algaroba trees. Will you advise us where we can get the carob seed and what is the best environment for it. We have about 1000 acres of sand dunes in Ventura County that we desire to reclaim. Would you consider the carob or mesquite the most advantageous to us?—Reclaimer, San Francisco.

There is not, so far as we know, sufficient data to discriminate closely between the two trees. Our impression is that the carob would be superior. Its record in the Mediterranean region, both in Southern Europe and Northern Africa, seems to give it claim for the proposition which you are considering. We do not know about seed of algaroba. Mr. J. F. Beecher, Auburn, Placer County, has some carob trees in bearing; so has Mr. James C. Shinn, Niles, Alameda County. The imported seed is rather easily obtained. It would be necessary in order to get a good stand of the plants to undertake propagation in nursery and transplant to the dune afterwards.

### "Willowhurst."

To the Editor: I am thinking of changing the name of my Hereford farm, on account of having established another at Hanford, and want to get one to fit them both. The general surroundings and conditions are similar on both, and the name of "Willowhurst" has been suggested as very

appropriate, and I rather like it. Can you tell me if there is any farm in California by that name, whether it is a stock farm or otherwise?—James Whitaker, Galt.

We have been making inquiry for some time privately to ascertain whether this very desirable name is pre-empted or not. So far as we can learn it is free and available, but publish the inquiry to set all other claims at rest. If any reader knows of an existing use of the name we shall be glad to hear of it.

### Perfume Farming in California.

To the Editor: Can you give me any information as to the raising of flowers in California for the manufacture of perfume? Also about the process of making perfume?—N. K. Cushing, The Transcript, Concord.

There is no growing of flowers in California for the manufacture of perfume. Various undertakings have been entered into, but all of them, so far as we know, have been abandoned. In some cases there seems to have been difficulty about getting the right variety from the European perfume districts. The general difficulty, however, is to be found in the cost of labor. Even if we do get the right varieties and secure flowers in quantity, it does not seem to be possible to proceed with all the varied hand operations that are necessary to perfume making, in competition with the low prices for the labor of children and women which is relied upon largely in the European districts. We have no such labor supplies in California. The manufacture of perfume proceeds in different ways; sometimes by distillation—sometimes by maceration and extraction in fat, resulting in a pomade from which the essential oil or essence is derived by a process which requires the proper outfit, and is somewhat complicated. You can get an interesting publication on this subject by applying to the Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C.

### Potato Blight.

To the Editor: I have 10 acres in potatoes that I want to spray as a preventive to the blight and would like to learn from you the best treatment for prevention and cure.—Farmer, Humboldt county.

The universal preventive and remedy is the Bordeaux mixture. If you have the blight as a regular thing it is a good idea to spray before it usually appears in the form of dark spots upon the foliage and stems. If it is not always troublesome it may do to wait until you see the first indication of spotting and then spray thoroughly and be sure that for the balance of the season the plants have a supply of the mixture upon them.

### A Poor Foundation for an Orange Orchard.

To the Editor: I have been looking at some orange trees which have been neglected and though five years old they are not as large as two-year-old trees ought to be. Water has been scarce in August since planting and I suppose their stunted condition may be due to this. The soil is of a reddish color but only one and a half to two and a half feet deep over gravel, sand and boulders. Do you consider this cobble stone base good land for oranges?—Newcomer, San Francisco.

Judging from your description we should conclude that the orchard rests upon about as poor a foundation as could be imagined. The trees could undoubtedly be improved by frequent and regular irrigation in sufficient amount, and by the use of fertilizers, but unless there is a considerable amount of good soil between the cobbles and boulders the trees will never be satisfactory. Gravel and sand between the larger stones is not a good substitute for soil.



## Horticulture.

### CITRUS FRUITS IN THE TULARE REGION.

By MR. A. G. SCHULZ of Porterville at the University Farmers' Institute at Whittier.

The citrus industry of the Tulare region extends along the foothills of the east side of the San Joaquin Valley, from the south line of the county to its northern line, lapping over into Fresno county so closely that even an expert cannot tell the difference between a Tulare and a Fresno county orange; but to Tulare county, and especially to Porterville, must be given the honor of being the pioneers in this industry.

The record of the first orange trees in Tulare county extends back to the time when California was still in a quandary whether to raise the Stars and Stripes or the Stars and Bars.

While attending a Fourth of July celebration in 1863, held in Visalia, two of our pioneer citizens, Mr. D. Gibbons and Mrs. H. M. White, bought a few oranges, saved the seeds and planted them. In due time they sprouted and grew to be nice healthy trees. The fruit from these trees seems to have been exceptionally fine, if its record as a prize winner is any criterion. At the Los Angeles Citrus Fair in 1883 it took first prize for seedlings, and again in 1892 this same fruit carried off the banner. We, however, are egotistical enough to think that it is not all in the stock, but also in the climate and soil, for our record at the different citrus fairs in which we have taken part will show that we have not been found wanting.

The first planting that might be considered on a commercial basis was done by Mr. Albert Henry, who, in 1882, planted sixty or seventy trees, which he procured from Southern California, and to the success of this effort we must assign the birth of the citrus industry in Tulare county. The real awakening, however, did not come until the advent of the railroad, which took place in 1888. In that year and the year following, Mr. George Frost, of Riverside, interested a number of parties in this section and planted something over 100 acres; and from this as a nucleus the industry has extended along the foothills, until today we are recognized as at least a small factor in the citrus markets of the world.

Our trials have been many, and not the least of these was to overcome the prejudices of the older settlers; they were cattlemen, first, last and all the time, and considered the country fit only to raise cattle and sheep on. But after they had been silenced and some of the efforts gone far enough to prove a success, along came some of the great dailies of the State and gave out the cheerful information that "North of Tehachapi orange trees bear icicles instead of oranges." This, certainly to say the least, was a little hard on our nerves and a stumbling block to convince our friends from back home that here was the place to invest money in the orange industry. However, we have overcome all of these obstacles, and from the planting that has been done in the past few years, and the prospects that we have in sight, it can safely be predicted that our output of citrus fruit, which this year was 2500 cars, will double in the next two years.

Our methods of planting, irrigation, cultivating and pruning, I suppose, are similar to the methods employed in the other citrus districts. We plant almost exclusively balled trees, one-year-old buds on sour stock roots being the favorite. We of course like to do our planting in the early spring, preferably during the month of April, but if conditions are such that we cannot plant then, we never let a little thing like time interfere with our desire to have an orange orchard, but go right along planting.

Some of our best orchards were planted during the month of July, notably among these is the J. H. Williams orchard, which was planted in June and July. Last year I superintended the planting of 150 acres, all of which was planted during June, July and August; in fact, we did not finish our planting until the first of September, and all of these trees are in fine shape, ready to take up the first spring's growth.

Our citrus orchards are planted exclusively on adobe and red clay soils, and while the soils are similar in character they have to be handled in

a very different manner. The adobe soil will take water only so fast, consequently we start with a very small stream, which is increased as the irrigation advances, until we use about an inch of water in a furrow, say, 600 feet long; as a rule we do not like to run water much further. It takes from four to six days to finish an irrigation of this character.

In the red soil a greater quantity of water is applied from the start, as this soil seems to be capable of taking up water as fast as it is supplied to it, while the total quantity of water used in either case is about equal.

The red soil will also permit cultivation sooner; in fact, in some cases it will bear cultivation in twenty-four hours after the water has been shut off, while in the adobe we never think of cultivating until the expiration of from four to six days.

We believe in plowing once a year both ways, it aerates the soil, gives the sun's action a better chance, and if done in January or February helps to catch and retain the spring rainfall. We undertake to plow from eight to ten inches deep, but in a great many cases this will not bear too close measurement; our cultivation also will probably not average over six to eight inches deep.

We keep our orchards free from weeds during the summer, but from October on, if we do not plant cover crops we encourage as much weed growth as possible. It is rather a difficult matter for us to raise a first-class cover crop, for during the month of November when this crop ought to be growing, we are in our orchards picking and hauling the fruit, and of course tramping this crop down more or less; but in spite of this we do succeed in getting very satisfactory results out of green manuring. We also use quite a lot of stable manure, and the use of commercial fertilizers is increasing every year.

Very little pruning is done. We try simply to shape our trees, cut out suckers and dead brush, and remove limbs that might be in the way of the cultivator. This covers the methods of pruning the orange tree. In the lemons we try to cut away everything that is not fruit wood, and keep the tree as near the ground as possible, and not to interfere too much with the cultivation. But we also try to keep the tops well filled to prevent the fruit from sunburn. For this reason I think the open method followed near the coast would not prove satisfactory with us.

Up to the present time we have been very fortunate so far as scale insects or diseases of trees is concerned. The only scale that we have to contend with so far is the cottony-cushion scale and the soft brown scale, for both of which we of course have a parasite, which easily controls it. We have, like all other citrus districts, a tree here and there affected by gum disease or foot rot. But we have certainly profited by the experience of older districts, who have taught us the importance of being on the lookout for all insect pests, and by a diligent adherence to this policy we hope to be able to continue this condition. However, we have taken a great deal of interest in the establishment of the Southern California Plant Disease Laboratory, for we realize that in case of need, we can come here for help that has knowledge and experience back of it.

### THE MAGOON APPLE.

To the Editor: Some time ago I promised, at your request, to give you a history (as far as can be known) of an apple that has been growing at Home Orchard and of which you have frequently seen specimens.

In 1893 when gathering the apples in an old orchard that had been neglected for many years I found a tree—or a part of it still alive—that produced what I thought at the time the most beautiful and best quality apple in the orchard and among the best I had ever seen. At the time I supposed it to be some old variety I was unacquainted with. Some specimens were put away for testing. Their later quality and keeping were so remarkable that I procured scions the next season and it has been bearing here without a failure for more than a dozen years. No one seemed to know the apple, nor could I find any catalogue description that fitted it. Many efforts to have it identified by some of the best

pomologists of the Coast and also of the Eastern States have failed.

The orchard where the old tree was found was one of the pioneers of our mountain section and was planted by a Mr. S. E. Magoon who died about thirty years ago. From all I have learned of him he was a man of fine attainments and enthusiastic in his horticultural work and had a small nursery at one time. I am told that he was a cousin of the Hon. Charles E. Magoon, now Governor of Cuba. When I began to think the apple was an unnamed one but certainly worthy of propagation I was describing to a sister of Mr. Magoon where the old tree stood, as it was not in the regular orchard rows. She remarked, "That's just where Ed had his nursery." No one seems to have any knowledge or history of Mr. Magoon's nursery or orchard work, but I think it probable that the apple is one he originated as a chance seedling.

Out of respect for his memory, pioneer life and efforts in our mountain fruit belt, where some of the best apples of the Pacific Coast have been growing for half a century, I suggest that the apple here described be known as "Magoon."

**Description.**—I think it a seedling of Spitzenburg (Esopus) but has some of the characteristics of both Winesap and Baldwin. The tree has a strong, healthy, wide-spreading growth; bark grayish brown inclined to yellow on the old wood; new growth dark chestnut covered with a whitish down; foliage large, with a heavy texture, a grayish tinge in the color and noticeably twisted; bloom vigorous, hardy and medium late; an annual bearer and apt to set too full; fruit principally borne on spurs from old wood and tree full all through; form somewhat irregular but usually roundish oblong; size large; color a deep red, sometimes shading to light red on a yellow ground, with numerous small light dots near the blossom end, but more scattered and larger toward the base; stem short and stout in a shallow cavity; calyx closed in an abrupt shallow basin; texture of flesh medium fine, crisp, tender and juicy; color yellowish; flavor an agreeable, pure apple-subacid, slightly spicy and refreshing; core quite small and compact; seeds dark brown—an excellent apple for any purpose and among our late keepers; retaining its quality to the last.

Mr. Parker Earle of New Mexico says of it: "An apple that needs a name—very handsome and excellent."

Mr. Benj. Buckman, of Illinois, "It is a large, fine looking, excellent quality apple and will be a leader where it thrives and bears well."

Many apple growers who tested it in comparison with others of our best mountain apples at the Fruit Growers' Convention at Marysville in Dec., 1907, pronounced it equal, and some thought it superior to any of them.

My personal judgment, after many years testing and observation, is that, all things considered, its constant and prolific bearing, size, color, its pure satisfying apple-flavor and its long-keeping in good condition give it a character that places it among the few that stand the best for planting in our mountain orchards, and I feel confident from its growth, bloom and general characteristics that it will succeed over a wide range.

Ahwahnee, Cal.

FRANK FEMMONS.

This is a very important and interesting communication. The pomological description is admirable.—Ed.

## Agricultural Sciencce.

### EARLY WORK TO STORE MOISTURE.

In this kind of a year it is profitable to think of the advantage of storing in the soil the early rains and to hold them as a surety of growth if the late rains are scant. We have ample demonstration of this fact this year in the superiority of grain on summer fallow over that on winter-plowed land and it is interesting to reason about it. Important statements are to be found in a brief bulletin which has just been issued by the Agricultural Experiment Station of the Kansas State Agricultural College. Allowance must be made for their somewhat different climate for in Kansas there is a winter too cold for growth and



a summer which has some rain. In spite of these differences the conclusions apply directly to leading conditions which we have to meet. The Kansas publication, by L. E. Call is as follows:

**The Hold-over Water.**—There is no question but that the moisture condition of the soil at the beginning of the growing season is often closely related to the yield of crops for that year. Experiment Station men have observed this and have advocated winter and spring culture of the soil, such as may aid in storing up and conserving soil moisture. Practical farmers have observed this, also, in the poor growth of corn and other crops on spring breaking or on sod land, and by the low yield of crops following Kafir-corn and sorghum, which crops grow late in the fall and as a rule exhaust the soil water to such a degree that the supply is not replenished for the following spring crops.

While the moisture condition of the soil in the spring may be taken as a general criterion of crop yields for the season, there, of course, will be exceptions. For instance, an exceptionally wet summer may follow a winter unfavorable for the storing up of water in the soil, or an exceedingly dry summer may follow a winter favorable for the storing up of moisture. While these exceptions may occur, at the same time it holds true that crops will make a fair yield in a dry season if an abundance of water has been stored in the soil, or will make a poor yield in a season of average rainfall if the moisture content at the beginning of the season is low. In order to secure data on this subject the Agronomy Department of the Kansas Experiment Station, in 1903, began a study of the moisture condition of the soil under different crops at the beginning of the growing season, and has continued the work since that time. The following table gives the moisture condition of the soil in March, 1907 and 1908, to a depth of six feet, in ground in alfalfa, grass (sod), and wheat, and in corn ground which had been fall plowed in preparation for planting corn again:

INCHES OF WATER IN FIRST SIX FEET OF SOIL.				
ALFALFA (seeded in 1904).				
Depth.	Mar. 23, '07.	Mar. 27, '08.	Difference.	
First foot.....	3.69	1.98	1.71	
Second foot.....	3.64	2.02	1.62	
Third foot.....	2.86	2.03	.83	
Fourth foot.....	2.67	2.17	.50	
Fifth foot.....	2.42	1.79	.63	
Sixth foot.....	2.27	1.67	.60	
Totals.....	17.55	11.66	5.89	
SOD (Bromus inermis seeded in 1903).				
First foot.....	3.90	2.67	1.23	
Second foot.....	3.88	2.91	.97	
Third foot.....	3.81	1.99	1.82	
Fourth foot.....	2.57	2.12	.45	
Fifth foot.....	2.09	1.84	.25	
Sixth foot.....	1.61	1.64	.03	
Totals.....	17.66	13.17	4.49	
WHEAT (fall seeded).				
First foot.....	3.45	2.04	1.41	
Second foot.....	3.71	3.02	.69	
Third foot.....	3.70	3.15	.55	
Fourth foot.....	4.00	2.93	1.07	
Fifth foot.....	3.67	2.23	1.44	
Sixth foot.....	3.15	1.81	1.34	
Totals.....	21.68	15.18	6.50	
CORN GROUND.				
First foot.....	4.25	3.43	.82	
Second foot.....	4.28	4.08	.20	
Third foot.....	4.32	2.86	1.46	
Fourth foot.....	3.74	2.46	1.28	
Fifth foot.....	2.97	2.57	.40	
Sixth foot.....	3.00	2.71	.29	
Totals.....	22.56	18.11	4.45	

A glance at this table will show the contrast in the amount of stored moisture in the soil this spring as compared with last season at this time. The moisture content in six feet of soil is less in every case as follows: In alfalfa ground, 5.89 inches, which is equivalent to 668 tons of water per acre; in sod ground, 4.49 inches, or 500 tons per acre; in fall-plowed corn ground, 4.45 inches, or 508½ tons per acre; while in wheat ground, which seems to be comparatively in the greatest need of water, there is 6.5 inches, or 732 tons, less water per acre than was stored in the soil for the use of the crop at that date in 1907. Also, that this difference in soil moisture extends deeper than the surface soil is evidenced by the drying up of the shallower wells in the vicinity of Manhattan.

When we appreciate the fact that an inch of water stored in the soil is said to be equivalent to two inches of rainfall, and some investigators say three inches of rainfall, we begin to appreciate what a deficiency of 6½ inches of water in the surface six feet of soil means. It means 13

inches of rainfall, or over one-third of the total average rainfall at this Station for the year. That the spring of 1907 was dry we well remember, and the moisture stored in the soil on March 23, 1907, was below the average. Crops at this station suffered last season from an insufficient supply of moisture.

Perhaps the spring of 1905 presents what would be considered more nearly an average for the moisture content of the soil for the spring of the year. During the six winter months from October, 1904, to March, 1905, inclusive, there was 7.27 inches of rainfall, or about .25 of an inch less than normal for the six winter months. The soil on the first of April, 1905, was recorded as in excellent condition, and both soil and weather conditions were favorable for seeding. Moisture samples taken on April 7, 1905, in fall-plowed corn ground showed 28.39 inches of water in the surface six feet of soil as against 18.11 inches this season, a difference of 10.28 inches. In sod land there was 21.7 inches of water in 1905, as against 13.17 inches this spring, a difference of 8.53 inches. In wheat ground there was 25.86 inches of water in 1905 and 15.18 inches this spring, a difference of 10.68 inches, which, according to Professor King, of Wisconsin, is sufficient water to produce thirty-five bushels of wheat per acre.

**Stored Water a Guarantee of Production.**—It is evident from these figures that unless the rainfall for the spring months exceeds the average there will be a shortage in the yield of winter and spring grains, alfalfa, and pasture. The yield of corn, which also depends upon the spring rains, is influenced quite as much by the rains of early summer. Thus every effort should be made to put the ground in the best possible condition for absorbing the rainfall and conserving the moisture already in the ground. The preparation of the ground for corn should have been started three weeks ago, but even yet much moisture may be saved between this and planting time by disking the corn ground or, better yet, by listing. The early listing puts the ground in the best possible condition for receiving the greatest amount of rainfall, and at the same time the stirring of the soil forms a soil mulch for the conservation of moisture already stored in the soil. The corn can be planted in the early listed ground by listing in the old furrow or by splitting the ridges. After the corn is planted every effort should be made to prevent the growth of weeds, for from present indications every ounce of water wasted from the soil through weeds means a decrease in the yield of corn.

It is during seasons of this kind that the storing of a few extra inches of moisture in the ground decides between a crop and a partial or total failure. Knowing the condition the farmers should take every precaution to store up and conserve the much-needed supply of soil moisture.

## The Ornithologist.

### ABOUT THE ENGLISH SPARROW.

To the Editor: Numerous complaints have reached the Cooper Ornithological Club concerning the English sparrow. This bird, it is said, is increasing very rapidly and already does damage to the fruit and agricultural interests of the State to the extent of many thousands of dollars. Not only do they destroy crops but from the fact they are spreading from the cities to the country they are driving out certain native birds that destroy insect and other pests and which are thus aids to the farmer. Unlike some of the native birds which do damage at certain times and more than repay for that damage at others, the English sparrow, it is claimed, has no redeeming traits whatever.

If the reports are true and something is not done to control the bird very soon it is likely to become the greatest enemy of the agricultural and horticultural interests of the State.

The Club is desirous of determining just what proportion of the reports are true and would appreciate any information that you might give concerning the bird in your section. If it is found that the seriousness of the matter is not exagger-

ated, steps will be taken to bring them under control. Very truly yours,

San Mateo. J. S. HUNTER.  
Secretary Cooper Ornithological Club.

Let all readers send their observations to Mr. Hunter as requested. The fortunate thing about the bird is that he is such a friend of man that he prefers to live in towns. He does not count for much except in suburban places so far as we know.

## The Field.

### ALFALFA SEED GROWING IN FRANCE.

California alfalfa growers will be interested in the following information in regard to the growing of alfalfa seed in France which has been obtained by Consul-General Robert P. Skinner, of Marseille, from official agricultural sources:

Alfalfa, commonly called luzerne in France, is grown very generally in this country. Seed for sowing is commonly obtained in the south of France. The type known commercially as luzerne of Provence is obtained in the Departments of the Bouches du Rhône, Gard, Vaucluse, Drôme, and Ardèche; the luzernes of Poitou are obtained in the Departments of Gers, Aude, Tarn, Sarthe Vienne, Deux Sèvres, and more or less throughout the old province of Anjou; also in a few departments in the north of France. It is unquestionably true, however, that the seed from Provence is superior to all other, yielding more generously and manifesting more resistance to all unfavorable conditions.

The same fields are utilized for growing the hay and the seed itself. In general, three crops of hay are cut from the same field, and sometimes in Provence a fourth crop is gathered. As a rule the second crop is allowed to mature, although it sometimes happens that the third crop also is permitted to produce seed in warm regions, when the temperature is particularly favorable; that is to say, not too damp.

The value of lands suitable for alfalfa growing ranges from \$156 to \$234 per acre. The crop is cut either by hand or with an ordinary mower, and the seed is thrashed out by means of special instruments resembling the wheat-threshing machine. The cheapest type of "decuscuteur," or classing and purifying machines, is offered for sale at \$17.37. It is claimed for it that it will eliminate stones, dust, all the cuscute (dodder), and nearly all the plantain seed, at the same time dividing the grain into two classes, one containing only fine large grains and the other all the small grain. More elaborate devices are offered for sale at from \$34.75 to \$96.50.

The wages paid to farm laborers where alfalfa is grown are usually 58 cents per day. The seed is thrashed by contract, the price varying between \$1.54 to \$1.93 per 220 pounds of seed.

**Yield of Seed.**—A wide difference of opinion prevails in regard to the average yield of seed per hectare (2.47 acres). One practical seed man places it at 1,102.3 pounds, while another states that the average is as much as 2,204.6 pounds. It is probably somewhere between these two figures. No special difficulties present themselves in this culture which are not met with in farming operations generally. The most persistent enemy of the alfalfa farmer is the "cuscute" (genus cuscute), commonly called in English "dodder." This parasite weed stifles the plant and causes its death. As a rule the cuscute and other weeds disappear annually after the first cutting, leaving the second, from which the seed is gathered, comparatively free from objectionable matter. Finally, when the cuscute does mature with the alfalfa, it is eliminated in the "decuscuteur" referred to. In certain regions prior to the second cutting a caterpillar, denominated the "negril," sometimes makes its appearance and devours the flowers before the seed has formed. Until now no efficacious means of fighting this pest has been found.

Damp localities are unfavorable to the production of alfalfa seed; when the plant bursts into flower, new shoots sprout at the base of the plant, and the flower itself dries without maturing.





## DEAD CHICKS

Does each morning's visit to the henry show a dead chick here and there—more to-day than yesterday? It's the lice—and now is the time to work if you wish to save even a fraction of your promising brood. Ask your dealer for a can of

## INSTANT LOUSE KILLER

Dust it over each mother hen and each individual chick and you will find no more dead chicks from lice. Instant Louse Killer, formulated by Dr. Hess (M. D., D. V. S.) also destroys lice on horses, cattle, ticks on sheep, bugs on melon, squash and cucumber vines, slugs on rose bushes, and is besides a valuable disinfectant and deodorizer. It comes in shaker-top cans and may be used winter and summer alike. Look for the word "Instant" on the can, as there are many imitations.

**Sold on a written guarantee.**  
**1 lb. 35c. 3 lbs. 85c.**

If your dealer cannot supply you send your order to us.

MANUFACTURED BY  
**DR. HESS & CLARK,**  
 Ashland, Ohio.  
 THE PETALUMA INCUBATOR CO.,  
 PETALUMA, CAL.  
 Pacific Coast Distributors.



## Fruit Marketing.

### Fruit Will Be Permanently Profitable.

Mr. Charles A. Chambers of Fresno gives the California Cultivator an interesting forecast of the growing and selling of deciduous fruits:

I have been asked time and again, both in person and by correspondence, whether the growing of commercial varieties of peaches, apricots, nectarines, prunes and plums will never reach a stage whereby the growing of these fruits will be overdone.

In answer to these many inquiries I shall take up the matter separately, and give my views on the fruit industry in general as it is carried on in California, from a nurseryman's standpoint, and, as far as possible, give a practical view of the subject.

I contend that the growing of drying and canning peaches will never be overdone, and I give as my reason, the limited area in the United States which is suited for the growing of this fruit on a commercial scale, and especially in the dried and canned state.

In the first place the peach will thrive and produce in any section of the United States, from Canada on the north to Mexico on the south, including these countries, and from Maine to California. The demand for dried and canned peaches from California is reaching greater proportions every year, and one would naturally want to know why California is looked to to supply the demand for these classes of commercial fruits. It is a very simple matter to explain.

In the first place there is only one

section of the United States where peaches can be grown in order to produce a commercial—dried or canned—fruit, and that section is in California, commencing at, say, Red Bluff on the north, and ending at Yuma, Ariz., on the south, except possibly a few favorable locations situated in Arizona and New Mexico, where there is very little rainfall during the summer season.

In order to produce the commercial dried peach it is necessary to grow the fruit in a dry climate, which allows it to sugar up. In California we only water the trees when water is needed, while other portions of the United States, where there is practically a continual all-the-year-round rainfall—that is, it is liable to rain at almost any period of the year—the fruit in such localities becomes too watery, hence its inadaptability for drying and canning purposes.

This accounts for the mushy condition of Eastern canned peaches and the drying away of the fruit when drying is attempted.

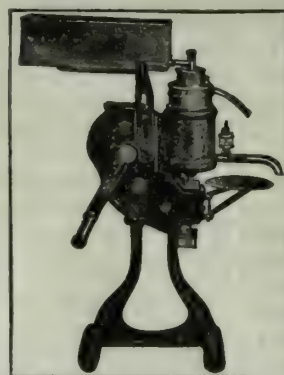
About six years ago I made a trip throughout the peach-growing sections of the United States, especially in Mississippi, Alabama, Georgia and the Middle States, for the purpose of getting data on the peach, in a commercial way. I found that it was next to impossible to produce a peach in those localities that would make a commercial canned or dried product. The Eastern peaches when canned, although apparently firm when put up, in a few months the fruit falls down and simply thickens the syrup, and gives the contents of the can a mushy appearance. They make what are called "pie peaches," so largely used by bakers for pie-making. Not so with our California peaches.

The California fruit remains firm, even if kept in the cans for fifteen years or more, and when opened it is as firm as when first put up. This condition is due to the fact that our dry climate produces a fruit that is firm and sugary, and all the surplus water in the fruit is practically eliminated before it is canned or dried.

What is the result when Eastern peaches are dried? They simply dry away and nothing remains, but the skin. If this was not the case, how is it that we are called upon to supply the commercial-dried peach, when the peach, as already stated, is grown so largely all over the United States? When the Easterner cannot market his fruit in the green state, what is the result? Does he dry the same or can it? Why does he not do it to prevent a green-fruit glut? He simply cannot make a commercial product, owing to the fact that Eastern-grown fruit carries too much water and is not firm enough for the purposes already named.

Take, for instance, the green fruit which is marketed. Is it not a fact, also, that our green fruits always command higher prices than the Eastern fruit? Why? I shall tell you why in a few words: When our fruit reaches the Eastern markets it is a well-known fact that it keeps better owing to its firmness, is not subject to bruises, which is the case with fruits that carry a high percentage of water. When an Eastern peach becomes bruised it rots rapidly, and the fruit stand man is working off the fruit as rapidly as possible.

California fruit is not only packed



The BEST Improved!

1908

IMPROVED

U.S. CREAM Separator

It gives us much pleasure to receive daily the good words dairymen are saying, the country over, about the 1908 Improved U.S. Cream Separator. Why not—YOU—join this army of satisfied users.

Do get interested and send for general information catalogue No. 148 at once. A postal brings it to you. Address all letters to

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N. Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

PROMPT DELIVERY ASSURED

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

better, but it is firmer in every way, and, notwithstanding it travels a thousand miles further than most of the Eastern product, it reaches the market firm, highly colored and in otherwise perfect condition, barring, of course, accident and unusual delays in transit.

The average life of a peach tree is twenty years, and it can be readily understood when you consider the limited area for growing commercial peaches that it is next to impossible with the constant demand and increased consumption to overdo this important industry.

I might say the same thing about apricots, nectarines, prunes, raisins, wine and table grapes. In the language of the street, California certainly has it on every other State as a producer of commercial fruits, and she has no equal in the production of peaches, apricots, apples, prunes, citrus fruits, wine and table grapes.

There is nothing in the fruit line produced in other countries on a commercial scale that we cannot duplicate or excel, as far as quality is concerned.

The latest great achievement of our State is the growing and marketing of the commercial Symrna fig, which practically completes the list and classes us as the greatest fruit section in the world.

We took hold of this Symrna fig business (thanks to our fellow townsman, George C. Roeding, for his determination and enterprise) and have brought it to such a state of perfection that there is nothing in the fig line that can excel the California Smyrna figs.

When we got the trees established they told us we needed a bug, or fig wasp, to fertilize them. This was a new phase of the subject. Did we get the bug? Well, I should say we did, and we put it to work with every prospect that it will continue to work and make us wealthy.

If any of these foreigners thought we could not establish the insect they have since learned better. We do not have to harness them, either; they work in their adopted home, both double and single, and it does not take a very large collar to fit their necks, either.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address  
 Grayson and Sixth Streets, BERKELEY, CAL.  
 West of San Pablo Ave.



## GOOD TREES AND BIG PROFITS

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

The San Dimas Citrus Nurseries  
 San Dimas, Cal.  
 R. M. TEAGUE, PROPRIETOR.

Missouri marketed 107,155,658 dozens of eggs last year, for which was received more than \$16,000,000. Added to this are the items of live and dressed poultry and feathers, making the comfortable sum of nearly \$40,000,000 for poultry products for the last year.

There is a strong organization at work in this country developing the use of peat as fuel. It is now utilizing many acres of swamp lands which are being reclaimed for agricultural purposes. The bi-products of the industry are very promising.



Warranted to Give Satisfaction.

**Gombault's  
Caustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

**The Poultry Yard.****The Day-Old Chick Business.**

Mr. E. K. Brown of Eugene, Oregon, gives the Pacific Homestead an interesting account of traffic in very young poultry which may not be known to many of our readers:

A new and interesting phase of the poultry business is that of selling "day-old chicks." Not so new, however, as might appear at first thought, for it was a common practice in Egypt of old for one large hatchery in each neighborhood to hatch all the eggs for the people for miles around, taking a certain per cent of the chicks as toll, and these they sold to those who did not have eggs to hatch; but it is only in recent years that the practical world has taken hold of it again and is making it a feature of our productive life.

In the east there are numbers of large hatcheries, some of them turning out a thousand chicks every day of the season and shipping them to all points north, south, east, and west.

As a rule the day-old chick man does not care to ship over a thousand miles or start them on a journey of over 48 hours. Chicks have been successfully shipped time and again from England to France, Germany, and Belgium, and have stood the trip on the water remarkably well.

That is indeed a wise dispensation of nature that causes the chick just before hatching to draw up into its body the yolk of the egg which thereby furnishes it with all the food it needs for 48 hours; and, indeed, lots of practical poultrymen who yearly raise thousands of fowls do not feed or water the chicks for 60 hours after hatching and some advocate 72 hours. It is a well known fact that feeding too soon is a most prolific source of bowel trouble in chicks.

The methods of shipment employed by the different shippers are about the same. As soon as the chicks are well dried they are put into boxes four or

five inches deep, divided into compartments to prevent the chicks from bunching up, and a cover of heavy burlap is fastened securely over the top. Some cover with solid board top and bore holes in the sides of the box just above the chicks' heads to furnish air. In the East they have boxes made to order out of corrugated paper, but so far they have not been placed on the market here. Any one of these methods gives good results.

A notice "Day Old Chicks," "Handle With Care," is put on each box and it is indeed most gratifying to see how carefully and gently the various employees of the express companies handle the "babies." It seems to appeal to their better nature to see the tiny, motherless chicks start out on a journey of possibly several hundred miles. The purchaser is notified a day or two in advance on what train to expect them and should have everything in readiness. If it is a brooder that awaits the motherless babes, it should be well dried out and warmed up. Have some clean, dry sand on the floor and chick grit and plenty of granulated or chick-size charcoal scattered in the sand. If the sand is coarse, the grit is not so necessary; but by no means omit the charcoal. Have the drinking fountain filled with clean, fresh water with the chill taken off. A clean tomato can inverted in a small pan, a hole having been made inside of the can just below top of pan, thereby keeping the pan filled with water just as high as the hole in the can, makes a cheap and serviceable fountain; or even an ordinary glass tumbler full of water inverted in a saucer, care being taken to keep the saucer full, will do for a few days.

As each chick is placed in the brooder dip its beak into the water and set it down close to the fountain. Let them peck around at the grit and charcoal awhile a half an hour or more, and then give them their first meal. Use any good commercial chick food — cracked wheat and corn may be used if it is not possible to obtain chick food.

Along toward night, or as soon as they have eaten enough, place some dry, well-warmed chaff or cut straw under hover or in sleeping quarters and as night comes on see that they are properly located and distributed in the brooder. With proper care and watchfulness from this time on there is no good reason why one should not raise every chick, barring accidents.

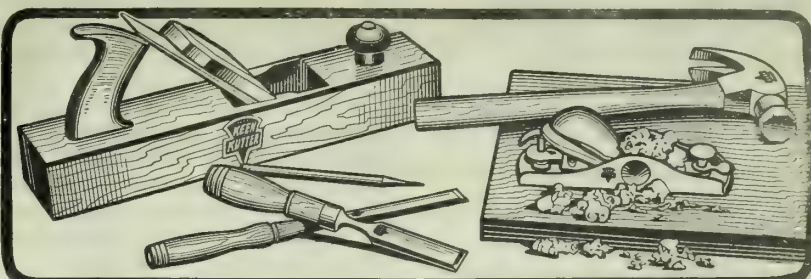
If one has no brooder, enough broody hens that have been allowed to set on a couple of nest eggs for a day or two each, will take the chicks and mother them just the same as though they had hatched them themselves. We have frequently used broody hens to mother incubator chicks with uniformly good results. The method of feeding and watering with hens is the usual way.

It is customary to guarantee 100 per cent delivery of live chicks on arrival at express station, but we have had to make some exceptions to this and ship chicks at purchaser's risk where the journey is over 48 hours duration or where any part of it is made by stage or any conveyance other than railroad train.

Our deliveries have been most successful and only in one instance have we had any loss and that was where part of the journey was by water and the boat had changed from a daily trip to one every other day and the chicks were four days en route; but with all this there was only 4% loss.

Purchasers when sending their orders should be very careful to give full instructions about shipping and if there are any local conditions regarding the train, boat, or stage service, that the shipper might not be able to learn easily, they should not neglect to mention it.

The purchaser need not fear that the shipper will send him weak, sickly chicks, for of necessity, where he guarantees 100 per cent delivery of live chicks, he must, to protect himself, ship only strong, healthy chicks. This naturally compels him to use only healthy, vigorous breeding stock for his eggs, for strong chicks do not come from unhealthy breeding birds.

**Tools of Accuracy**

Tools for the workshop, farm or home must be tools of accuracy. A plane, for instance, to smooth a board properly must have a keen blade, carefully adjusted—its surface must be true and it must fit the hand.

**KEEN KUTTER**  
**Tools and Cutlery**

are tools of accuracy. Every ounce of weight—every line, every handle, every blade is carefully adjusted, and tested before leaving the factory. The trademark on each guarantees it to be satisfactory or money refunded.

The name Keen Kutter includes Carpenter's Tools and a full line of Farm and Garden Tools—Forks, Hoes, Scythes, Trowels, Manure-hooks, Lawn-mowers, Grass-shears, Rakes, etc. Also Scissors and Shears, Pocket-knives and Table Cutlery.

Sold for nearly 40 years under this mark and motto:

"The Recollection of Quality Remains Long  
After the Price is Forgotten."—E. C. Simmons.  
Trademark Registered.

If not at your dealer's, write us.

**SIMMONS HARDWARE COMPANY (Inc.),**  
St. Louis and New York, U. S. A.

**Greet the Fleet**

AND

**ADMIRAL EVANS**

WITH THE

**16 Great Battleships**

AT

**San Francisco, May 6th.****LOW RATES**

Round Trip Tickets sold May 2nd to 10th, inclusive, at 1½ rate. Good for 10 days' trip. See nearest agent for details.

**SOUTHERN PACIFIC**

The customary price charged is double that charged for eggs for hatching. To some this appears rather high at first sight; but ask any experienced poultryman the country over what he considers a good average hatch for a season and he will tell you that one chick from two eggs is as good as can be expected. Of course, individual hatches will run much higher than this. These are the ones we distinctly remember and talk about. The ones that run under, where the hen deserts the nest or the eggs are "cooked" in the incubator—these are the ones we are apt to forget.

An experienced breeder, who in the past 20 years has raised thousands upon thousands of chicks, stated recently that in those years that he had kept careful count of the eggs set and the chicks hatched; seven chicks to the setting was the average.

So it will be readily seen that where the purchaser escapes the labor and trials of hatching and the feeding of hens and the buying of oil for incubators and is assured his average number of sound healthy chicks at only double the cost of eggs, he is gainer in the transaction.

A great obstacle that has prevented

people more than anything else from owning paying flocks of well-bred fowls has been that of cost.

Not the cost of the eggs or of rearing the chicks hatched, but the risk, the gamble, of paying out good money for eggs possibly not so good; the many, many times the poor unreasoning hen has deserted her nest and blotted out the lives of countless chicks that you feel almost positive would have developed into prize-winning cockerels and 200-egg hens.

These are the things and not the question of mere dollars and cents that tend to limit the flock of pure-bred poultry. With the advent of the day-old chick business, however, all this is changed. No worrying about whether the eggs are fertile or whether they will hatch the variety order, or whether the hen will leave the nest or break the eggs, or the rats get them, or the incubator blow up, or the lamp go out, or a thunderstorm prevent the eggs from hatching, or the numerous other possibilities.

So it would seem that, where one can have some healthy chicks laid down at his express station at a reasonable cost, he has found the easiest and cheapest way to get a start with poultry.

**Free Veterinary Book**

Be your own horse doctor. Book enables you to cure all the common ailments, curb, splint, spavin, lameness, etc. Prepared by the makers of

**Tuttle's  
Elixir**

The world's greatest horse remedy. \$100 reward for failure to cure above diseases where cure is possible. Write for the book. Postage 2c.  
**TUTTLE'S ELIXIR CO.,** 33 Beverly St., Boston, Mass.  
Los Angeles, W. A. Shaw, Mgr., 1921 New England Ave.  
Beware of all blisters; only temporary relief, if any.

Coffin Redington Co., 625 Third St., San Francisco, Cal.



## The Home Circle.

### The Climber.

He stood alone on Fame's high mountain top,  
His hands at rest, his forehead bound  
with bay;  
And yet he watched with eyes unsatisfied  
The downward winding way.

The great procession of the stars went by  
Far overhead, beyond the mountain's  
rim,  
There, from his vantage ground so still  
and high,  
He watched the storm clouds when they  
rolled below.

And sometimes in the valleys and the  
plains  
He saw the little children at their play;  
In cottage homes he saw the candlelight  
Gleam out at close of day.

But he and loneliness kept feast and fast  
The while with weary eyes, by night  
and day  
They watched the path that led to com-  
mon things,  
The downward winding way.

"'Twas there," he said, "that gladness  
passed me by,  
In yonder valley, where I sought the  
truth;  
And there, a few leagues up the rocky  
slope,  
I said goodbye to youth.

"There, where the pine trees catch the  
sun's last gold,  
Love reached its hands to me and bade  
me stop;  
Oh, madness of the ones who climb," he  
said,  
"Up to the mountain top!"

—Virna Sheard.

### HIS FIRST WIFE.

When John Willoughby wrote to  
me from Kentucky that he was mar-  
ried, and asked if he might bring his  
wife to my house, the only home he  
had known from infancy, or if he had  
better provide another one for her,  
I answered at once:

"Come here and try it. If you  
are happy, stay; if not, it will be  
time enough to seek a new home af-  
ter testing the old one."

But the change gave me sore pain.  
John Willoughby was my charge  
from the time his parents died and  
left him, a baby, inheriting a large  
fortune, to my care. His mother was  
my twin sister, and I was a childless  
widow when she died, so it will be  
readily understood that I gave the  
boy a true mother's love. We live  
at Bright View, my husband's legacy  
to me, a spot abounding in nature's  
beauties, and we did not want for  
society, being only two miles from a  
flourishing city.

It was natural John should marry;  
he was twenty-two, had studied a  
profession, though he devoted his  
time to painting in an amateur fash-  
ion that promised no great results;  
was wealthy, handsome, and a thor-  
ough gentleman by birth and educa-  
tion.

But I had hoped he would marry  
one of the ladies I knew; some one,  
perhaps, I loved already. His letter  
was full of praise of his wife—but  
who was she? He had found her  
when on a sketching trip through  
the mountains of Kentucky. Her mo-  
ther was lying dead, and two old  
negroes were filling the air with  
howls and wails.

I did not care that the girl was  
poor. John was rich, and would  
have, in addition to his father's for-  
tune, all I had to leave. He had no  
need to seek a wealthy bride. But I  
was afraid he had married for beau-  
ty only. Not one word could I find,  
in most careful perusal, in praise of

the bride's intellect, accomplish-  
ments, or worth. Only her beauty  
was the theme of her husband's  
praise.

When I saw her I scarcely won-  
dered that the face of John's wife  
had excited such enthusiasm. They  
came home in June, at early morn-  
ing, and drove from the station to  
the house, where, just after sunrise,  
I went out upon the porch to meet  
them.

From the carriage there sprang a  
little figure dressed in all the colors  
of the rainbow, bedecked with jew-  
els utterly out of place upon a trav-  
eler, as were the gay silk dress and  
feather-trimmed hat.

But the face under the hat. How  
can I describe it? A perfect oval,  
with features of classic regularity,  
but without any of the coldness that  
usually accompanies classic beauty.  
For the dark complexion, pure, clear  
olive, was crimson-tinted on lips and  
cheeks, the eyes, large, brilliant eyes,  
were yet soft and velvety, and the  
black hair was soft and luxuriant.

Every moment the expression was  
changed in those glorious eyes, the  
sensitive mouth. Childlike pleasure  
in the new home, a gentle deference  
to my years and position, were suc-  
ceeded by petulance and restless vi-  
vacity.

She was a will-o'-the-wisp, a but-  
terfly, a wasp. I loved her in two  
minutes, and my love never lessened.  
But even then I knew John Wil-  
loughby had made a fatal mistake.

"Do, Aunt Mary, take some su-  
pervision of her wardrobe," he said  
to me. "She was married in a calico  
dress and a sunbonnet, and her feet  
were bare. Of course I gave her  
money, and she bought what she  
pleased. I don't understand wom-  
en's dress, but hers set my teeth  
on edge."

And just as he spoke she flashed  
in. She never seemed to walk, mov-  
ing with a peculiar, darting move-  
ment that threatened total annihila-  
tion to my nerves until I became ac-  
customed to it.

"You are ashamed of me!" she  
cried. "You are! You are!"

"Ellen!" he said, gently, his face  
flushing; "I can never be ashamed  
of my wife!"

He kissed her gravely, and went  
out, but she tore up and down the  
room like a caged bird.

"He is ashamed of me—he is!"  
she repeated, angry tears raining  
over her hot cheeks. "I saw it on  
the cars. I saw it at the hotels. I  
see it here. How did I know he  
would be? He said he loved me, and  
I—would have died for him. He  
praised me—he put me in his pic-  
tures! He asked me to be his wife.  
I was all alone, and I loved him. I  
married him, but he never asked me  
what I knew—what I could do. He  
saw the log cabin where my mother  
lay dead. He knew the soldiers  
burned down our house, killed my  
father. I was too young to know the  
horror of it. I am only sixteen now.  
Then when we were married and  
went to the city, he was ashamed be-  
cause he asked me to read the news-  
paper one morning and I never  
learned to read. Why didn't he ask  
me before we were married? He  
told me I must not eat with my knife,  
or wipe my fingers on my dress.  
Why didn't he tell me before we  
were married? Why didn't he go  
away and leave me? I would have  
killed myself. I had rather kill my-  
self than know he is ashamed of  
me."

All this was poured out with such  
rapid utterance I could not interrupt  
her by one word, and I might as  
well have tried to catch a butterfly as  
to touch her as she paced up and  
down.

"And now I set his teeth on edge!  
I was not listening. I heard him as  
I came in. I never bought things  
before. They told me at the stores  
what to buy, and all they showed me  
were pretty! Why did he not come,  
too, and tell me? I hate him! Oh—  
I love him, and he is ashamed of  
me."

She was gleeful as a child when  
John praised her dress at tea time,  
having, at my suggestion, worn a  
soft, white mull, with scarlet flash-  
ing in her jetty braids at her throat  
and belt. She pouted a little be-  
cause I would not allow but one  
bright color, but was obedient.

But after that, watching them  
both, I knew there could be no hap-  
piness in the hasty marriage. The  
glamour was gone from John's eyes,  
and he was ashamed of his wife. His  
love cooled, and his perfect gentle-  
ness and tender care never deceived  
her for one moment.

I think if he had beaten her and  
then caressed her she would have  
borne it better than she bore his un-  
varying kindness, after his love was  
gone.

"He does not love me! He has  
wearyed of my beauty, and I have  
nothing else to love!"

That was ever the refrain of her  
piteous complaints, and John vainly tried  
to revive the dead love in his heart.

"She has but me!" he said to me  
once. "If I made a mistake it was  
no fault of hers, poor darling. She  
shall never know that I have one re-  
gret."

And he might as well have tried  
to hide a bonfire under a napkin.  
By the intuition of love, Nell knew  
the change. She had been a year  
married, wearing herself out with  
her own vehemence, when her baby  
came to her. I hoped motherhood  
would soften her, would tame her,  
for she was wild and beautiful as a  
leopard.

With the same fierce, unreasoning  
passion that gave her life every im-  
pulse, she loved her boy, a sickly,  
feeble child, that she would almost  
smother with kisses, and caress so  
violently that he would whimper, as  
if being hurt.

Every day she talked about the  
boy's future, the grand things to be  
done for him, the education he was  
to have, that John might "never be  
ashamed of him as he is of me." Her  
whole hope lay in the child's life, and  
we knew the feeble spark would never  
live to be a bright light.

As the child drooped the mother  
faded. She would be well soon, she  
told me every day, and every day  
the little form lay more lightly upon  
my arms; the little face grew more  
pinched and wan.

One morning she drew me down  
upon the pillow her head had never  
left since her boy was born, and  
whispered:

"John kissed me with his heart  
this morning. He loved me in that  
kiss. Ah, if I could die now before  
he ceases to love me!"

She sobbed, not with the old pas-  
sion, she was too weak for that, but  
feebly, as if from a breaking heart.

"You do not wish to die and leave  
your boy?" I said.

"I would not leave him! He would  
go with me!" she said, with quiet  
conviction.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a  
full corps of teachers for all departments in the  
English branches, Latin, Greek, and the Modern  
Languages, also accredited by the University of  
California, Leland Stanford Junior University,  
and by Eastern Colleges.

Special attention is given to lessons in elocu-  
tion, singing, the violin, the piano, and to draw-  
ing and painting.

Lectures are given by professors from the Uni-  
versity of California, and a course of study for  
High School graduates and for young women  
who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July  
for boarders, under the care of the house man-  
ager. A summer school will also be maintained  
by one of the teachers.

And we knew it would be so.  
There was nothing to build health  
upon, the doctor told us, and Ellen  
faded away, not quickly, but surely.

But, lying upon her death-bed, day  
after day, she was intensely happy,  
not with the fitful flame of old, but  
with a calm, deep joy infinitely pa-  
thetic to witness.

"John loves me!"

That was the key-note to her hap-  
piness. He had never failed in gen-  
tleness, but, realizing that he must  
soon lose her, his love came back to  
comfort her. He could not have  
deceived her, weak as she was. Only  
the true love she had lost, the love  
that was her life, could have an-  
swered the hunger of her heart. And  
John gave it, kissing her with his  
heart, as she told me, gently smooth-  
ing the dark road she was treading  
by every loving device, seldom leav-  
ing her, and never for any length of  
time.

He was holding the puny baby in  
his arms, close to the mother's white,  
wasted face, when the boy shivered,  
gaspied, and died. I looked in terror  
at Ellen, but she smiled into my eyes.  
"He will wait for me!" she said,  
softly, and nestled against John, as  
I took the little one away.

I did not return for a long time.  
When I did Ellen's eyes were closed,  
and her face had changed, with a  
change that chilled my heart.

"She is asleep," I whispered.

"But she will never waken!" John  
said, solemnly, and even before he  
spoke I knew the truth.

John Willoughby mourned truly,  
blaming himself bitterly, when I  
held him blameless. But he married  
again in two years, and lives in his  
own home in the city. I could not  
let his wife come to Bright View in  
Ellen's place, though she is kindly  
welcome when she visits me.

She is a lady, refined, educated,  
and very handsome. She makes John  
entirely happy, having won the re-  
spect as well as his love, a love more  
lasting because built upon founda-  
tions of esteem. I have no com-  
plaint to make, and I am glad, very  
glad, that John's home is a happy  
one, but I know that never, never  
can my old heart take Julia Hilton  
into that deepest warmest niche that  
is filled by the memory of the im-  
pulsive child, John Willoughby's first  
wife.—Wm. S. Birge.

There is little change in the size  
of the ears from infancy to middle  
age, but after that they sometimes  
grow larger.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### Some Schoolboy Howlers.

Here are some teachers' questions and pupils' answers taken from examination papers in a Maryland school:

What was the chief event of Solomon's reign? He died.

Who came before him and who came after him? David, the Queen of Sheba.

Name some of the early Christian fathers? Jerome, Oxygen and Ambrosia.

What are the enduring remains of Egyptian civilization? The pyramids and obsequies.

In what Christian tenet did the Egyptians believe? In the immortality of the soul.

What religion had the Britons? A strange and terrible one—called the religion of the Dudes.

What caused the death of Cleopatra? It was because she bit a wasp.

Where is the climate hottest? Next to the Creator.

What causes perspiration? The culinary glands.

What are molars? Teeth which grow outside of the head.

What do you call the last teeth which come to man? False teeth.

What is the spinal column? Bones running all over the body; it is considered very dangerous.

What is the form of water drops? A drop of water is generally spherical, for various reasons, best known to the gracious Providence who made them.

Name a domestic animal useful for clothing, and describe its habits? The ox. Doesn't have habits, because it lives in a stable.

Of what is the surface of the earth composed? Of dirt and people.

What is the function of the gastric juice? To digest the stomach.

Define idolater? A very idle person.

Define ignition? The art of noticing.

Define interloper? One who runs away to get married.

Define ominous? (1) Power to be all-present. (2) Power to eat everything.

Define flinch, and use is in a sentence? Flinch, to shrink. Flannel finches when it is washed.

What is a chronic disease? Something the matter with your chrone.

Name six animals of the Arctic zone? Three polar bears and three seals.

What is the chief industry of Austria? Gathering ostrich feathers.

Define vengeance? A mean desire to pay back. Vengeance is mine, saith the Lord.—Washington Herald.

### An Arabian Proverb.

Men Are Four:

He who knows, and knows he knows—

He is wise—follow him.

He who knows, and knows not he knows—

He is asleep—wake him.

He who knows not, and knows not he knows not—

He is a fool—shun him.

He who knows not, and knows he knows not—

He is a child—teach him.

London shops are rapidly becoming Americanized.

### Successful Lives.

They may not shed a radiant light  
Within the human firmament,  
Nor flash a name that shall incite  
Our wonder, like a meteor sent;  
Above the crowd they may not rise  
By dint of wealth, or deed of fame,  
Nor lean upon the treasured guise  
Of some renowned ancestral name.

But somewhere—somewhere patiently—

By quiet heroism led—

They live their lives day unto day,  
With hearts by selfish greed ne'er fed;

As true to life's best aims are they  
As is the needle to the star—

'Tis these, methinks the angels say,  
Whose lives the most successful are.

—Selected.

### Domestic Recipes.

**Lemon Cookies.**—One cup butter, 2 cups sugar, 4 cups flour, 3 eggs, juice and grated rind of 1 lemon, level teaspoon soda dissolved in tablespoon of sweet milk.

**Doughnuts.**—One cup of sugar, 4 tablespoons butter, 2 eggs, 1 cup of sweet milk, 2½ teaspoons baking powder. Nutmeg to taste. Mix soft, roll and fry in hot lard.

**Marble Cake.**—Light part, ¾ cup white sugar, ½ cup butter, ½ cup sweet milk, whites of 2 eggs, 1 teaspoon baking powder, 1½ cups of flour. Dark part, ½ cup brown sugar, ½ cup molasses, yolks of 2 eggs, 1 level teaspoon soda, 1¼ cups flour, ½ teaspoon cloves, ½ teaspoon cinnamon, ½ teaspoon allspice.

**Nut Cake.**—A cup butter creamed with 2 cups sugar, ½ cup milk, 3 cups flour with 2 teaspoons baking powder, 4 eggs and 1 cup chopped walnuts or hickory nuts. Beat whites and yolks of eggs separately and add the whites of eggs last, then beat all thoroughly and bake in loaf pan.

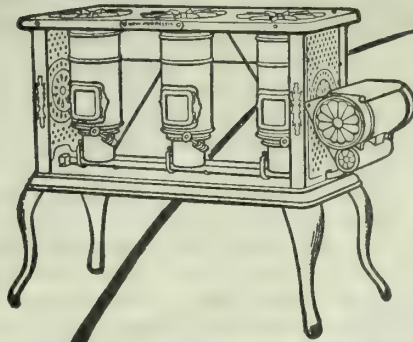
**Liver Sausage.**—Add to every 5 pounds of fat and lean pork an equal quantity of ground rind and 2½ pounds liver. Previously cook the rind and pork and chop fine, then add the raw liver well chopped and press through a coarse sieve. Mix with seasoning to taste. As raw liver swells when placed in boiling water, these sausages should be only two-thirds full, thus leaving space for expansion. Boil nearly one hour, dry, then smoke four or five days.

**Pork Sausage With Beef.**—Two pounds lean pork, 1 pound fat pork and 1 pound lean beef. Chop (not grind) very fine, spread thinly and season as follows: 1 ounce pure fine salt, ½ ounce ground black pepper, ¼ ounce leaf sage rubbed fine. Mix thoroughly and stuff into casings made of the small intestines of the hog. If designed for summer use, these may be hung up and smoked. Another way to prepare them for summer is to can them. Make the chopped meat into small cakes and cook till nearly done. Then pack while hot into cans, pour in boiling lard to cover, and seal at once.

### Children and Candy.

Give children plenty of pure sugar, taffy and butter scotch and they'll have little need of cod liver oil, says Dr. Woods Hutchinson in Woman's Home Companion. In short, sugar is, after meat, bread and butter, easily our next most important and necessary food. You can put the matter to a test very easily. Just leave off the pie, pudding or other desserts at your lunch or mid-day dinner. You'll be astonished to find how quickly you'll feel "empty" again, how "unfinished" the meal will seem. You can't get any working man

## Hot Stove—Cool Kitchen



How do you expect to endure the broiling days of summer if you prepare all the food over a glowing coal fire?

You need a "New Perfection" Oil Stove that will do the cooking without cooking the cook. It concentrates plenty of heat under the pot and diffuses little or none through the room. Therefore, when working with the

## NEW PERFECTION Wick Blue Flame Oil Cook-Stove

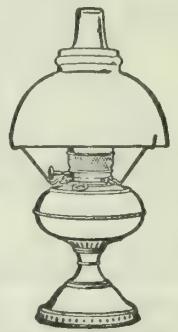
the kitchen actually seems as comfortable as you could wish it to be.

This, in itself, is wonderful, but, more than that, the "New Perfection" Oil Stove does perfectly everything that any stove can do. It is an ideal all-round cook-stove. Made in three sizes, and fully warranted. If not with your dealer, write our nearest agency.

### The Rayo Lamp

a substantial, strongly made and hand-some lamp. Burns for hours with a strong, mellow light. Just what you need for evening reading or to light the dining-room. If not with your dealer, write our nearest agency.

STANDARD OIL COMPANY  
(Incorporated)



to accept a dinner pail without pie in it. And he's absolutely right. The only thing that can take the place of sugar here is beer or wine. It is a significant fact that the free lunch counters run in connection with bars furnish every imaginable thing except sweets. Even the restaurants and lunch grills attached to saloons or bars often refuse to serve desserts of any sort. They know their business! The more sugar and sweets a man takes at a meal the less alcohol he wants. Conversely, nearly every drinking man will tell you that he has lost his taste for sweets. The more candy a nation consumes, the less alcohol.

### Hints to Housekeepers.

When running a sewing machine use a chair eight inches higher than the ordinary ones.

If the oven is too hot for baking bread set a dish of cold water in it.

To set delicate colors in embroidered handkerchiefs soak them ten minutes previous to washing in a pail of tepid water in which a dessert-spoonful of turpentine has been well stirred.

A woman who is past master in sandwich-making prefers fried ham to boiled for sandwich-making. She cooks the ham slowly in the frying pan, giving it just enough browning to improve the flavor. Then she reduces it by grinding to a veritable powder and mixes it with mayonnaise.

The children are not the only ones who approve enthusiastically of hot marmalade sandwiches. Toast fresh bread and while it is crisp and hot spread with butter and marmalade or jam, and serve at once.

Try warming the cold baked beans over in tomato sauce. Make the sauce by cooking a tablespoonful of minced onion in a tablespoonful of butter, add a cupful of strained tomato and thicken with a level tablespoonful of

flour. When the sauce is creamy add the beans. One woman seasons the tomato sauce with curry before adding the beans, but curry does not always comport with an American bean taste.

The unsightly holes left in plastering by changing one's mind about the hanging of pictures and a consequent pulling out of nails, may be repaired by mixing plaster of paris to a paste with water and applying to the hole. When dry and hard paint the spot or cover with paper like that on the walls.

### Brevities.

A correspondent suggests concerning the change from Andover to Cambridge, the quotation from King Lear, "The wheel has come full circle, I am here."

Leprosy is not, in the ordinary sense, a contagious disease. Physicians, nurses and missionaries minister to lepers for years without suffering from the exposure.

The time is soon coming when the republic of Liberia will have to depend upon the good offices of America and Great Britain for the maintenance of her natural boundary and the security of her possessions.

One of the most valuable discoveries recently made by white men is that they eat about three times as much as is necessary to keep them in good health and working condition and in training for a vigorous old age.

Almost everything depends upon the things that we hold in common, whether in religion or in other forms of life, and yet that which is unique, peculiar, personal, may be some important attainment which will shape the whole future of the human race.



**THE MEN WHO KNOW**  
THE SUPERIOR  
QUALITIES OF  
**TOWER'S**  
FISH BRAND  
**SLICKERS, SUITS  
AND HATS**  
are the men who have  
put them to the hard-  
est tests in the rough-  
est weather.  
Get the original  
Tower's Fish Brand  
made since 1836  
CATALOG FREE FOR THE ASKING  
A. J. TOWER & CO. BOSTON, U.S.A.  
TOWER'S FISH BRAND LIMITED, TORONTO, CAN.



## AGRICULTURAL REVIEW.

### BUTTE.

Oroville Register: Fruit men report that from present indications it would appear as if the fruit crop would be very short. They state that there is about one-third of a crop of prunes, and only a fair crop of peaches. There will be about one-fourth of a crop of almonds. The apricot crop is a total failure. The pear crop has not been injured by either the frost or the wind. The peach crop in the foothill orchards is also uninjured.

### FRESNO.

Reedley Exponent: It is rather early in the season to make an estimate of the coming summer's fruit crop, but from talks with several growers we are led to believe it will fall short of last year. Some growers say they will have an average crop, while others predict a shortage. The light frosts damaged some orchards and vineyards but had no perceptible effect on others.

### NAPA.

The board of supervisors has divided Napa county into two districts, and appointed sheep inspectors for the purpose of supervising the dipping of all sheep, to eradicate the scab.

### RIVERSIDE.

Fiverside Press: One of the most curious orange growths ever seen hereabouts is on exhibition at the chamber of commerce. A rough-skinned orange of apparent navel parentage is shown with a tiny lemon inside. The lemon is a little more than an inch long and has a rough skin, but characteristic lemon size and skin color. The pulp of the orange is streaked with the markings of a blood orange, but a partially formed navel shows that the orange is of dual parentage.

### SAN BERNARDINO.

The Highlands section has shipped 1600 cars of oranges this season, leaving about 350 or 375 cars yet to go. The shipments are about 200 cars in excess of the biggest shipments ever made from that section, the increase being caused by new orchards coming into bearing.

### SAN DIEGO.

Union: A new corporation proposes to engage in the manufacture of lemon extracts and to establish a plant for the purpose of supplying extracts of various fruits.

### SAN JOAQUIN.

Stockton Record: The fruit outlook this season is the most promising in years, which is due to a great

extent to the dry spring. A prominent grower states that the almond crop will probably be the largest ever produced in the county. The trees are well set, that is, the blossoms have pollenized and the nuts started well. The quality of apricots this year will be far superior to that of the crops of former years. The fruit is clean and free from shothole fungus. The peach crop is just as promising as the apricot, and it will also be necessary to thin the peach trees. It is too soon to be able to announce the size of the grape crop, but it is safe to state that there will be a larger yield this year than ever before. Although the local potato men did not make a big haul this year, the onion growers will go them one better. Onions are a luxury at the present time. The high prices during the past few years have stimulated the planting of the product.

### SOLANO.

Reporter: The first box of cherries to leave California this season was sent by express from Vacaville on Thursday, April 16. They were grown on the Newport place and were consigned by the Frank H. Buck Co. to Philadelphia. The fruit was of the Purple Guigne variety, of fair size, and all were handsomely colored. As a usual thing some of the first fruit is not well colored, but this box was uniform throughout. In past years the first box of cherries has left Vacaville on the following dates: 1907, April 22; 1906, April 16; 1905, April 7; 1904, April 30; 1903, April 25.

Reports from Antioch state that there will be little doing among the asparagus canners in that section this spring. The continued dry spell and hot north winds have dried up the grass until hopes are held for only about one-third of the usual yield.

### SANTA BARBARA.

Reveille: What is said to be the champion potato in the world, bar none, is on exhibition at the State Board of Trade. It has sent a challenge throughout the earth and no tuber has been found willing to try the issue. Already the fame of the local product has gone abroad, and the Department of Agriculture, the Smithsonian Institution and other scientific organizations have applied for models of the original. As a result the potato has been photographed sitting, standing, full face and profile. It weighs 12 pounds and was raised in Santa Barbara county. As an article of food it is sufficient for an average family for almost a week. It is to be kept in the State Board rooms.

### STANISLAUS.

News: Many farmers have put in beans this year, and it is now assured them that excellent prices will maintain throughout the season. By the time the crops are ready for harvest,

## Nitrate of Soda

### THE NITRATE AGENCIES COMPANY

64 Stone Street, New York, N. Y.

36 Bay Street, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street, San Francisco, Cal.

Address Office Nearest You

# ALFALFA

makes a tremendous growth if fertilized with


## POTASH

When properly fed—with a fertilizer rich in Potash—twice or three times the average yield of succulent, nutritious hay is obtained.

Let us send you our free book, which tells you exactly what increase the farmers have gotten with it. From cover to cover, the book is filled with money-making facts. Write to-day and learn all about it. Address

**GERMAN KALI WORKS**  
New York—93 Nassau Street Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.



## Nitrate of Soda Sulphate of Potash Acid Phosphates Superphosphates

### Phosphoric Acid Mixed Fertilizers

Suitable for Every Crop Grown Under the Sun, Sold by

### THE MOUNTAIN COPPER COMPANY, Ltd.

150 Pine Street San Francisco

## FRANCIS SMITH & CO., Manufacturers of

# SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

all the local warehouses will be practically empty of this season's supply and absolutely no holdover will be found. The outlook for the season's crop was never better. Formerly, with the old fashioned methods of harvesting, but 100 sacks per day could be harvested, and even that amount was heralded with much pride.

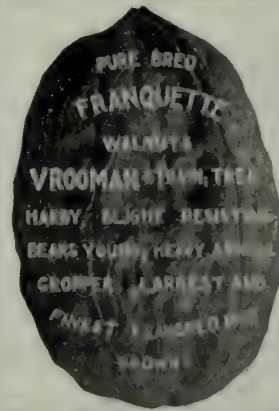
### SUTTER.

Cherries are ripening rapidly at Yuba City. Last year the first picking was commenced about April 23. The crop is good throughout this section; in fact, some of the growers claim that it is much better than the crop of last season.

Farmer: For some years the apricot crop in this section has been very light, and almost a failure in places. Many of the growers got disgusted and dug out their trees, but this year with a dry season the crop promises to be large on what acreage there is in the county. The frosts did not affect them and there will be good big profits in the crop.

Independent: As far as can now be estimated, the only fruit that will fall short of the yield of former years will be the prunes. Prune growers state that this variety of fruit will be less than half the yield of last year. In many cases the crop is not considered worth the usual amount of culti-

vating and such orchards will receive only enough care to keep down the weeds. Every other variety of fruit in Sutter now shows up well and it is estimated that it will take something out of the ordinary in the way of unfavorable elements to prevent the crop of 1908 from being the banner crop for several years. The lack of rain is not hurting fruit interests. Grape vines show a strong budding tendency, and while it is too early to estimate a yield, the vines look healthy and promise well.



Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

### OREGON NURSERY COMPANY

SALEM, OREGON.  
Salesmen Wanted.



## TEHAMA.

Sacramento Union : Wool is coming into Red Bluff by the six-horse wagon load for storage in the warehouses, but there is no immediate prospect for the sale of this Tehama county staple on the sales day, May 20, or even soon after that day, for the wool market is dull. It is said that offers of 10 or 12 cents only are in prospect, and it is certain that few if any of the flock-masters will consider such a price. Rather than dispose of their clip at 10 or 12 cents they will hold it for a year or two, or until there is a change for the better. Very little of last fall's clip has yet been sold. Once before the wool in this county was not sold on a depressed market, but held in storage for almost three years, to the net saving of thousands of dollars to the owners of the stock on hand.

Sacramento Bee: Dr. Paxton, of the United States Bureau of Animal Industry, will superintend the dipping of about 100,000 head that belong to sheep men of the county. He reports the dipping process slow, as the vats are small, and the temperature of the liquid must be kept in the vat fully two minutes. Within ten days after the first dipping the second sheep bath must be given. The instructions to the men in charge of the dipping is to keep a correct account of the number of sheep dipped, with other data, and the estimated number of sheep at this time for Tehama county is 325,000, which makes her second to Kern county, which boasts 500,000 sheep. Owing to the scarcity of feed the dipping is being rushed with all possible haste to give the sheepmen a chance to get off to the summer ranges.

## YUBA.

State Horticulturist Jeffrey is about to distribute several thousand



**BEST FOR ALL AXLES**

# MICA

## AXLE GREASE

You will make more trips, draw bigger loads, save undue wear on box and axle, and keep the hard-working horse in better shape by an occasional application of Mica Axle Grease. Nothing like it to take the painful, heavy, downward drag out of a big load. Ask the dealer for Mica Axle Grease.

**STANDARD OIL COMPANY (Incorporated)**

Washington navel orange buds to be used in budding the seedling trees at Marysville which were defoliated last December during the war on the white fly. The buds came from southern California.

Dr. H. J. Hammond, representing the Government as District Veterinary Inspector, will make Marysville his headquarters for a period of six weeks, during which time he expects to cover Yuba, Sutter, and Butte counties in enforcing the law requiring the dipping of sheep twice between March 15 and July 15. He says that each dipping must be witnessed by a regularly appointed deputy, and that the owner's dipping without the presence of an inspector will not count in the eyes of the law.

## NEVADA.

Sheep shearing has commenced at Carlin. It is estimated that between 75,000 and 80,000 sheep will be sheared, and the sheepmen report the wool is of extra good quality this season. George W. Calahan, one of the leading wool buyers in Nevada, says that the wool crop this year will be larger than ever before and that all sheepmen will receive a good price for their wool. He also states that the ranges are covered with feed and that he looks for a very prosperous year among sheep and cattle men in all parts of Nevada. According to Mr. Calahan, there are now a million head of sheep in the State.

## AMERICAN NEWSPAPER ANNUAL.

There is no end of information about newspapers in the American Newspaper Annual (published by N. W. Ayer & Son, Philadelphia, \$5 net), the 1902 edition of which is just out. Catalogued in simple tabulated form are the facts one needs in dealing with newspapers, with particular attention to circulations, which are all given in plain figures.

There are supplementary lists of daily newspapers, magazines and class publications. A colored map of each State is bound in the book. It also contains the Advertiser's Telegraph Code, compiled especially for the use of the publishing interests and filling a long-felt want in this direction.

## More Pork

Nature has provided the hog with great digestive capacity. It reaches full development and fit market condition in a few months' time. This fact, however, makes the hog an easy prey to indigestion or disease. When we consider the great increase in bulk and weight (often several hundred pounds) made in a season's feeding, we see the necessity for maintaining the digestive functions of the animal in a normal and healthy condition. Dr. Hess Stock Food, given in small portions twice a day in the regular feed, provides the necessary preventive of disease and the proper aid to a regular and increasing power of digestion.

## DR HESS STOCK FOOD

increases appetite in all domestic animals. Steers and cows eat more coarse fodder with the grain ration and digest the largest possible proportion of it, the manure showing by analysis a much lower per cent. of lost nutriment than that of animals differently fed. Dr. Hess Stock Food is the prescription of Dr. Hess (M.D., D.V.S.) and contains iron for the blood and nitrates to cleanse the system. Professors Quitman, Winslow and Finley Dun, our ablest medical writers, recommend these ingredients for producing the results claimed. Makes cows give more milk and steers lay on fat. Gives good condition to everything that eats it. Sold everywhere on a written guarantee.

100 lbs. \$7.00; 25 lbs. \$2.00

Smaller quantities at a slight advance.

Where Dr. Hess Stock Food differs in particular is in the dose—it's small and fed but twice a day, which proves it has the most digestive strength to the pound. Our government recognizes Dr. Hess Stock Food as a medicinal compound, and this paper is back of the guarantee.

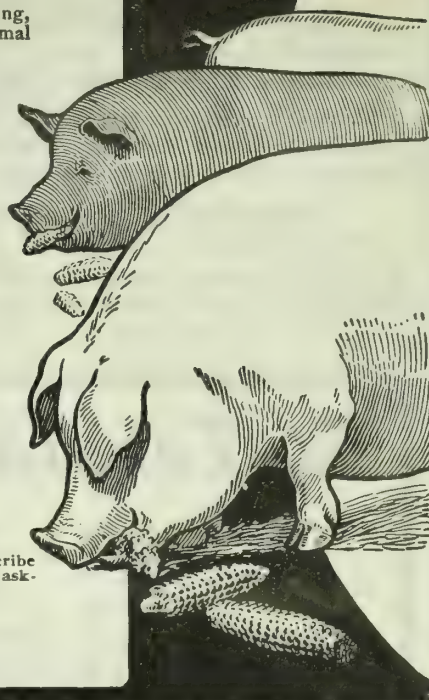
FREE from the 1st to the 10th of each month—Dr. Hess (M.D., D. V. S.) will prescribe for your ailing animals. You can have his 96-page Veterinary Book any time for the asking. Mention this paper.

DR. HESS & CLARK, Ashland, Ohio.

Also Manufacturers of Dr. Hess Poultry Pan-a-c-e-a and Instant Louse Killer.

INSTANT LOUSE KILLER KILLS LICE.

THE PETALUMA INCUBATOR COMPANY, Petaluma, Cal. Pacific Coast Distributors.



## VACCINES FOR LIVE STOCK.

Mr. Harold Sorby, who was for so many years the manager of the Pasteur Vaccine Co. of Chicago, has now personally been appointed agent in America for the sale of the well-known Pasteur's Anthrax Vaccine, which is made by the Pasteur Vaccine Laboratories in Paris, France. The tubes of vaccine, freshly prepared and imported this year, are dark yellow or amber, and it is well to specify "Sorby," so as to get fresh and reliable material. Serwe & Prien Co. of San Francisco, Los Angeles, and Seattle, are acting as Mr. Sorby's agents on the Coast.

Mr. Sorby is agent in the Eastern States for the Black Leg Vaccine made by our neighbors, the Cutter Laboratory of Berkeley, Cal., who have been well known to the stock-raisers on the Coast since 1899. A new article that Harold Sorby is introducing in the Middle Western States is Hog Cholera Vaccine, prepared by Italian scientists, that has been apparently used with considerable success in Europe and is creating a great deal of interest in those sections of this country where hog cholera is so very troublesome. We call attention to Mr. Sorby's advertisement in another column.

The Sorby Vaccine Co. has been incorporated to handle these vaccines and is located in convenient and capacious quarters at 161 Randolph St., Chicago.

LOOMINSTER, MASS., March 3, 1902.

Tuttle's Elixir Co., Boston, Mass.—Dear Sirs: I met with a severe accident on a fearful slippery night by slipping and striking on my knee. It was the worst looking one I have ever seen and the pain was fierce. A friend of mine came in and looked me over. He said: "I'll go and get you a bottle of Tuttle's Elixir and you use it as I tell you, and if it does not help you, I will pay for the bottle." I have done so, and I have never seen anything like it. I am walking around today and am a living advertising agent for Tuttle's Elixir.

I know of nothing that can compare with it. The Elixir beats everything. Yours respectfully, Z. S. PHELPS.

## Red Gum and Sugar Gum

for April and May.

\$2.25 ..... per 100  
\$10 ..... per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

HENRY SHAW,

320 River St.

Santa Cruz, Cal.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## WANTED

A foreman or superintendent to take charge of large place in San Mateo County. Must have knowledge of general farming and table fruits, some experience in carpenter and plumbing work and a general knowledge of electricity. Wages \$90 per month and found. Address with references,

"OWNER"

421 Merchants Exchange Building  
San Francisco.

"THE OLD RELIABLE"

## DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

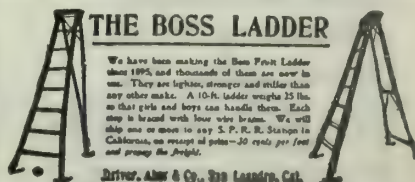
Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.



**THE BOSS LADDER**

We have been making the Boss Ladder since 1895, and thousands of them are now in use. They are lighter, stronger and stiffer than any other make. A 10-ft. ladder weighs 15 lbs. as that girls and boys can handle them. Each step is braced with four wire bracing. We will ship you or more in 1902 S. F. R. R. Station in California, on receipt of \$10.00 cash per foot and prepaid freight.

Driver, Almer & Co., San Leandro, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.



# Wasn't Your Neighbor Foolish?

Didn't he make a chump of himself? Wasn't it about the most senseless thing he ever did when he bought that "cheap" cream separator from a "mail order" concern that never manufactured a separator of any kind, and switches from year to year to the separator that can be bought the cheapest? Where is your neighbor going to get repairs? Why, he doesn't even know who built his separator, and the most important thing for a man to know when he buys a "cheap" separator is where to buy repairs every week.

There stands your neighbor's separator, down and out; broken; only used a few weeks; money wasted. Perhaps he could repair it if he knew where to get repairs, but he doesn't know. The fact is, there is no place to get them; his separator was one of a job lot sold "cheap" by a manufacturer who knew it was no good, and who unloaded his stock on a catalog house for what he could get. Now he's out of business.

## The Tubular Cream Separator



**"Different from the Others"**

Easy to oil  
Easy to turn  
Easy to clean  
Low supply can  
No dirty oil cups  
No bothersome discs  
  
**Simple, durable, convenient, handsome and profitable.**

Why didn't your neighbor do as you are going to do? Why didn't he buy a **Tubular Cream Separator**, built and guaranteed by the largest cream separator factory in the world and the oldest in America. For twenty-eight years we have been building cream separators at West Chester, Pa., and TUBULAR separators are used in every dairy district of the world.

### Tubular Has No Rival

ZIMMERMAN, MINN.  
Tubular shows no wear after three years and has never given me any trouble and from present appearances is good for a lifetime. One of my neighbors bought a — — — about a month before I bought mine, and it went to the scrap pile months ago. For skimming the Tubular has no rival in my opinion. JOHN M. COOK.

### No Wonder They Are Pleased

#### Didn't Like Mail Order Separator

SOUTH SCHROON, N. Y.  
The Tubular gives us perfect satisfaction. The longer we use it the better we like it. We bought one of the improved — — — of — — — of Chicago, last spring, but we didn't like it a little bit. It was hard to run, hard to wash and hard to keep clean, while the Tubular is easy to run, easy to wash and easy to clean. L. W. WHITNEY.

#### Discarded Mail Order Separator

ROBERTSON, PENNA.  
After using a mail order cream separator for six months I decided to discard that machine and purchase a No. 4 Tubular Separator. The mail order separator would separate only 275 pounds of milk per hour, and did not give a thorough separation. I can skim two buckets of milk in 4 minutes. The mail order separator required ten minutes. I am more than pleased with the purchase I made from your people. WM. F. BUCKS

## THE SHARPLES SEPARATOR COMPANY,

West Chester, Penna.

Chicago, Ill.

San Francisco, Cal.

Toronto, Can.

## The Dairy.

### What a Grade Cow is Doing.

Mr. Frank Hewitt of Ceres, Stanislaus county, who has a dairy near Hughson, gives the Pacific Dairy Review an account of one of his cows which is very interesting:

I have a cow which has just completed a year's record (12 months) which I think is very good—in fact, hard to beat. It is absolutely correct as to figures. The Ceres Creamery Company received her product for the 12 months, weighing and testing it every day, and they can verify the figures given.

The average price for butter fat received by dairymen for the last year has been high, as you know, which makes the money earned by this cow seem almost incredible. Now I do not believe we can always expect such prices, which behooves us as dairymen to cull out the boarders and increase the standard of our herds. This particular cow I bought with nine others. The owner did not know her worth and I did not discover it for two years. She is a grade Jersey; her breeding is obscure, although she is finely bred and would score high in points as a dairy cow. She favors the Jersey in color, but has the size of a Holstein or Durham. The first three months she received a liberal feed of mill feed and rolled corn to supplement her alfalfa feed, then for the next seven months she had nothing but alfalfa, green and in hay. Then the last two months the pasture failing, I gave her bran and grain again. She was not put to her limit. I am sure of that, owing to varying feed conditions. She was never curried or blanketed. Her name is Jewel, and this is her record:

	Lbs. butter fat.	Average price.	Amount made.
1907.			
March.....	60.04	.37	\$22.21
April.....	55.45	.27½	15.25
May.....	66.62	.26½	14.44
June.....	54.87	.28½	15.64
July.....	57.87	.30	17.36
August.....	53.45	.34	18.17
September.....	48.52	.35	16.98
October.....	48.39	.38	18.39
November.....	41.50	.35½	14.73
December.....	36.74	.38	13.96
Jan'y, 1908.....	31.11	.37	11.61
February.....	32.32	.33½	10.77
Total.....	576.88		\$189.41

Adding 15% as minimum for over churn, her product is equivalent to 678.68 lbs. butter, making in money an average of \$15.78 per month.

### Treatment of Alfalfa Bloat.

Many newcomers to the great valley of California will be feeding alfalfa for the first time this year, and should be forewarned of dangerous conditions which may arise and have to deal with them. The Denver Field and Farm has this account:

When first turning cattle or sheep onto alfalfa pasture in the spring, especially if they have pastured on it before and have an appetite formed, it is always safest to fill them up pretty well on some grass or hay. When they are once there keep them on it day and night. More bloat is caused by bringing stock to the corral in the evening and keeping them there till late the next morning than any other way. They go out hungry, gorge themselves, then go and drink a lot of water with annoying, if not fatal, results. Every cattleman should have a trocar while pasturing alfalfa, but should never use it unless absolutely necessary.

Many remedies have been advocated, but coal oil is probably the most effective and prompt of action. Keep a can of it and a drenching bottle—a heavy long-necked beer bottle—with the trocar and also a smooth stick one and one half foot long and about two inches in diameter with a small rope attached to one end of it. When a case of bloat occurs, bring

### Eureka Lemon Valencia and Navel Oranges Eucalyptus Trees

Globulus, Rostrata,  
Rudis, and Tereticoenis

### Phoenix Canariensis, Chamaerops Excelsa Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,**  
Covina, Cal.

### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

### SORBY VACCINE CO. (Inc.)

(General Agents U. S. A.)  
161 Randolph Street, Chicago.

### SERWE & PRIEN

(Distributors for Pacific Coast.)  
San Francisco. Los Angeles. Seattle.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded  
Patent Continuous  
404 Equitable Savings Bnk. Bldg.  
Los Angeles  
Olympia, Washington  
Made from California Redwood  
or  
Selected Puget Sound Yellow Fir.  
318 Market St., San Francisco  
Dooly Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.



the cow to the corral or stable and give a half teacup full of coal oil with the same amount of water, if handy; but if not, and the case is a bad one, give it straight, as it will do no harm. A cow is easily drenched. Standing at the right of her neck, with the left hand grasp the nostrils and, elevating the head slightly, insert the bottle into the mouth with the right hand and empty it, as the animal can swallow readily.

Place the smooth stick in her mouth and secure it by looping the rope about the horns, then tying it to the other end of the stick. Ordinarily the gas will be belched up and the animal entirely relieved in a few minutes. If not, repeat in half an hour. Should it fail to give relief, and the animal staggers and seems like falling, use the trocar at once. The proper place to apply it is in front of and a little below the left hip, and is not easily mistaken. At this point there is very little flesh and the paunch is attached to the skin, and in a severe case of bloot it will stand up quite prominently.

If it is a simple case of gas in the paunch, it will escape very rapidly through the canula, which should not be withdrawn until the normal condition is reached, which will only be a few minutes. If the gas escapes slowly, and the canula keeps clogging with the contents of the paunch, it is a case of impaction. If no veterinarian is in reach, make an incision large enough to admit the hand and take out the contents of the paunch—not a hatful or two, but a few tubfuls; then take a few stitches in the paunch and also in the skin, using an antiseptic wash and also internal treatment to keep down inflammation. If done at once, the cow has a chance. If neglected until fever sets in, she has none.

## Patrons of Husbandry.

### Tulare Grange.

To the Editor: Tulare Grange met in regular session on the 18th inst. A class of two received the first and second degrees. The secretary read a communication from Dinuba Grange. Saturday, May 2, has been selected for Grange picnic day, to be held on the Dinuba grammar school grounds. Dinuba Grange will meet Tulare Grange, and friends with them, at North Dinuba on the Santa Fe, with conveyances to take them to the picnic grounds. It is to be a basket picnic. The Santa Fe, if 60 go, gives the round trip for a single trip fare. Tulare Grange invites all farmer friends to go with them and enjoy a pleasant outing day at Dinuba with the Grangers.

On behalf of the memorial committee, resolutions on the death of Bro. P. P. Styles, read by Sister Bertha I. Morris, were ordered copied in the journal of our proceedings and a copy sent to the family of our deceased brother. The charter will be draped.

Brother Henry Hunsaker read a thoughtful paper on "How Best Can We Market Our Agricultural Products?" the subject of the day. After reading the paper, its substance was discussed by the Grange. It is the belief of the members of the Grange that by co-operation of all producers, careful preparation and packing of products and systematic marketing, the best results will be had. Co-operation of marketing must be co-operation of all producers. The best results cannot be had by co-operation of a majority; it should be absolutely all co-operating. The pro-

ducer should have some part in determining the price he will receive for his products; he rarely has. Without co-operation, marketing of products is competition of producers and this depresses and demoralizes prices. The purchasers combine to pay only small prices and the producer's necessity compels him to take the price the buyers have agreed among themselves to pay. Self protection should induce all producers to co-operate in prices for their products. Lack of co-operation in selling has led to ruinous prices in Kentucky, to outlawry as an offset, and to destruction of property. Such acts as have been committed by the night riders of Kentucky should be suppressed by a firm hand, and yet conditions of the producers and ruinous competitive marketing are mitigating circumstances, to which every fair-minded man will give the consideration they deserve. Producers should combine to get a fair price for their products, based on the cost of production, and it should be incumbent on buyers to pay such price to the producer. The purchaser who schemes to buy products below the fair cost of production deserves no sympathy when the outlaw, in a night raid, destroys it. Society has claims on producer and purchaser alike which should for society's sake be enforced.

A letter from Mr. Green of the Monterey Tree Growing Club was received and ordered on file. It was agreed that the Grange committee heretofore appointed should be continued, and that a further effort, in conjunction with the Tulare Board of Trade, should be made to organize and promote Tree Growing Clubs in this county.

A committee appointed at the last meeting of the Grange reported resolutions strongly advocating the Parcels Post law, proposed by Congress and declaring the action of Hon. S. C. Smith, representative from this district in Congress, in opposing it, is not representative of the interests and desires of the farmers in his district. At the last meeting of the Grange copies of Mr. Smith's address in opposition to the bill were distributed. An impartial consideration of that speech leads to the conclusion that it lacks fair reasoning on the merits of the bill, while his reference to building a shoe factory, milking cows, and making butter by the Government is levity, not argument. The proposed Parcels Post law contemplates no more than most other governments do for their citizens, which Mr. Smith's address clearly shows, and not as much. Surely this Government should do for its citizens, if they ask it, as much as the speech shows other Governments do for their people.

The efforts now being made by the boards of trade of the county to promote the construction and maintenance of better roads was brought up. The Grange has for years advocated a systematic construction and maintenance of roads, in which the Nation, the State, and the county should join. There is now before Congress a bill for national aid and supervision of roads, prepared and advocated by the National Grange. We ask the State and county boards of trade to assist us in getting that bill passed, and we ask our representatives in Congress to give it their support.

J. T.

Tulare.

# THE BEST CREAM SEPARATOR

## AND THE DIFFERENCE IN CREAM SEPARATOR ADVERTISING

All separator advertisements seem very much alike to the average reader, who is at a loss what to make of them and how best to attempt guessing which may be the best machine, where all claim to be the best and all appear to be about everything that could be asked for.

THE EXPLANATION AND THE SOLUTION ARE TO BE FOUND IN THE DIFFERENCE BETWEEN DE LAVAL AND OTHER CREAM SEPARATOR ADVERTISING.

The De Laval Company has always stuck to the old fashioned plan of having its advertising written in its own offices, by the men who make and sell its machines and have been doing so for years, and who know no more about advertising than to describe as simply and best they can the merit and efficiency of the machines they offer to the public.

Practically every other separator concern of any consequence has its advertising composed and in great part "invented" by professional agencies and hired advertising writers, located in the big cities, who could not themselves tell the difference in looks between a cream separator and a corn sheller, and who take up the advertising of everything that comes to them, from needles to automobile, for anybody able to pay for their services, just as does the lawyer for any client who comes along, whether the case is good or bad and the client right or wrong.

It is up to these professional composers of prose, poetry, fiction and romance in an advertising way, and the professional artists who work with them in illustrating their productions and putting them into showy and attractive shape, with their wide knowledge of what "takes" with the public generally, to claim the utmost their prolific brains can evolve for the separators they are retained to advertise.

What these professionalists all do know, or are at any rate first told, of cream separators is that the DE LAVAL machines and the advertising descriptive of the DE LAVAL machines are the ESTABLISHED STANDARDS by which their advertising productions must be measured, and MUST ENLARGE upon in some way, or else they will stand little show of drawing any business for their patrons.

As a result, the biggest advertising claims are frequently made for the poorest and trashiest separators. The biggest advertising done and the biggest claims made are by jobbing and "mail order" concerns who don't even make their own separators at all, but simply buy them where they can buy them cheapest, and who are almost invariably selling a machine which has already proved a business failure once or twice before under a different name and a different coat of paint.

When the DE LAVAL claim was justly made of saving \$10 per cow every year for its users one of the poorest and cheapest separators ever produced put out a claim of saving \$15 in the same way, and since then another has come along and made it \$20. The next may as likely make it \$25.

BUT IT IS THE MACHINE AND NOT THE ADVERTISING THAT SKIMS MILK POORLY OR PERFECTLY AND LASTS TWO YEARS OR TWENTY YEARS AFTER THE BUYER HAS PUT HIS MONEY INTO IT, AND THAT IS THE DIFFERENCE BETWEEN THE DE LAVAL AND OTHER CREAM SEPARATORS, SMALL AS THE DIFFERENCE MAY SEEM IN THE ADVERTISING CLAIMS MADE.

The 1908 DE LAVAL catalogue—to be had for the asking—is an educational text-book of separator facts of interest to all who read and think for themselves.

## De Laval Dairy Supply Co.

108 So. Los Angeles St.  
LOS ANGELES

42 E. Madison Street  
CHICAGO

165-167 Broadway  
NEW YORK

General Offices:

101 DRUMM STREET

SAN FRANCISCO

107 First Street  
PORTLAND, OREG.

1016 Western Avenue  
SEATTLE

Box 1052  
VANCOUVER, B. C.



## THE MARKETS.

San Francisco, April 29, 1908.

## WHEAT.

Since the slight activity of last week, there has been practically no movement of futures, and very little speculative interest appears. Future prices remain about as last quoted. Still more strength has developed in regard to the cash grain. For the last few days the market has been quite active on some grades, and prices show a tendency to rise. Requirements for milling purposes are not large at present, but the buyers show considerable interest. While cash prices are quoted as before, there is a tendency to higher values for the medium grades. Most holders are very firm in their ideas and no concessions are made.

California White Australian..	1.70 @
California Club.....	1.62½ @ 1.65
California Milling.....	1.65 @
California lower grades.....	1.35 @ 1.60
Northern Club.....	1.62½ @ 1.65
Northern Bluestem.....	1.67½ @ 1.70
Northern Red.....	1.60 @
Turkey Red.....	1.65 @ 1.70

## BARLEY.

Barley futures continue to show great activity, with a steady rise in prices on account of the dry weather. The cash grain shows very little change, quotations on feed grades being slightly lower. Chevalier and shipping grades continue nominal, and there is no movement of brewing in this market, though considerable quantities are being shipped east from the interior. Feed barley here is fairly active, and holders are making an effort to advance prices, though so far heavy arrivals from the north have prevented a rise. The highest that is paid at present is \$1.40, the general run of sales being at about 1.37½.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.37½ @ 1.40
Common to Fair.....	1.32½ @ 1.35
Shipping.....	Nominal

## OATS.

Trading in oats continues very light, though a great deal of inquiry is reported, and it is evident that many buyers are looking for stock. Arrivals, however, are very small, and all supplies on this market are held so closely and for such stiff prices that there is little movement. Occasionally small lots are sold at about quoted prices, which have not changed for some time. With the market almost bare, the outlook is for continued firmness on oats.

Choice Red, per ctl.....	\$1.55 @ 1.57½
Ordinary Red.....	1.47½ @ 1.52½
Gray.....	Nominal
White.....	1.50 @ 1.65

## CORN.

No large lines of corn are arriving from any quarter, and receipts are very irregular. The demand is comparatively light, with no movement of any consequence, but the market shows more firmness than before. All grades, both California and Western, are higher, showing an advance of about 5 cents.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.75 @
White.....	Nominal
Western State sacked Yellow.....	1.75 @
White, in bulk.....	1.67 @
Mixed, in bulk.....	1.65 @
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

This grain is featureless as usual, with no change in prices. Stocks in this market are light, and little is coming in. As there is no large demand for rye, sales are small, and quotations are practically nominal.

California.....	\$1.47½ @ 1.50
-----------------	----------------

## BEANS.

All varieties of beans show considerable firmness, and some lines are in strong demand, though there has been no advance in prices. With stocks lighter than they have ever been at this time of year, there is still a good deal of activity, both for the local trade and for shipment east. The shipping demand has been largely for small whites, and the firmness is most

pronounced on this line. Limas are rather quiet, as dealers are waiting for more conclusive reports on the crop, but in the absence of rain prices are well sustained.

Bayos, per ctl.....	\$3.00 @ 3.10
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @
Cranberry Beans.....	3.00 @
Garvanzos.....	3.75 @ 4.00
Horse Beans.....	2.25 @ 2.75
Small White.....	3.40 @ 3.60
Large White.....	3.60 @ 3.75
Limas.....	4.50 @ 4.70
Pea.....	3.75 @ 4.00
Pink.....	3.00 @ 3.10
Red.....	3.50 @ 4.00
Red Kidneys.....	2.75 @ 3.25

## SEEDS.

The seed market is quiet compared with a few weeks ago, as planting has stopped in most sections. Alfalfa is still nominal, with stocks about cleaned up. Other descriptions are in small demand, but the prices are steadily held.

Alfalfa.....	Nominal
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3 @ 3½c
Canary.....	4 @
Flaxseed.....	3 @
Hemp.....	4½ @ 4½c
Millet.....	2½ @ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

A good deal of northern flour is being shipped to this market, and it is reported that local millmen are further limiting their output. Business is very dull here on all lines, but so far there has been no weakening of prices. It is hoped that some benefit may result from the reduction of freight rates by the northern Oriental lines.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

Although the arrivals of hay for the past six days show a dropping off of about one-third from the shipments of last week, there has also been a dropping off in the buying, and the situation is decidedly weaker. This seems to be largely due to the recent showers, which have caused consumers to drop back into their old habit of buying from hand to mouth only. As a matter of fact, the showers, while doing considerable good, do not solve the situation, and it is not unlikely that there will be a renewal of the active buying before long. Holders of good hay are not disposed to let go of their holdings at anything less than the present prices, and the situation seems to justify them in holding for good figures. A car of new alfalfa, oat, and clover hay made its appearance this week, selling for \$10.

Choice Wheat, per ton.....	\$16.50 @ 18.00
Other Grades Wheat.....	11.50 @ 16.00
Wheat and Oat.....	12.00 @ 16.00
Tame Oat.....	11.00 @ 16.00
Wild Oat.....	10.00 @ 14.00
Alfalfa.....	9.00 @ 10.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 90c

## MILLSTUFFS.

Arrivals of bran, shorts, and middlings are still irregular, with no large lots coming in. Stocks on this market are light, and supplies are very hard to get, here or elsewhere. Under a brisk demand, bran and shorts have again been advanced 50 cents a ton, and even at that the market is kept bare. Rolled barley is unchanged but sales of corn meal and cracked corn have been made at an advanced figure. Miscellaneous lines are steady at former prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing.....	23.00 @
Bran, ton.....	31.00 @ 32.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @
Jobbing.....	28.00 @
Corn Meal.....	34.00 @ 35.00
Cracked Corn.....	35.00 @ 36.00
Mealalfa.....	22.00 @
Jobbing.....	23.00 @
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Roller Barley.....	29.00 @ 30.00
Shorts.....	31.50 @ 33.50

## VEGETABLES.

Australian onions are still held for stiff prices. Bermudas are now plentiful and lower. New reds have been arriving from the valley for several days, the first lots selling up to 4 cents a pound, though they are now weaker. The dry weather has caused a shortage of asparagus, and prices are higher than last week, though they are easing off again. Rhubarb is considerably lower, and the general run of green peas are lower, though choice lots bring an advance. A few string beans are held firmly. Small shipments of egg plant and summer squash from the south bring high prices.

Garlic, per lb.....	20 @ 25 c
Green Peas, sack.....	1.25 @ 2.00
String beans, lb.....	12½ @ 17 c
Cabbage, per ctl.....	35 @ 50 c
Onions—	
Australian, per ctl.....	5.00 @ 5.50
Bermudas, per crate.....	1.90 @ 2.15
New Green, box.....	50 @ 65 c
New Red, lb.....	2½ @ 3 c
Tomatoes, crate.....	1.50 @ 2.00
Carrots, sack.....	75 @
Celery, crate.....	1.00 @ 1.50
Rhubarb, box.....	75 @ 1.25
Asparagus, extra, lb.....	6 @ 7 c
Asparagus, No. 1.....	5 @ 5½c
Asparagus, No. 2, lb.....	3 @ 4 c
Green Peppers, lb.....	20 @ 25 c

## POULTRY.

Poultry shows a further general decline this week, everything in the chicken line being lower except small hens and roosters. Three cars of Western stock, consisting entirely of large hens, arrived at the beginning of the week, causing a drop of about \$1 a dozen on choice fowls. Supplies of California stock are mostly limited to what was carried over from last week. The market is rather quiet, small goods being inclined to drag while the largest stock is only in fair demand. Conditions are favorable for large young roosters.

Broilers.....	\$4.00 @ 5.00
Small Broilers.....	2.50 @ 3.50
Ducks.....	4.00 @ 7.00
Fryers.....	7.00 @ 8.00
Geese.....	2.00 @
Goslings.....	2.50 @ 3.00
Hens, extra.....	7.00 @ 9.00
Hens, per doz.....	5.50 @ 6.50
Small Hens.....	4.50 @ 5.50
Old Roosters.....	4.00 @ 4.50
Young Roosters.....	7.50 @ 10.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50

## BUTTER.

In spite of persistent efforts on the part of storage speculators to bring down the market, butter continues comparatively firm, with a good demand for shipment, and a decline of only 1 cent from last quotations. In spite of this, there is an increasing quantity going into storage. Many receivers are storing in preference to shipping, in anticipation of a large local demand next month. Receipts are large, but the storage and shipping demand keeps them well cleaned up. Firsts are moving well for local consumption, at ½ cent below extras.

Cal. (extras) per lb.....	22 c
Firsts.....	21½c
Seconds.....	21 c
Thirds.....	—
Fresh Packing Stock, No. 1.....	19½c
Fresh Packing Stock, No. 2.....	18½c

## EGGS.

The Sonoma County Poultry Association has started a store in San Francisco, and is advertising eggs at 20 cents. Exchange prices are slightly lower than last week, but extras are quoted steady at 21 cents. In view of the situation, however, the market is in an unsettled condition. Lower prices are looked for, as it is said that large shipments of eastern stock will be received during the presence of the fleet.

California (extra) per doz.....	21 c
Firsts.....	19 c
Seconds.....	17 c
Thirds.....	16 c
Dirties, No. 1.....	19 c

## CHEESE.

Cheese is steady this week, with prices on all descriptions exactly as quoted before. The market is fairly active, with supplies about equal to the demand.

Fancy California Flats, per lb...	12 c
Firsts.....	11½c
New Young Americas, Fancy....	13½c
Storage, do.....	—
Eastern, New.....	Nominal

LILLY'S BEST

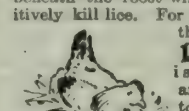
MEANS

## Comfort for Stock



**FLY KILLER**  
applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A coat of

**LICE KILLER**  
applied to roost or board beneath the roost will positively kill lice. For some



thing in the powder form **INSECT POWDER** is sure death to all vermin and is positively harmless to chicks.

These remedies are Sold by Dealers

Manufactured by

THE CHAS. H. LILLY CO.

SEATTLE and PORTLAND

Eastern, Storage.....	16½c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c

## POTATOES.

There is a good deal of inferior stock on the market, which is offered at low prices. Choice lots, however, are in good demand, both Oregon and river stock bringing somewhat higher prices. Sweet potatoes are also higher.

Oregon Burbanks.....	85 @ 1.05
Lompoc Burbanks.....	1.00 @ 1.10
Burbanks, River, bag.....	50 @ 1.00
Sweet Potatoes, per ctl.....	2.50 @ 3.00
New Potatoes, lb.....	2 @ 3

## FRESH FRUITS.

Cherries have been on the market all week. The first lots brought \$2.50 a drawer and over, but some are now offering as low as \$1.25. Plentiful supplies are expected next week. Strawberries from Bay points sell off well, but southern stock is weak.

Cherries, drawer.....	1.25 @ 2.00
Apples, fancy.....	1.25 @ 1.75
Apples, common to choice...	60 @ 1.00
Strawberries—	
Longworths, chest.....	12.00 @ 15.00
Cheneys, chest.....	10.00 @ 12.00
Large varieties, chest.....	8.00 @ 10.00
Los Angeles, crate.....	50 @ 1.00

## CITRUS FRUITS.

Oranges are quiet, as the advance has cut off some of the demand. The first car of Valencias arrived a few days ago, and sold off readily at about \$3 a box. Grape fruit is higher. Lemons are unchanged in price but inactive, and Mexican limes are entirely cleaned up.

Choice Lemons.....	\$1.75 @ 2.00
Fancy Lemons.....	2.25 @ 2.50
Standard.....	1.00 @ 1.25
Limes.....	Nominal
Oranges—	
Navels.....	1.80 @ 2.75
Mediterranean sweets.....	1.50 @ 1.75
Tangerines.....	1.25 @ 1.75
Grape Fruit.....	3.25 @ 3.50

## DRIED FRUITS.

With reports of unfavorable crop conditions, considerable firmness has developed in prunes, with prices already ½ cent higher. Other fruits show scarcely any change, the movement showing little increase and prices remaining stationary. Raisins are still inclined to easiness.

Evaporated Apples.....	5 @ 7½c
Figs.....	2½ @ 3 c
Apricots, per lb.....	12 @ 15 c
Peaches.....	8 @ 9 c
Prunes, 4-size basis, 1907 crop..	3 @ 3½c
Pears.....	7½ @ 9½c

## RAISINS.

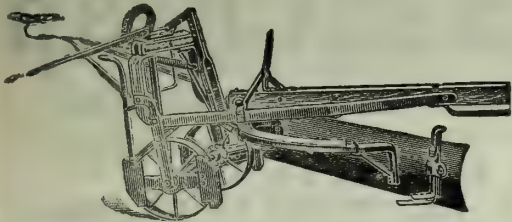
2 Crown.....	3½ @ 4 c
3 Crown.....	4 @ 4½c
4 Crown.....	4½ @ 4½c
Seeded, per lb.....	6 @ 6½c
Seedless Sultanias.....	4½ @ 4½c
London Layers, per box.....	\$1.10 @
London Layers, cluster.....	1.25 @

## NUTS.

There is no particular movement of nuts except in a jobbing way. The mar-



MAKE ROADS EASIER WITH ONE MAN GRADER



most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

THE BAKER MANUFACTURING CO.

DEPT. I. 706 FISHER BLDG. CHICAGO.

ket is about bare of walnuts, and almonds are in about the same position as before, with no change in prices.

Almonds, Nonpareils.....	13 1/2 @ 14 1/2 c
IX L.....	13 @ 14 c
Ne Plus Ultra.....	12 1/2 @ 13 c
Drakes.....	11 @ 11 1/2 c
Languedoc.....	10
Hardshell.....	7 @ 7 1/2 c
Walnuts, Softshell No. 1.....	13
Softshell, No. 2.....	10
Italian Chestnuts.....	10 @ 12 1/2 c

HONEY.

There is very little movement of honey at present, some grades being closely cleaned up. Prices remain stationary on all offerings.

Water White, Comb.....	16 @ 17 c
White.....	15 @
Water-white, extracted.....	8 @ 8 1/2 c
Light Amber, extracted.....	7 @ 7 1/2 c
Dark Amber and candied.....	5 1/2 @ 5 1/2 c

WOOL.

California wools are almost entirely neglected, both here and in the east. Prices show no improvement, and many of the growers are making no attempt to market their crops under present conditions.

Spring-clip, Humboldt, year's staple.....	20 @
Northern Humboldt and Mendocino.....	12 @ 14 c
San Joaquin.....	8 @ 11 c
Fall Clip, northern, free.....	7 @ 8 c
Southern Coast.....	7 @ 10 c
Nevada.....	9 @ 12 c

HOPS.

While there has been no improvement in values, the market seems to show more strength than before. There has been considerable reduction of the surplus stock and most holdings are now in strong hands.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 5 1/2 c
1908 (contracts).....	8 @ 10 c
3 to 5 year contracts.....	10 @ 11 c

MEAT.

Arrivals of sheep and lambs have been large all week, and material reductions have been made in mutton and lamb, as well as dressed beef and veal.

Beef: Steers, per lb.....	7 @ 7 1/2 c
Cows.....	6 @ 7 c
Heifers.....	6 @ 7 c
Veal: Large.....	5 1/2 @ 8 c
Small.....	8 @ 9 c
Mutton: Wethers.....	9 @ 10 c
Ewes.....	7 1/2 @ 8 c
Spring lamb.....	10 1/2 @ 11 1/2 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

LIVESTOCK

Steers, No. 1.....	8 1/2 @
No. 2.....	8 @
No. 3.....	7 @
Cows and Heifers, No. 1.....	7 @
No. 2.....	6 @ 6 1/2 c
Bulls and Stags.....	4 @ 4 1/2 c
Calves, Light.....	5 @
Medium.....	4 1/2 @
Heavy.....	3 1/2 @ 4 c
Sheep, Wethers.....	5 1/2 @
Ewes.....	5 @
Spring Lambs, lb.....	6 @
Hogs, 100 to 200 lbs.....	5 1/2 @ 6 c
200 to 300 lbs.....	4 1/2 @ 5 1/2 c
Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.	

Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do al-

BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

FARM DRAINAGE.—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

THE NEW RHUBARB CULTURE.—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

THE HOP.—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

MUSHROOMS; HOW TO GROW THEM.—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

ASPARAGUS.—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth.....\$0.50

THE NEW ONION CULTURE.—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and expert stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth.....\$0.50

THE POTATO.—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50

Druggists Recommend Caustic Balsam.

Please send us your pictures of "famous horses." We handle Gombault's Caustic Balsam and push it. We know it gives satisfaction.—Plagmann & Doane, Winfield, Kan.

School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying. 5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA. Open all Year. A. VAN DER NAILLEN, Pres't Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

BREEDERS' DIRECTORY

POULTRY.

BUFF ORPINGTONS.—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

SANTA TERESA POULTRY FARM for White Leghorns. Wm. HAUSAM, Eden Vale, Cal. Box 45.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE, POLAND-CHINA, DUROC HOGS. Choice, thoroughbred Poultry. William Niles & Co., Los Angeles, Cal. Established 1876.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls. Stock for Sale Dept. 31, 320 McAllister St., S. F.

HORSES AND CATTLE.

JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal., Breeders and Exporters. Established 1876.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E.S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.

BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

NOW READY

THE BOOK OF

ALFALFA

History, Cultivation and Merits. Its Uses as a Forage and Fertilizer. By F. D. COBURN, Secretary Kansas Department of Agriculture.

The appearance of F. D. Coburn's little book on Alfalfa, a few years since, has been a complete revelation to thousands of farmers throughout the country and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is, by far, the most authoritative, complete and valuable work on this forage crop ever published.

One of the most important movements which has occurred in American agriculture is the general introduction of alfalfa as a hay and pasture crop. While formerly it was considered that alfalfa could be grown profitably only in the irrigation sections of the country, the acreage devoted to this crop is rapidly increasing everywhere. Recent experiments have shown that alfalfa has a much wider usefulness than has hitherto been supposed, and good crops are now grown in almost every state. No forage plant has ever been introduced and successfully cultivated in the United States possessed of the general excellence of alfalfa.

The plant although known in the Old World hundreds of years before Christ, was introduced into North America only during the last century, yet it is probably receiving more attention than any other crop. When once well established it continues to produce good crops for an almost indefinite number of years. The author thoroughly believes in alfalfa, he believes in it for the big farmer as a profit bringer in the form of hay, or condensed into beef, pork, mutton, or products of the cow; but he has a still more abiding faith in it as a mainstay of the small farmer, for feed for all his live stock and for maintaining the fertility of the soil.

The treatment of the whole subject is in the author's usual clear and admirable style, as will be seen from the following condensed table of contents:

History, Description, Varieties and Habits, Universality of Alfalfa, Yields, and Comparisons with Other Crops, Seed and Seed Selection, Soil and Bedding, Cultivation, Harvesting, Storing, Pasturing and Soiling, Alfalfa as a Feed Stuff, Alfalfa in Beef-Making, Alfalfa and the Dairy, Alfalfa for Swine, Alfalfa for Horses and Mules, Alfalfa for Sheep-Raising, Alfalfa for Bees, Alfalfa for Poultry, Alfalfa for Food Preparation, Alfalfa for Town and City, Alfalfa for Crop Rotation, Nitro-Culture, Alfalfa as a Commercial Factor, The Enemies of Alfalfa, Difficulties and Discouragements, Alfalfa in the Orchard, Practical Experiences with Alfalfa. Illustrated. 6 1-2 x 9 inches. 336 pages. Cloth. Price \$2.00.

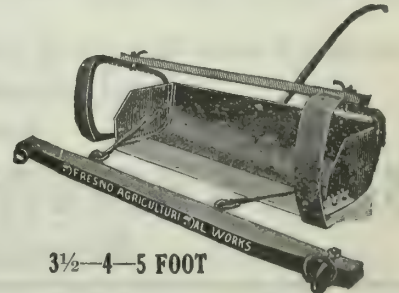
PACIFIC RURAL PRESS

INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	287
Beckman, Geo. V.....	287
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	287
Breeders' Directory.....	287
Covina Nurseries.....	284
Croley, George H.....	287
Cutter Laboratory, The.....	279
De Laval Dairy Supply Co.....	285
Deming Co., The.....	—
Dewey, Strong & Co.....	287
Dietz Company, R. E.....	283
Disbrow, F. H.....	283
Doak Gas Engine Co.....	288
Driver, Aber & Co.....	283
Driver, E. S.....	287
Fresno Agricultural Works.....	287
Galloway, A. J.....	283
German Kali Works.....	282
Hamlin School, The.....	280
Hausam, Wm.....	287
Hart, Ed.....	287
Hess & Clark, Dr.....	279, 283
Holcomb & Co.....	282
Howard Cattle Co.....	287
Hoyt's Tree Support Co.....	—
International Harvester Co.....	—
Jackson & Co., T. W.....	282
Junior Monarch Hay Press Co.....	288
Lawrence-Williams Co.....	278
Lilly Co., Chas. H.....	286
Lister, Henry B.....	284
Lynch, John.....	287
Meacham, Frank A.....	—
Mountain Copper Co.....	282
National Wood Pipe Co.....	284
Niles & Co., Wm.....	287
Oakland Poultry Yards.....	287
Oregon Nursery Co.....	282
Pacific Coast Business College.....	2-1
Pasteur's Anthrax Vaccine.....	284
Pear Blight Remedy Co.....	288
Roeding, Geo. C.....	287
San Francisco Sulphur Co.....	288
Santa Teresa Poultry Farm.....	287
Shaw, Henry.....	283
Sharples Separator Co.....	284
Shaw Co., H. C.....	288
Silva & Bergholdt Co.....	288
Simmons Hardware Co.....	278
Smith, Francis.....	282
Southern Pacific Railway.....	278, 288
Standard Oil Co.....	281, 283
Stowe, C. A.....	287
Sullivan, W.....	287
Teague, R. M.....	279
Temple Pump Co.....	—
Tower Co., A. J.....	282
Tuttle's Ellixir Co.....	278
Van Der Nailen, A.....	287
Vermont Farm Machine Co.....	279
Wagner, J. B.....	283
Waite, Thos.....	287
West Coast Cresol Dip.....	288
Woodin & Little.....	288

The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS FRESNO, CALIFORNIA.

PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco Established 1860.

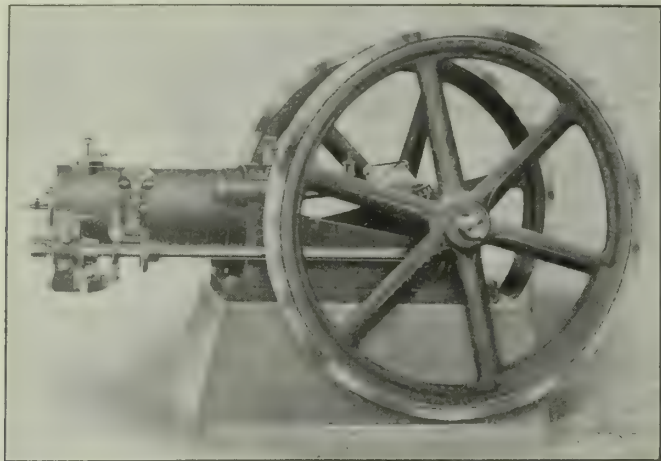
Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO Blake, Moffitt & Towne, Los Angeles Blake, McFall & Co., Portland, Oregon



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.

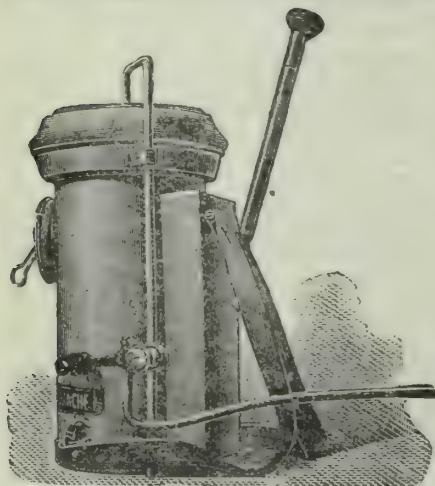


If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



## NOW READY

### THE VERMOREL TORPILLE KNAPSACK SULPHURING MACHINE

We could not supply the demand last season so would advise you to PLACE YOUR ORDERS NOW

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring easy work and saves sulphur. Recommended by users as the most effective sprayer used for the purpose.

SOLD BY

## THE H. C. SHAW CO.

Stockton, Cal.

General Agents for the United States.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

# Back East Cheap

Low rate summer excursion tickets sold to Eastern points on these dates:

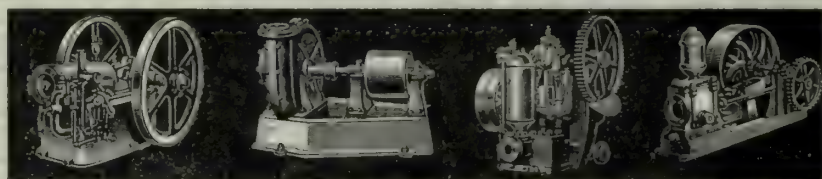
May 4, 5, 6, 7, 13, 14, 15.  
June 3, 9, 10, 11, 15, 16, 22 to 28, inc.  
July 6, 7, 8, 28, 29.  
August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	.	.	.	\$ 60.00
Council Bluffs	.	.	.	60.00
Kansas City	.	.	.	60.00
Chicago	.	.	.	72.50
St. Louis	.	.	.	67.50
New Orleans	.	.	.	67.50
Washington	.	.	.	107.50
Philadelphia	.	.	.	108.50
New York	.	.	.	108.50

In some instances rates are slightly lower on April sale dates. Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.



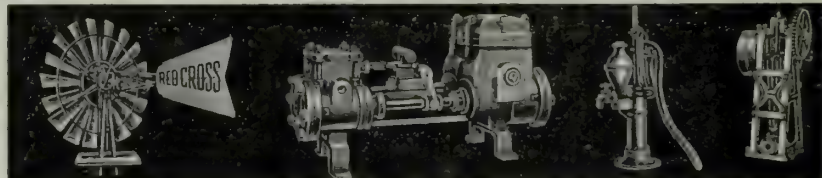
WOODIN & LITTLE, 70-72 FREMONT STREET, San Francisco, California

DEALERS IN PUMPS FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITEWASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.

WIND MILLS, TANKS, HORSE POWERS.

IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES 2 TO 50 HORSE POWER.

Send for Complete Catalogue—Mailed Free.



## Junior Monarch Hay Press Co.

SAN LEANDRO, CAL.

Make the Leading Hay Presses  
Guaranteed to excel all others

WRITE FOR CATALOGUE

## WEST COAST CRESOL DIP

Great caution must be used with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless. Permission of U. S. Dept. to use our dip for Sheep Scab in highest dilution ever allowed.

IF NOT SOLD BY YOUR DEALER, SEND TO US FOR TRIAL OFFER. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
Through to Alameda.

LOS ANGELES, CALIFORNIA.

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "S.S." Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine, Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4336.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 19.

SAN FRANCISCO, SATURDAY, MAY 9, 1908.

Thirty-eighth Year.

## EUCALYPTUS IN SOUTHERN CALIFORNIA.

The eucalyptus is about the liveliest thing in southern California at the present moment. During our recent visit we found people figuring on and projecting eucalyptus ventures almost as actively as they did a few years ago upon oil ventures, and their flights into the upper air in pursuit of railway ties and telegraph poles are about as rapid as their former descents into the bowels of the earth after barrels per minute. Naturally, therefore, the eucalyptus has followed in the wake of other plants that have been fertilized with high finance and irrigated with optimism, and some of the anticipations are wonderful to contemplate. One has to keep his head while strolling among eucalyptus propositions or these rapid growing trees may push him off the earth. Fortunately, there are, however, plenty of real good things about eucalyptus growing, and so much actual demonstration has been achieved during the half century since the genus was introduced from Australia that one who runs may read facts about the tree, but it must be claimed also that one who reads some of the deductions from these facts should run.

While in Riverside last week we had the pleasure of meeting again Mr. James Boyd, who, among the other good deeds of his long life, has continuously read the PACIFIC RURAL PRESS since the date of his first subscription in 1872. Mr. Boyd thought he was in at the birth of our journal, and we were sorry to disillusion him, but the youngster was two years old when he began his long term of support and encouragement. We would, however, like to know if there are others who can date their beginning with the RURAL beyond 1872, or shall we count Mr. Boyd the oldest living subscriber? But Mr. James Boyd did another good thing in 1872, and it has brought him into the height of fashion along the line we are discussing. He planted some eucalyptus seed in that year, and the accompanying picture demonstrates that he has something very interesting to show for it. Some time ago the Riverside Enterprise secured the plate which

we use on this page. It gives a fairly good snapshot of Mr. Boyd standing beside the survivor of the eucalyptus seedlings which he started in September, 1872. It is a blue gum and has stood in its present place in Mr. Boyd's garden in the older part of Riverside since the spring of 1873. It has never been trimmed, but grew just as it would, and it has had no special care. Unlike most of the blue gums in the valley, it has branched from near the ground. It is 18 feet 6 inches in circumference and over 100 feet high. It is probably the oldest blue gum in the valley and is certainly

lyptus is enough. The statement of Mr. L. Miehieux of Compton, Los Angeles county, published over his own signature, belong to that category: "I have 45 acres that I have owned and cut periodically for about 16 years. I have made a practice of cutting my grove about one-seventh each year. Last year I cut about 6½ acres of seven years' growth, from which I cut 1050 cords, selling the same at \$11 per cord on the land, or netting me \$8 per cord in the stump. I thus netted \$8400 on 6½ acres, or over \$186 per acre per annum. This winter past I cut 6¼ acres, selling 850

poles 24 feet long at \$3 each, or \$2550. I had about 520 cords of wood, which netted \$8 in the tree, or \$4160. I realized \$6710 for my seven years' growth on 6¼ acres, or about \$160 per acre per annum. The latter cutting was the third cutting from the stumps. I prune my trees when the sprouts are one year old, leaving from two to six shoots to each stump, according to the shape of the stump. I get enough wood from pruning to pay the expense of pruning. I have a neighbor who has an equally good grove, if handled as I handle mine, and they never prune, and only get about half the wood I do. I find those who cut every four or five years realize only about half the wood or earning per acre per annum that I get."

It must be remembered Mr. Miehieux's place is on the rich, low, moist lands of Los Angeles county, and to transplant either the trees or the figures to the dry desert or to dry upland slopes is

likely to result in misfits. Mr. Ellwood Cooper is another eucalyptus grower on good land on the coast of Santa Barbara county, where the trees continually refresh themselves with copious condensations from ocean fogs. Some figures which he recently published are also of interest: "I planted about 250,000 trees of the different varieties, in all probably about 30. The best result I had was a blue gum, 11 years old, 28 inches in diameter and 104 feet high. I have sold about \$4000 worth of wharf piles. I have a red gum two feet diameter, 60 feet high—that is, it carries its size and contains 2000 feet of lumber, which, finished, would have a value of about \$200."



Mr. James Boyd of Riverside and His Big Gum Tree.

the largest in Riverside, if not in southern California. At the time of planting there were few trees of this variety in southern California, or even in California. There were several others of different species planted at the same time, but this is the only one left of that planting. It is needless to say that Mr. Boyd places a high value on it. A prominent citizen of Riverside once said he would give \$1000 to have this tree growing on a certain location on his grounds, and our eucalyptus enthusiasts now have data for estimating the value of old eucalyptus trees at a thousand dollars each! This ought to be a godsend to them.

But we said last week, the truth about euca-



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
EDGAR RICKARD - - - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., May 5, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka.....	.29	33.54	42.95
Red Bluff.....	.32	19.34	23.55
Sacramento.....	T	11.83	19.24
Mt. Tamalpais.....	.27	23.42	21.97
San Francisco.....	T	16.58	21.49
San Jose.....	.14	10.13	21.42
Fresno.....	.56	7.57	9.10
Independence.....	T	5.29	8.94
San Luis Obispo.....	.20	18.04	19.79
Los Angeles.....	.24	11.71	15.24
San Diego.....	.16	8.54	9.68

## The Week.

We have knocked off another twelve hundred miles in the San Joaquin valley and southern California since our last issue, and have been impressed with the way in which these important districts are displaying and carrying themselves during this rather unfavorable rainfall year. It is true that the south half of the State (counting San Francisco and Stockton as points on the dividing line) has had the advantage of the north half in the receiving of spring showers, and by this help verdure is being maintained and some grain and grass is being rescued from loss to a measure of profit. In some cases we even saw some grain lodged, which is certainly a rare sight this year. Orchards and vineyards are being helped toward a better summer tilth than was thought likely a few weeks ago. On the whole, though the year will be trying in some respects, more will be realized than was expected, and the general aspect of the country and the heart of the people are cheering. As showers generally come later in the Sacramento valley and in the north half of the State than in the south, it is to be expected that some things may yet be helped out, although late spring showers are known to be, on the whole, a mixed blessing.

This week the central coast line of the State is giving itself almost wholly to fleeting joys. The naval display in Monterey bay and the on-shore festivities have been thoroughly appreciated and enjoyed. The unique idea of the Santa Cruz committee, to meet the fleet with barges of beauty and to carpet the waves with California poppy bloom, that the monster ships might plow their way through acres of the State Flower to their appointed anchorage, was a demonstration of California's distinctive conception and resources of welcome. As we write, on Tuesday, the great fleet is moving toward San Francisco bay, and entering the harbor on Wednesday will find the metropolis adorned most elaborately with good will tokens. All secular pursuits will be abandoned and ordinary haunts of men will be deserted while the populace covers mainland slopes and island summits. Counting in the thousands who are coming from the interior, probably not

less than half a million people will shout and sob their patriotic emotions as they gaze upon the majestic ships maneuvering upon the ample waters beneath them with the grace and accord of a swan flock. The sight of the fleet is the sight of a lifetime: the influence of its coming will endure for a generation.

The Fruit Growers' Convention at Riverside was a notable meeting, and it will exert a wide influence upon the advancement of our fruit growing industries, both directly and indirectly. It is true that the attendance was rather disappointing, especially as it manifested apparently a lack of interest among those who are pursuing fruit lines in the immediate district. To one who remembers clearly the eagerness of the pioneers of fruit growing in southern California, and how they thronged to assemblies and fruit fairs when their dollars were few and the means of transportation scant, it passes understanding how their successors and descendants can manifest so little interest in convocation, which is still a means of building up the interest and safeguarding it from conditions which will work injury. Of course there were numbers present who possessed the spirit of the pioneers, though they may have come rather recently upon the local scenes, and whose manifestation of zeal, enterprise and aspiration for better things in horticultural production and trade, was the surety of the future. Too much credit cannot be given to such pillars of the industry. Their work at the Riverside convention will shower benefits upon all, but it is deplorable that hundreds instead of scores did not directly participate in the effort. Those who did not attend may find some suggestive echoes of the meetings in our columns from week to week.

It is pleasant to note that the higher-ups at Washington have swung around to a better appreciation of our David. We advised them some time ago that they did not know him. It is rather humiliating, however, to think that American administrative officers have to be educated in the value of an American by a foreign potentate. It is telegraphed from Washington the reinstatement of David Lubin to his place in the International Institute of Agriculture was due largely to the action of the Italian Government. The latter, through its ambassador, Baron Mayer des Planches, intimated that Mr. Lubin was highly esteemed at Rome, and that his assistance was required to make the Institute a success. All the members of the delegation called on Secretary Root and made a plea for Lubin. Then a long telegram was received from Governor Gillett setting forth Mr. Lubin's high standing in the mercantile community of California and expressing regret that he should have been compelled to go abroad to obtain recognition of his plan to benefit agriculture. And so it comes about that the opposition to Mr. Lubin, which was due to the too frequent lack of knowledge among Washington officials on matters they deal with, has been overruled by the higher-ups because Mr. Lubin's real standing abroad and the stalwart support of Californians convinced them that a mistake was made in displacing him. This action places Mr. Lubin again in a position where his enthusiasm and energy will be of service.

It begins to look as though the direct marketing of eggs by the producers thereof might become one of the most striking successes of the co-operative efforts of California farmers. At the semi-monthly meeting of the Sonoma County Co-operative Poultry Association on Saturday in Santa Rosa reports were received which were eminently

satisfactory. The store in Santa Rosa had received 158,824 dozen eggs, of which they had sold and collected on 137,799 dozen. The sum of \$25,631.97 had been received, \$22,181.83 disbursed and \$3540.14 was still on hand. Manager William F. Schulz addressed the members, stating that they had already accomplished what they had set out to do—to capture the San Francisco market—and that they certainly had great prospects of finally establishing a big business in the metropolis. The business has grown even beyond the most sanguine expectation, and the association has already gained control of the situation in San Francisco so far as big stocks were concerned, and had blocked the game of the produce men and prevented them hammering down prices to suit themselves. It looks as though the producers had right and reason on their side, and when that is the case there is only one outcome from coming together and acting wisely.

A new frame building is now being constructed at the University for the fertilizer control laboratory, which will be situated across the creek from the Agricultural building, and will occupy a large plot of land set aside for it there. The cost of the laboratory alone will be approximately \$5765. A part of the building is to be fitted up for the use of the experts of the State food and drug laboratory provided for by the last legislature.

The plan of making agricultural use of lands within forest reservations which are suitable for farming is making some progress. Last week Senator Flint secured the passage of the House bill permitting agricultural entries in forest reserves in southern California. On request of the Chambers of Commerce of Santa Barbara and San Luis Obispo, those counties were excepted, in order to protect the sources of domestic water supply. The turning of forest reserves from lonely wastes to abodes of a mountain population under proper restrictions for the safety of the trees and for reforestation, is an exceedingly important matter. Good farmers in the mountain forest areas are better than wandering rangers.

What a transportation agent says about the current orange crop is of interest: "The orange crop has been about two-thirds shipped already. This season's crop will amount to between 28,000 and 30,000 carloads. Delivered and sold at markets in the East, a carload of oranges brings approximately \$1000. That makes the 30,000 carloads worth at the final sale approximately \$30,000,000. The railroads get about \$300 a carload for transporting, or an aggregate of about 9,000,000 in freights."

American producers are bright and ambitious, we are sure, but we doubt if they are entitled to all the credit they sometimes get. For instance, the English markets, under free trade policies, are open to importation of foreign hops, and although it is claimed that English grown hops are "being sold for half the cost of production," American hops are pouring in, one steamer carrying 3000 tons for sale to English brewers. Now the undeserved credit to American producers is found in the claim that they intend to freeze out English production, so that they can in the future have the market all to themselves. This credits them with too much long-headedness altogether. This is the statement; "At the present time the American dumper controls our market only in the reduction of prices. If he can obtain complete control and stamp out the English hop grower he will be able to dictate his own terms and to control the market both ways." We presume the simple



fact is that American growers had too many hops, and as there is no restriction in the English market, American growers send their hops over there, where at least they will realize something. As for going out of hop growing, Americans are apt to get out quicker than the slow Briton possibly can, even if all America is pushing him.

## Queries and Replies.

### Peavine Hay.

To the Editor: I desire some information regarding the feed value of garden peavines. I have about 3 to 4 tons of vines which I have raked up to cure after having picked from them for market as long as price permitted, and yet there are a great many peas left on vines. I have it from some neighbors that it is good cow feed if they eat it. Would it hurt to feed it to a horse in moderate quantity, as I know it acts on the kidneys? One horse eats it but another does not. —Grower, Los Angeles county.

Pea straw as a feed varies in accordance with the condition in which it is cut. Ordinary pea straw resulting from the growth of a dry pea crop, and therefore wholly mature, has theoretically a value of about one-half that of alfalfa hay, so far as its contents determined by chemical analyses go. If the plant is cut while the pods are still green and thoroughly dried it would, of course, have a higher value, possibly three-fourths or more of the value of alfalfa hay. As your gathering was between these two stages—that is, while part of the pods were green—it is probable that the material which you have is worth somewhere between one-half and three-fourths the value of alfalfa hay. We have never heard of any ill effects resulting from feeding such forage. The fact that some animals may take to it readily and others dislike it is merely a matter of individual taste, which the lower animals share with mankind. It is probable that all your domestic animals would eat it readily after they become accustomed to it, and we know no reason why you should not make free use of it.

If you wish to know the value of pea straw as a fertilizer, it has been determined that ordinary dry pea straw contains about twenty pounds of nitrogen, about seven pounds of phosphoric acid, and about twenty pounds of potash to the ton. As ordinary fertilizer values are placed at 18c. for nitrogen, 6c. for phosphoric acid and 6c. for potash, the material, if brought into condition for ready decomposition in the soil, would be worth, approximately, \$5 per ton, if thoroughly air dry. All these values are theoretical and are simply to give you a general idea of the relations of the subject.

### Esparto Grass.

To the Editor: You mentioned the fact some months ago that esparto grass was growing in the Garden of Economic Plants at Berkeley. Can you give me data in regard to methods of propagation, culture, etc., and your ideas as to its possible future as a competitor with the wood pulp of this country?—Enquirer, St. Paul, Minn.

Large clumps of esparto grass have been growing in the economic garden at Berkeley for the last twenty-five years. It seems to thrive well and to seed freely. No special culture experiments have been had with it for lack of motives. It was introduced to California, supposing that in our olive oil making we should be obliged to use plaited mats in the olive presses, just as they do in Italy, but it was soon discovered that American machine-woven fabrics would answer just as well and be very much cheaper than grass mats. We have no data to determine its availability as a

substitute for wood pulp. There would seem to be no difficulty about growing the crop in a semi-tropical climate at least, but how it could be profitably done in locations where saw-mill by-products are so abundant as they are in this State, is an economic question which we have no data for determining.

### Gossip About Berries.

To the Editor: I am anxious to acquire some reliable information with a view to putting out some bush berries of some sort, and the opinions I gather around the ranches and real estate offices vary so much that it leaves me in doubt which is the best. If you are in position to do so, kindly advise me on the following points on the loganberry, raspberry, and blackberry: Which comes into bearing the youngest? Which continues to bear the longest? Which bears the longest period during one season? Which is generally the most profitable when raised for the market?—Beginner, Los Angeles.

All the berries which you mention will come into bearing at the same time; that is, all well grown and matured wood of one year will bear the following year. Probably, if well cared for and each is in a situation suited to it, there will not be any difference in profitable longevity. We have had such plants in profitable bearing for ten years or more. The raspberry will have the longest bearing season during one year, because in favorable situations it is inclined to bear almost continuously, or to bear an abundant second crop in the autumn. The raspberry is the highest priced fruit and, when one can get enough of it, would be counted most profitable, but the raspberry is a little more difficult to suit in point of culture and natural conditions than is the Loganberry. The blackberry has rules of its own and behaves accordingly. Your questions are exceedingly difficult to answer, because so much depends upon the skill of the grower, the local climatic and soil conditions and the water supply. Perhaps all the stories told you may be true: each for its own environment.

### Cow Peas in California.

To the Editor: I am told that farmers in California have made an especial success of the cow pea, and that you have introduced some method of curing or heating the pea so it will keep better for marketing. We can raise the cow pea well here, but it soon molds and is attacked by insects if kept any length of time, so I am anxious to find some way to make it keep if this can be done.—Farmer, Texas.

Cow peas are not grown to any extent in California, as they are a little too tender to grow well during the winter time when we have plenty of moisture, and too sensitive to drouth for growth during our dry season when the heat is adequate but the moisture scant; except in low lands naturally moist or supplied with irrigation. You will get fully satisfactory information on the growth of the cow pea if you will address the Secretary, Department of Agriculture, Washington, D. C., asking for Farmers' Bulletin No. 318. They are of vastly greater importance in the South than in California.

### A Barren Fig Tree.

To the Editor: I am sending you by separate package a limb of a fig tree that never has borne any fruit since I have known it (nine years). Can you tell me what to do with it so it will fruit? No other fig trees are anywhere near it.—Amateur, Los Angeles.

We have examined with interest the fig branch. One would infer from your account and from what we can see of this branch, that the tree does not make any effort to set figs at all. If this is really the case, it is to be counted as one of the barren

fig trees which have been known from the earliest times, and the best treatment for it would be to graft over with scions from some tree which does bear good fruit in your district. This grafting can be done in the branches above the forks, and the result would be a new top of satisfactory bearing. If the tree does make an effort to bear fruit and the fruits fall, our suggestion would be somewhat different, but as we understand your description, the tree never makes any effort in this direction.

### Back Yard Landscaping.

To the Editor: I have been informed by a friend of mine that if I would drop you a line you would describe plans showing how to beautify a back yard. I am residing in San Mateo county and have a back yard 60 by 80, with a large oak tree almost in the center. I thought I would like to plant some fruit trees, berry vines, vegetables and flowers.—Suburban, San Mateo.

We regret that we have no published plans for laying out yards, such as you ask for. We doubt if you can grow anything very satisfactorily in a back yard which must be almost covered by the splendid oak tree, and personally we would rather have such an oak tree than all the things which might be grown on the same space. Beyond the densest shade of the oak—that is, around the margin of the garden—you might put in beds of almost any vegetables and flowers which are pleasing to you, and if you use water and manure freely you will get quite satisfactory results. We have noticed also that even large oak trees are improved in thrift and beauty of foliage, indirectly, by generous gardening in their vicinity. We should use the centre of the garden, under the oak, for meditation, and plant around the edge somewhat irregularly, according as sunshine and free soil may make things thrive.

### Some Other Trouble Than Blight.

To the Editor: My peach trees are two years old. Last spring or winter, in January, I sprayed with 8 lb. bluestone to 8 lb. good lime and 45 gallons water. I did a thorough job, but when the leaves came out many small twigs were backward, and are still so. They look blighted. I enclose one herewith. The new shoots from the larger limbs are growing very well. The same thing was observed on my neighbors' trees last year at the same age. This year they show no sign of barren twigs.

Is it necessary to use as strong a spray as many do (10:10:45) for dormant peach trees? The above described barren twigs are found in orchards where this strong solution was used.—Grower, Fresno county.

It is not necessary to use quite as strong Bordeaux as you specify, for if thorough work is done less bluestone will be quite effective. At the same time, we doubt if the spray injured such twigs as you send. Nor do they show sign of the blight, but they do indicate lack of thrift in the tree, which would make such thin growth, and this may be due to some inhospitable condition in the soil—possibly to the occurrence of alkali, possibly to too much or too little water during the growing season. All these things will produce unthrifty growth and dying back of twigs. The best thing you can do at present is to cut back the old wood near to the point where the new shoots are growing vigorously and watch the behavior of the tree during the coming season.

### How Morning Glory Grows.

To the Editor: Will you kindly advise me whether morning glory grows from portions of the roots or stems of the plant or if it multiplies from the seed only, in the field?—Reader, Chino.

It comes everlastingly from roots and root pieces and from seeds also.



## Horticulture.

### WALNUT CULTURE AND TOP-GRAFTING.

When walnuts are spoken of in California it is always understood that softshell walnuts are meant, and softshell walnuts are becoming known in the markets of the United States as "California Walnuts"; this being the mark of excellence and used to distinguish them from imported walnuts.

These were formerly known as English walnuts, probably because of having been marketed by English merchants when all walnuts were imported, but likely originated in Persia or Asia Minor, though it has been found native over a wide area, including the mountains of Greece, of Armenia, of Afghanistan and the northwest Himalayas. It is also found in Japan and has been reported as growing on the highlands of the Congo, in central Africa. Walnuts from Persia were brought to Rome by merchants and from there the trees were distributed over Europe and to America.

**Introduction Into California.**—There are no records to show when the first walnut trees were planted in California, but the best authorities say that it was about the year 1769 and that the planting was done by the Mission fathers. Very few trees were planted after this first planting for nearly one hundred years. About the year 1843 a few trees were planted at San Diego by J. J. Warner, and in 1848 F. E. Kellogg, Sr., planted a small orchard at Calistoga, in the upper part of Napa Valley. J. R. Congdon planted an orchard at Capistrano in 1869. H. K. Snow and P. T. Adams planted the first walnut grove in the vicinity of Tustin and Santa Ana in 1879. The planting was an orchard of eight acres, which was characterized as a rash adventure by the neighbors, but the soundness of their judgment is shown by the fact that the orchard is one of the best producers in the valley after more than one-third of a century has passed. These early plantings were all of hardshells.

A few years later some additional acreage was planted by Messrs. Snow and Adams until 15 acres were in one plot. The trees were planted too closely and ten years ago they began to take out alternate trees. The orchard has been abundantly fertilized lately with stable manure and the production last year was 25,800 pounds.

**Varieties.**—The variety known as the California "softshell" originated in Santa Barbara county, on the farm of Joseph Sexton, and came into notice in 1880. It is supposed to have been the result of cross pollination between hardshell and papershell walnuts, but is more likely to have been a seedling of the hardshell, showing one of the many changes that may be expected of seedlings. Softshell walnuts soon became popular and have been planted exclusively for the past 20 years under the name of Santa Barbara softshells, but this term does not mean any particular variety and includes all seedling softshell walnuts found in the market.

There are but few walnut groves of commercial importance north of Santa Barbara county, though there are some small orchards in the Sacramento valley and several small areas in Santa Clara county and near Santa Rosa. The walnut trees of the northern part of the State are mostly of the French varieties, and largely Franquette, as it has proven the most productive in that district, though not equally successful in the southern counties.

Large plantings of grafted and budded walnuts have been made in the southern counties within the last ten years, and almost the entire planting of the northern counties are grafted trees. The variety mostly propagated in the south is known as the Placencia Perfection, and originated in the Placencia district of Orange county about 18 years ago. This is a vigorous, upright growing tree which produces large, smooth nuts that hull freely and are well filled with white meat; but while it gives better returns, both in price and production, than the average seedling softshell it will sometimes loose half its crop by blight.

The stocks used for grafting and budding have been largely seedling softshell in the south, while that used in the north has been mostly native

black walnut, and very frequently these are not grafted until 10 to 15 years old.

**Planting and Culture.**—Walnuts should be planted only on good, deep soil, not underlaid by hardpan, nor where the water will stand on the surface. A deep, sandy loam is to be preferred but walnuts will do well on the heavy soils that are free from alkali. Good drainage is always necessary, as well as freedom from late frosts and a comparatively cool climate.

The greater part of the orchard planting has been 40 feet apart. This is too close on good land and better results can be had by planting 50 feet apart, while 60 feet is not too far in some cases. The planting is generally done with the object of getting a larger number of trees to the acre instead of getting the maximum production of walnuts from the tree, and increasing its length of life. An orchard may be made to pay a good income early in its life by planting 50 feet apart in squares, with a tree in the center of each square which can be taken out after 12 to 15 years. In this way the profit from the interset trees will often be enough to pay for planting and land by the time they will have to be taken out.

It is necessary to have water for irrigation in most places as the walnut tree needs more water than it usually gets.

Walnut trees do not require the heavy pruning that is needed by most deciduous fruit trees. The lower limbs should start at four to five feet from the ground and in such a way as to have the heavy side of the tree to the southwest. A good rule for early pruning is to cut off only those branches in the way of the team when cultivating, or that will draw the tree too much to the northeast or away from the prevailing winds. When the trees are eight to ten years old there will be small branches in the center that shut out the sunshine which should be taken out, together with all branches that are crossed. There will be no walnuts in the center of the tree unless there is some sunshine through the tree. A good deal of labor and time can be saved if the trees are gone over in June and long and useless shoots taken off. It may also be necessary to go over them again in July but the work at that time will be light.

The young trees should be supported by stakes for the first two or three years. A convenient stake is made by using redwood 2x2x9 feet long. This makes a stake long enough to use for support for branches that may be drooping and these branches may be trained in the proper direction by using short lengths of light baling rope to give the branch the proper angle.

A walnut orchard that has been well cared for will begin to bear paying crops after the fifth year from planting and should increase in production for many years. Walnut trees will live to a great age in suitable locations and with proper care. Trees in the south of France and in Spain that are believed to be more than 300 years old bear regular and heavy crops.

**Walnut Blight.**—A blight of both nuts and green twigs began to attract attention about nine years ago; the Department of Agriculture at once instituted investigations which were supplemented, and are now being carried on by the University of California, but the idea of finding a remedy for the blight has been to a great extent abandoned and attention turned toward solving the problem by finding trees that are resistant to the blight to such a degree that they will produce paying crops under the same conditions which cause other trees adjoining them to loose the greater part of their crop.

A series of investigations has been made with a view of getting a tree that will be resistant to a great degree, and at the same time produce large crops of desirable walnuts, from which to propagate by grafting or budding. The investigations give much hope, as several such trees have been found, and with the added interest that is taken some very excellent trees are likely to be found.

**Top Grafting.**—Grafting old walnut trees in order to form a top of some more desirable variety than the original has long been practiced in a small way in California but has been confined mostly to black walnut stocks.

Almost every other variety of fruit tree has been top grafted, some of them several times on the same tree, but there has always been a hesitancy about cutting off a walnut tree that was not paying, the common belief being that the

work could not be done successfully. That this is without foundation is shown by the many trees in various parts of the State, notably Santa Clara valley, the vicinity of Vacaville, the vicinity of Santa Rosa and others, where roadside trees and small orchards have been worked over at various times, running back as far as 1893 at Vacaville and 1891 at San Jose. Some of these trees now have a spread of branches of 60 feet.

The average seedling walnut orchard is not satisfactory for several reasons; the nuts are uneven in size and form, the trees are not equally productive, and are largely subject to blight. It may be said that about one-fourth of the trees produce but few walnuts, another one-fourth produce about enough to pay their own expenses, leaving the other half to make whatever profit is obtained. This will be entirely changed when the entire orchard is of grafted trees, grown from scions that came from resistant trees that produce large crops. Each tree will then produce nuts like every other tree, and if the selection of nursery stock has been properly done the trees will be very uniform in all respects.

Several styles of grafting have been practiced and all have had a fair degree of success, but modifications of the cleft graft have been most generally used, each operator making changes as he thought best. If the trees are from three to five inches in diameter they may be cut off at about four feet above the ground and below the branches, then four or five scions may be placed in one stock, or three or four of the branches may be cut back to within 10 to 24 inches of the trunk and two or three scions placed in each. All the other branches should be removed from the trunk.

Old trees of from 12 to 20 years should have the branches cut at places where they are from three to six inches in diameter, and from five to eight stubs left, which will be from three to six feet in length and should have as many as six scions in the large stubs, the other branches being removed before the scions are put in place.

The method used in my orchard near Anaheim, which was very successful, is as follows: Just before the nuts were ready to gather last fall the orchard was gone over, the trees that were non-producers and those that did not produce paying crops as well as those producing small, or badly shaped nuts were marked so they could be distinguished later. The object in marking was to do the grafting on trees that were of no commercial value and to keep up the production of walnuts to an amount equal to that of other years.

Having determined the trees to be grafted the operator marks the stubs that are to be left by a small notch out of the bark at the place where the cut is to be made. All other branches are cut close to the trunk of the tree. Several trees are marked while the assistant is preparing the first tree. The operator places the scions and the assistant follows with hot wax, covering all cuts on both scion and stock. In sawing large branches it is necessary to make two cuts, the first being some distance above or outside the final cut, to prevent splitting the stub, or the trunk, when the severed part falls.

The scions should always be of solid, mature wood, that is, with as small pith as can be had readily, and must have good living buds. Each scion should be about one-quarter inch in diameter and have at least two buds. The growth having buds close together is best, as shorter scions can be used which do not require so much moisture as the longer scions and consequently are more likely to grow.

When the tree is prepared use a heavy butcher knife and mallet to split the stubs, placing the knife across the stub as if a chip one-half to five-eighths-inch thick was to be taken off. Then depress the handle of the knife to an angle of 30 to 45 degrees and split the edge down to 2½ to 3 inches, allowing the knife to reach the farther side of the stub but not making the split entirely across the stub. Open the cleft with an iron wedge ½ to ⅝-inch wide and thickest on one edge, placing the thickest edge toward the outside.

Trim the cleft in the stub with a sharp knife so it will be smooth. Then cut the scion so as to fit perfectly and place it so the inner bark (the cambium layer) of both will be on the same line, or at least will cross twice, then remove the wedge and put hot wax over all the cuts on both stock



and scion at once. It is as necessary that the scion should fit the cleft on the inside as it is to fit along the cambium layer, and also necessary that the cleft be filled with wax near the scion. The work should be examined every three or four days until leaves are formed, and if threadlike cracks are found near the scions they should be closed with hot wax so the scion will not be exposed to the air when the tree begins to grow. Any cuts on the body not waxed should have a coat of heavy mineral paint and the body and stubs a coat of whitewash.

The wax is made of 1 pound beeswax, 5 pounds resin, 1 pint flaxseed oil and 1 ounce lampblack, melted together. The object is to get a wax that is soft enough to be pliable without running and a little practice will soon show whether the wax needs more, or less oil.

A convenient furnace can be made for heating the wax in the orchard by taking a coal oil can, cutting out the top, placing four wires across, two each way, about four inches from the top and cutting an opening to use in placing fuel in the bottom. A wire handle completes the furnace. A three-quart sauce pan is large enough to hold the wax which may be made as needed.

A good operator will place 300 scions per day and about 25 scions are needed in each tree to insure a stand; it being better to have more than is needed rather than too few.

If there is an excessive flow of sap it should be wiped off the stub at every examination of the scions, and the stub covered with wax as soon as dry. Any excessive flow of sap for several weeks will cause the loss of the scions as the callus cannot form in water. This may be controlled by boring 1/4-inch holes in the body of the tree near the ground. Care is needed that too many holes are not made. Three or four holes four inches deep will be sufficient to control the flow of the largest trees. No damage is done to the body of the tree as the holes soon callus over.

After the scions have made one foot growth it will be necessary to nail laths, 1 inch by 2 inches by 8 feet, Oregon pine, on the tree in such a manner that the shoots can be tied to them and the new tree formed as desired. Leave the laths on two years.

Do not take off any of the sprouts at first except such as may be very close the scions, but as the scions grow some of the sprouts may be taken off. When the sprouts grow to two feet long they should be headed back but not removed until the following winter. Keep all the scions that will grow, the first year, and never head back the growth from a scion while it is in a growing condition. If more scions have grown than is needed they can be thinned out the next winter and if some scions should fail so as to leave a stub without growing scions a sprout may be trained and budded the following August or September, or may be grafted the following spring.

Trees that are 15 years old when top-grafted may reasonably be expected to have a spread of 30 feet in four years and to be in full bearing. It is not at all unreasonable to expect an orchard to average 150 pounds to the tree, and trees that are 50 feet apart should produce an average of 200 pounds when well fertilized and well cultivated. Grafting may be done at any time within six weeks of the time the buds will open, and scions may be cut as needed.

Heavy fertilization will produce larger crops, even where blight is serious, and by this means production can be increased until the orchard may be gradually changed to the more resistant varieties. The most economical method and at the same time the best, is to grow green manure crops and supplement with acid phosphate, or superphosphate as commonly known. Buy acid phosphate that will run 18 to 20 per cent available phosphoric acid and sow broadcast 10 to 15 pounds per tree at the time the green crop is sowed, or it can be sowed just before plowing at any time. The object being to get the phosphate as deep as possible in the ground.

Walnut orchards have not had the care that has been given to oranges, neither in selection of varieties nor in culture and fertilization of the soil. It is possible that the blight may cause growers to use better methods of culture as well as selection of varieties and in the end be the means of largely increasing the production and value of walnut groves.

The largest annual production of walnuts was 8000 tons, but with increased planting this has fallen off until the production is only 6500 to 7500 tons per year. Individual trees that produce 200 pounds per year are not common, so it can readily be seen that if only the best trees are used for propagating, the yield of walnut orchards can be greatly increased without much additional expense and the profits be correspondingly greater.

It is very probable that seedling walnuts will become as scarce as seedling oranges are at present. In fact there is no good reason why they should not be entirely replaced by the better grafted varieties. The markets demand the best in other fruits and seedling walnuts will eventually be left without friends.

## THE STATE AND THE HORTICULTURAL COMMISSION.

At the opening of the Fruit Growers' Convention at Riverside, two statements concerning the attitude of the State toward the Horticultural Commission were made as follows:

**For the Governor.**—Speaking for Governor Gillett who could not be present, Hon. Miguel Estudillo, chairman of the Ways and Means Committee of the Assembly at the last Legislature, said:

"The Governor is in thorough sympathy with you and keenly interested in your efforts. He takes a personal interest in the welfare of the horticultural and agricultural interests of this State. Every bill that came before the Legislature, which had a tendency to help those interests, received his support. The Davis Farm, for the Agricultural College, and our own experiment station received the Governor's cordial support. In fact the Governor has shown beyond a shadow of a doubt that he is a true and enthusiastic friend of the fruit industry of the State.

"If further evidence should be required regarding the Governor's interest in the fruit industry of the State, I would refer you to the appointment of the Hon. J. W. Jeffreys as horticultural commissioner of California. I wish that he were not present, for then I might say all the nice things I wished about him.

"This is a grand State, this glorious California of ours—a grand Empire nestling on the shores of the bluest of oceans, the Pacific—I realize that the people have different problems in the different parts of the State to solve. You fruit men, together with the rest of the people, have problems to solve other than fighting insect pests, the fertilization of the soil, markets, the best methods of packing and transportation. And these problems, I repeat are different in different parts of the State.

In the northern part of the State it is how to break up these princely principalities into smaller homes, how to make them produce and support millions where they now support thousands, how to harness the streams that flow unchecked in their mad career to the sea, how to make them light your towns and cities, do your bidding, turn the wheels of commerce, how to reclaim the vast inland seas and make them blossom forth as the rose, how to force a small tract of land to support a family where it requires a thousand acres today. These are some of your problems in the north.

"Here in the south the problems are: How to cause a spear of grass to grow where a blade grew before, how to garner the precious drops of water, how to conserve them, how best to tap nature's underground supply, how to thwart nature's thirst-beams after the water comes to the surface, how to make a foot of land support a family, how to turn the desert sands and the rocks into gold, milk and flowers.

"Believing that the fruit industry should have every means of protection I would suggest that you ask your legislature for adequate appropriations in the future. You should advise and confer with your representatives regarding your needs. I believe that the time has arrived when more money should be placed at the disposal of this office of the Horticultural Commissioner, for you can never tell what emergency may arise. Fighting the white fly in the northern part of the State

alone cost \$20,000. Surely the State cannot spend money more judiciously or to better advantage than in fighting the pests that threaten her great-est industry."

**The Commissioner's Claim.**—In his opening address as chairman of the convention, Mr. Jeffreys included this statement:

"However well we may understand the needs, establish policies and provide laws governing your state commission, they cannot be properly executed through the meager appropriation now received. Do you know that only one cent out of every 400 paid in State taxes is appropriated to the business of maintaining the office, patrolling and quarantining the State against pests, fighting invasions of insects, holding these conventions, and publishing information for the fruit growers? That is exactly what the fruit industry is getting—one penny out of every \$4 paid into the State treasury. And that is not all. The State, with commendable economy, requires us to give back 2400 of these pennies every year for office rent in a State building from which we must maintain continual watchfulness to protect the commonwealth herself from the invasion of fruit enemies and plant diseases. But it is not of record that any one, either fruit grower or his representative officials, has ever made a serious effort to get more than this one-fourth of one per cent with which to guard and promote the heaviest tax-paying industry in the State. It is difficult to account for this inertia on the part of the otherwise most enterprising and successful body of fruit growers on the face of the earth; or to explain why the horticultural leaders and officials have not adopted broader policies and worked for the means of carrying them out. And thus we should not blame our legislators for overlooking a giant industry that has no insistence or coherence in securing recognition from the public funds—an industry that has enriched all California from the consumers' purses of the east as no other has; an industry that has directly and indirectly brought hundreds of millions of capital for investment, and established tens of thousands of families; an industry which in 1906 acknowledges 315,000 acres of vines and 32,700,000 fruit trees besides the number to which the attention of the assessor may not have been called. Therefore, it is not in criticism or complaint that we should consider this deficiency of support, but with good will and assistance to all other landed industries and their kindred, provision should be made in the future for the proper support of your chief office, therewith to protect and promote your industry and give it added security as a heritage to your children.

"For the fiscal years 1907 to 1909, the State Agricultural Society secured for maintenance and buildings, \$87,500, and for the State Fair \$5000 and the gate receipts. The Dairy Bureau was given \$11,100. For cereal improvement, \$10,000 was appropriated and for tobacco culture, \$1000. These items foot up \$114,600 appropriated by the last legislature almost exclusively for the advancement of the interests of the grain and stockmen. For the same fiscal years the State Horticultural Commission was given \$35,000 for support and \$12,000 for the insectary building and parasitic search. There was certainly no discrimination here in favor of the orchardists, for these figures show that the farm and stock industries were granted more than three dollars for every dollar appropriated to the promotion and protection of fruit growing. Neither were other landed industries, nor the outdoor sporting interests neglected, for the same legislature voted \$51,000 for the use of the State Mining Bureau, and \$87,500 for the Fish Commission. Summing up these items we find \$253,100 were voted to the field, mining and inland fish interests, as against the \$47,000 devoted to the work of the State Commission of Horticulture. We should sit in admiration at the feet of these interests, and while applauding their success in securing funds, learn of them how all things come to them who do not wait."

## FIELD ASSISTANTS TO DEPARTMENT OF AGRICULTURE.

The department of agriculture is to have assistance from some of the experts in entomology appointed by the different counties. Mr. J. S. Hunter of San Mateo County has been made Field



Assistant in mosquito studies, Mr. Earl Morris of Santa Clara County is to study the life history of the California peach root borer and its treatment, and Mr. W. H. Volck is studying the control of the potato worm in Monterey County and in Santa Cruz County is making special studies of the control measures for the woolly aphis. The honorary positions of field assistants in connection with Experiment Station work in Entomology carry with them no pay from the university, but are a recognition on the university's part of the value of the county officials who have been asked to serve.

## Fruit Marketing.

### PACKING HOUSE EQUIPMENT.

The following article was read by Mr. C. E. Rumsey of Riverside at the Riverside Fruit Growers' Convention:

The most important item of equipment is not machinery, nor any contrivance or device to hurry our perishable fruit from wagon to car. I would place absolutely first a body of growers who would demand from the packing house management that the fruit they had labored nearly a year to bring to perfection should be so handled as to prevent its decay while on the way and after its delivery to the buyer.

While packing house managers have been open to blame (mainly for consenting to handle fruit improperly), it would be very hard to find a manager who would resist an effort made by his growers to insure greater care in handling. In my experience the grower is to blame—not the manager. Some growers will help the manager by picking and delivering fruit in the most careful manner. Other growers will do neither, and their neglect when the fruit is pooled makes the care of other growers of no effect. I am discussing this matter from the association standpoint, having no experience with any other. I think in any association packing house, with the light we now have, a body of growers can be grouped who will agree to have their fruit picked by a crew under the control of the manager, hauled in the most careful manner, and packed under strict rules, asking only that this be done at as little cost as the best work requires, and demanding that the fruit so packed shall be sold under specified brands. If there is a group who do not believe in care and who will not take it, or pay for it, I would let them have the brands they have always had, and adopt new ones for those who have the work done carefully. The past two years have shown that new brands, well handled, have displaced some of the old favorites, and good work is quickly appreciated by the trade. Such a body of growers will either gladden a manager's heart—or break his back if he does not respond. This is the first and best item in "packing house equipment."

The second item is the picking crew, and the main force in that is the foreman. I do not believe the best work can be done by any manager, unless he controls the fruit from the tree to the car. In no other way can you fix responsibility. The grower should do nothing but watch and help the foreman, unless he will work in the crew with the other pickers and under the foreman. The grower must expect to pay more for picking when clipper cutting and long stems are not tolerated. No picker can pick as many boxes of perfect work—50 boxes is about the limit, and where fruit is small it may drop to 35 boxes. In my own experience constant inspection at the packing house is necessary to insure perfect work. Several times when fruit was small, the men would pick faster than before, and we had to warn them we wanted perfect work, rather than quantity. In our crew every man keeps tally of his boxes as he fills them, and also numbers them on the end in pencil, so the inspector can examine a certain number of each man's pick daily. I prefer clipper cuts to long stems. Some clipper cuts heal over, but the possibilities of the long stem to cause injury and decay are about five times as great. We cut all stems twice, and we have no leaves or twigs in the boxes. Throwing the picking sack to the left hip has cut out that source of decay. We fight the pickers all the time to keep the work right,

and find it is necessary. Full boxes are ordered kept in the shade of the tree, and we have pieces of canvas that cover two and three boxes to keep off the sun and dew or rain.

We haul to packing house in wagons two feet from the ground; the end-gate, six feet long, drops to the ground and serves as a bridge, up which the boxes are carried and gently put in place. The wagon holds 120 boxes, two rows wide and 6 high. Front wheels 48 inches in diameter, hind wheels 54 inches. We use three horses abreast. Every sixth box has cleats under it and is stenciled in black, so it can be seen anywhere to enable the men to put these on the bottom of each tier; so we can use a truck with a 12-inch nose to convey six boxes at a time from the wagon across the end-gate (now used as a bridge) from load to packing house floor.

The elevator, the clamp truck, and the rustler were all undesirable features in equipment. We have cut out the elevator by dropping the floor of the house below the grading table 20 inches, so we feed on the sizer almost horizontally. When necessary to weigh we empty the bins and use small platform scales. All our culls are carried to a bin and re-inspected by the foreman. I think I pay his wages out of the cull bin.

We use no brusher. If the fruit is dirty we grade it out and clean it. If one child is sick it is better to dose it and not give medicine to the entire family. We use Stebler's automatic dumper and sizer, which eliminates the desire of the human dumper to shove the fruit down with the edge of the box. We have a piece of canvas, with a board attached, so that it meets the box as it comes up, and covers enough of it to make the oranges crumble down inside the box instead of flying out. They fall on rubber hose spaced apart to let buttons, sticks, etc., fall through at once, but clean picking has almost cut them out. The hopper below the hose grating is smooth hard board, as the fruit does not fall on it.

We use Praed canvas bins. When packed the boxes are placed on Alvey-Ferguson ball-bearing roller conveyors, 26 inches high, the height of the press. The most perfect press I know of is made by Mr. Covey of Riverside. The fruit is clamped sideways, away from the edge of the box, before it is pressed down, and it seems to prevent injury when carefully handled. When nailed the boxes are shoved on the conveyor and run by gravity into the end of the car if needed, or off to the side of the house to be stacked.

Not all of the work in our house is adapted to all other houses, but the determined growers, the intelligent manager, the picking crew, the careful hauling and handling are, after all, the best equipment for any house, and when you have these no device that can possibly do injury to fruit will be tolerated.

Let us pick and pack our fruit to save ourselves loss, now that the Department of Agriculture has spent \$36,000 to show us how to minimize decay, knowing that the trade will pay us well if we save them loss. When dealers find out that most decay is preventable it will be hard to sell fruit that has been carelessly handled.

I presume "Packing House Equipment" was assigned to me because the commissioner thought there was something unusual in my house in the way of "equipment." There is little in it that is original. It is only the adaptation of other men's ideas, picked up here and there, but always with the purpose of simplifying the work and handling fruit with care. We have coddled the lemon and abused the orange. Having no lemons, we coddled what we had and the oranges got the easy handling. They have responded, as Mr. Powell predicted they would, and the market seems to be appreciating the care. I think the packing house equipment has been a small factor only. It is care, not equipment, that has done most to lessen decay. No equipment will take the place of anxious, systematic care from the tree to the car. I am forced to this conclusion by finding houses which have a less careful equipment than ours, but whose care and haulage is of the best. I would rather take my packing house and pick, haul and pack for it with care, than take the costliest equipment designed for careful handling and rush fruit through it, so care could not be given.

It was a mystery to me how Mr. Chapman could sell oranges for such high prices. Then it became a mystery how the National Orange Company

could get such figures. Then L. V. W. Brown put me in a brown study. I began to remember that Mr. Powell had said nearly four years ago that Mr. Chapman was the most careful packer in California. As I knew the National Orange Company and Mr. Brown were following Mr. Powell's suggestion, the proof seemed positive that there was something in it.

Later I knew of a packer saying "Mr. Powell is a humbug." I looked in the market report and saw this packer's fruit sold at \$2.40 for extra fancy, when three "orchard runs" sold for over \$3. That proved it negatively, and I built a house with an oak shield on the corner, on which, in gold letters is inscribed:

"In gratitude to the United States Department of Agriculture, the Bureau of Plant Industry, G. Harold Powell and his staff, this building is dedicated to the careful handling of citrus fruit."

It is not dedicated to "equipment."

## The Swineyard.

### PEA-FED PORK IN COLORADO.

We have had from time to time accounts of pea-growing in San Luis Valley, Colorado, chiefly from the point of lamb-feeding. There comes now a discussion by Prof. Olin of the Colorado Agricultural College concerning pea feeding for pork. This growth of peas is of favorable moment because the pea crop is a soil-improving agency and therefore should enter into California notations wherever possible. We give abstracts from Prof. Olin's account in the Breeders' Gazette that our readers may consider his propositions:

In 1907 the valley grew 125,000 acres of field peas to furnish grain and forage for the lambs and hogs being fed there. Hogs were raised in a limited way in the San Luis Valley 20 years ago. They were then subject to the disease stomatitis or sore mouth, as it was known locally. So many were affected that it became a current report that "hogs can not be raised here," and as a business, it was seemingly dropped. Three or four years ago a few lamb feeders observed that many shelled peas were not picked up by the lambs. These sprouted and grew up with the succeeding wheat crop, proving a serious weed. The market value of the wheat was affected, as some of the smaller peas went into the milling process of the wheat for flour, injuring its quality. A fanning mill outside of the six flouring mills of the valley is almost unknown. In view of this waste and injury to the flour a few hogs were purchased and put in with the lambs to pick up the shelled peas left by the latter. It was a success, and that which was a former waste was converted into first quality pork, thus preventing the annoyance of volunteer peas the following season in the grain.

Colorado men need but to be shown once. The experiment proved such a success and created such a great demand for hogs to run with feeder lambs that of necessity valley farmers were compelled to begin the raising of hogs.

**Weather Conditions.**—Many farmers had provided little shelter for their lambs and when they undertook to raise hogs they were not prepared for it. Inadequate shelter was one great cause for serious losses, at first. The trouble was commonly called "thumps," but was pretty clearly proved to be pneumonia brought on by exposure. While the days may be warm the nights are often quite cold and unless adequate shelter be provided the hogs become chilled, take cold and die. Successful hog raisers from other states have come in, adapted themselves to the changed environment and then helped the older settlers work out practical methods for reducing the loss at farrowing time and through the first six weeks of the young pig's life. Homer Neil the past season probably had the minimum loss from this cause of any valley farmer.

In the midst of the feeding season of 1904-5 came one of the worst snowstorms known to the valley. Snow covered the peas in the field, preventing the lambs from foraging until weather conditions melted sufficiently for the lambs to feed on the peas. None of the pea crop had been harvested to tide the lambs over such storms. It was a crisis which happily lasted but a few days. The next year the peas made a luxuriant growth, but the blossoms failing to set the usual number



Pods the feeding of the pea fields was seriously at down, while the lambs brought in to be fattened were in excess of former years. Again this year a heavy snow storm covered the peas and caused great anxiety for a number of days. This together with the fact that lack of feed forced many lambs on the market improperly finished caused some of the feeders to investigate the hog business. The result has been that the number of hogs fed in the valley has increased rapidly the last two years and the industry bids fair to become as important as lamb feeding.

**Cost and Profit.**—Valley farmers have found that barley and peas make a very palatable ration for hogs and that it is almost ideal for the production of firm, good quality, well flavored pork. Barley sown with peas grows a ration preferable to either fed alone.

The average yield of peas per acre for the past few years has been approximately 1500 pounds. Individual instances are known of a production of 3000 pounds of peas. It is estimated that valley feeders get a pound of pork for every 5 to 6 pounds of peas fed. Counting 6 pounds of peas for one pound of pork we have 350 pounds of pork with a possibility of 700 pounds per acre. A conservative estimate of cost of growing the peas is \$3 to \$5 per acre. This includes cost of seed, preparation of seedbed, seeding the crop and irrigating during the growing season. When the peas are mown and stacked the expense of harvesting will need to be added to first estimate. The growing of some summer feed for the young pigs and their mothers to supplement the grain ration is customary, where stacked peas are not used. It is not wise to turn the pigs into the pea fields until the crop has practically matured. This approximates a cost of 1 to 1½ cents per pound for pork production under present conditions. Increasing the yield of feed per acre makes very acre yield more hog and correspondingly cuts down the cost of production.

**One Man's Plan.**—From a practical man in the Romeo district we have the following: "So far as the hog business is concerned down here it is hard to tell from actual experience what is the best method. So far, I have learned principally what not to do. Here is the way I want to do in future: I shall plan to have the sows farrowed in April. I shall have an 8 to 10-acre summer pasture field divided into two lots of 4 to 5 acres each. This season I propose to try white clover for these pastures. When pigs are two weeks old I shall move them to the clover. I shall take the precaution to dip the old sow and pigs on the way. I shall have feeding ground arranged for the pigs, where the sows cannot come. Here I shall give the pigs a slop of peas and barley meal twice a day. Our peas are matured about the middle of September. I shall then turn them into the pea fields. With poles and straw I shall fix up shelter for them during our cold nights. Near the shelter each night I shall put out a mixed warm feed to call pigs out of the field and accustom them to use of the shelter provided. I plan to have my hogs ready for market at 10 months, earlier if I can secure the weight. I shall pen them at 160 to 175 pounds and crowd them to 200 to 225 as fast as possible with a feed of ground peas and barley, using some roots to keep up condition."

One farmer turned off 300 finished hogs this past season. After deducting cost of feeding operations and carrying over his brood sows he found he had a net cash return of \$3000. As yet, however, such returns are quite rare. This valley is now raising many thousand hogs and feeding many more thousand sheep and cattle. It has been found a great saving to run hogs with both sheep and cattle and it will be some time before the valley can supply all the hogs which its sheep and cattle feeders require. This makes the growing of stock hogs fully as important as the finished porker.

## Forestry.

### RED CEDAR POSTS VERSUS REDWOOD.

To the Editor: Now that redwood posts are becoming scarce and high in price controversy arises as to the lasting qualities of cedar posts. When a boy (some few years ago in 1837) I lived in New Jersey in the neighborhood of Woodbridge and Perth Amboy where chestnut rails and red cedar posts were used and I remember old farmers telling of red cedar such as grew in that vicinity lasting 100 years or more. About one and a half years ago we bought 1200 cedar posts, not being able to obtain redwood. Some of these we have still on hand because they were rejected by those who feared they would not last long. We would be pleased if through your valuable PRESS you make an inquiry as to the lasting qualities of the cedar of the northern part of this coast.

I have used the cedar which grows in El Dorado county which was generally wormy but was pronounced to last well as fence posts. As the redwood posts are getting scarce and cedar is being introduced at a trifle less first cost than redwood, we would like to get the opinion of someone who has had experience in the use of them. The writer is well posted on the qualities of redwood, having sold many thousand and used personally many hundred. I have one ranch of 300 acres fenced with posts from Santa Cruz mountains and I do not think a dozen posts in the whole line of fence can be found rotten after 20 years, while many Mendocino posts in another fence only lasted two years and had to be replaced, though some, presumably butt cuts, last very well, having been in the ground 15 years. We desire to get information if possible as to the lasting qualities of these northern posts, now being introduced, as compared with redwood posts.

Cayucos.

JAMES CASS.



### DON'T THROW MONEY TO THE PIGS

The mine owner gets his gold mixed with rock and combined with other metals. He gets out all the gold and then makes in addition what he can from the lead and silver, the "by-products."

The dairyman's gold is cream; the skim-milk his principal "by-product." To get all the profit he must use an

## IMPROVED 1908 U.S. CREAM Separator

With this Separator he gets out all the cream, and then uses to best advantage the skim-milk. He can't afford to feed cream to pigs.

Our Catalogue No. 148 tells why. Let us send you one.

VERMONT FARM MACHINE CO., Bellows Falls, Vt.

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N.Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

PROMPT DELIVERY ASSURED CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

**Eureka Lemon  
Valencia and Navel Oranges  
Eucalyptus Trees**

Globulus, Rostrata, Rudis, and Tereticornis

**Phoenix Canariensis,  
Chamaerops Excelsa  
Loquats, Roses, Etc.**

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,  
Covina, Cal.**

### ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

### Red Gum and Sugar Gum

for April and May.  
\$2.25 ..... per 100  
\$10 ..... per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

**HENRY SHAW,  
320 River St. Santa Cruz, Cal.**

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

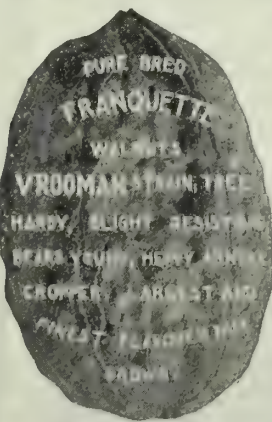
## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY  
Newcastle, Cal.**



Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY  
SALEM, OREGON.  
Salesmen Wanted.**

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$80 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## WANTED

A foreman or superintendent to take charge of large place in San Mateo County. Must have knowledge of general farming and table fruits, some experience in carpenter and plumbing work and a general knowledge of electricity. Wages \$90 per month and found. Address with references,

"OWNER"

421 Merchants Exchange Building San Francisco.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL. West of San Pablo Ave.



## The Home Circle.

### When My Love Comes.

My love may come in early spring  
Through orchards, April kissed,  
With happy bluebirds carolling  
In dreamy skies of mist.  
Then sing, glad oriole, and hush  
The mourning of the dove;  
But sing! sing! bobolink and thrush,  
Of love, and love, and love!

Or she may come in summer days  
When heated meadows rest,  
And down the fields a goldfinch sways  
Upon the thistle's crest.  
Then, blackthroat, sing! You love the sun;  
Sing, quail, amid the heat,  
And all your songs shall make this one,  
My sweet! my sweet!

Her path may lie through leafless trees,  
Her dainty feet may stir  
Soft rustling leaves; the chickadees  
May all make love to her.  
Then, sun, shine soft from golden skies;  
Stay, happy wind, to kiss  
Her cheek and fill my sweetheart's eyes  
With bliss, and bliss, and bliss!

Across a track of drifting snow,  
If she should chance to tread,  
The lingering flakes shall come and go  
Around her darling head.  
The longing flakes shall touch her hair;  
Then, snowbird, round her dart;  
Sing, shining snow and shining air.  
Sweetheart! Sweetheart! Sweetheart!

I would, if she shall come in spring,  
That springtime might be here;  
I long for winter, if it brings  
My love a day more near.  
For what is spring or what is fall?  
Love only makes the skies.  
My love shall blend the joy of all  
Sweet seasons in her eyes.

—New York Sun.

### STRONG MAN AND FAIR MAID.

"Hasn't it been a beautiful day?" he said.

"Yes," she bashfully admitted.

"Oh, a grand day!" he cried. "A grand day, but, do you know"—he lowered his voice to a confidential key—"I hardly thought it would be so cold."

"It was cold," she shyly answered.

"Awfully cold. Awfully. Oh, awfully cold!"

"And sharp!" she said.

He made an eager motion with his finger as though to say, "That's the word!" and added aloud, "Wasn't it sharp, though?"

"Wasn't it?" she said, and, emboldened by her recent success, she continued—"and raw."

"Terribly raw!" he cried. "Raw? Why, I never knew it to be so raw! an awful raw day! Awful!"

But it was evident to him that this thing could not last and he looked long and earnestly at this lovely girl whom he had met the night before, this charming enigma, this adorable puzzle, this breathless problem, this rosy-cheeked hypothesis that blushed so easily and had so little to say for itself; and as he looked he told himself again that she was the Only Ever and that when it came to prize limericks he was the poet with the winning missing line up his sleeve, and that rebuses, diamond squares, the age of Ann, the number of sheep, and how the quarrelsome neighbors could reach their homes without crossing each other's tracks—and all these were the simplest A, B, C's to him; a gentleman, a scholar and a bachelor Barkis who was tired of single blessedness.

"Poor old Ouida," he said.

"Ouida?" she asked.

"O-u-i-d-a," he explained. "Author of 'Under Two Flags,' you know. Poor old Ouida!"

"What—what's the matter with her?" she asked.

"Dead," he said with a hollow voice.

"Dead?"

"Ah, yes," he sighed. "There was a novelist for you! It takes a woman to write after all. They have that marvellous intuition, that wonderful insight, that unerring instinct for the good, the true and the beautiful. Of course you've read 'Under Two Flags'?"

"No," she blushed.

"But you've seen it played?"

"No."

And her embarrassment was so evident that it disconcerted him, and for a few moments he was driven to the brutality of direct questioning.

"Do you play cards?"

"No."

"Musical?"

"No," she faintly answered.

"Ride horseback?"

"I—I'm afraid of horses."

She gave him such an appealing, such a sweetly-hopeless look that it suddenly came to him that the fear of horses was one of the most ravishing accomplishments possessed by a daughter of Eve, and marshalling his mind again he hitched his cuffs back and set himself once more to the task of drawing celestial harmony from this unknown instrument of the gods.

"There are times," he mourned, but making a graceful motion with his hand nevertheless, "there are times when I feel how much of our life is wasted. Books, plays, cards, music—what are these? Idle thoughts for idle hours; and yet, too often, oh, far too often, we turn them into busy thoughts for busy hours, and when it is too late we find that instead of being earnest workers we are triflers and that our knowledge consists merely of the superficial and non-essential things of life. And yet, do you know, there is a certain value in a diversion wisely chosen. A brisk walk across the country," he continued, watching her closely and pausing after each word; "golf, tennis, football, squash, handball, sleigh riding, fencing, the study of bees, the collection of coins and stamps, art, sculpture, oratory, a good dinner, travel, boating, swimming, dancing, that exquisite sensation of floating on the air, the graceful minuet, the dreamy waltz"—she beamed upon him—"all—all these are diversions that fit one for the sterner duties of life. Ah," said he, "it has ever been my keenest regret that I could not dance. Whenever I think of the playtime of the gods I see Olympus as a dancing floor with Pan playing his pipes and the fair goddess of love swaying lightly on a fleecy little cloud, infinitely graceful and of a beauty to stop the beating of the heart; her blue eyes beaming"—she had blue eyes—"her golden hair crowning her beautiful head"—she had golden hair—"the dimple in her chin shining like a star"—she had a dimple in her chin—"and her lips half parted"—as were her own.

"Ah, yes," he cried, "if I only had some one to teach me to dance—"

"Why, I'll teach you to dance if you like!" she breathlessly exclaimed. "If there's one thing I love," she cried in a rapture, "it is to dance!"

"But I cannot take your time,"

he sighed, unless," he eagerly said, "you will let me teach you something so that we can be on an equal footing. Would you like to learn how to play cards? Or tennis? Or would you like to go to the theater and learn the drama?"

She nodded her head, her eyes dancing now. "I'm afraid, though," she said, "you'll find me a slow pupil, and I'll take a lot of your time."

"I would like nothing better," he declared with a sincerity that could not be doubted, "than for you to take all the time I've got—particularly when you're teaching me. Will you give me my first lesson now?" he asked, rising. "A waltz?"

"Well," she said, rising and walking toward him, "first of all we take the first position. You take my hand, so, and your other arm you place so."

"Oh," he said, wagging his head. "I shall like this."

"And then"—she said.

"No," he said earnestly. "Let me get the first position firmly in my mind. Let me memorize it well."

"We look so funny standing like this," she murmured. "Suppose somebody came in?"

"Well," he gently admitted, "I suppose we might as well sit down."

And looking deeply into each other's eyes they sat down—still in the first position.—New York Evening Sun.

### The Best Men.

"I can get an English coachman a place twice as easily as a German or a Yankee coachman," said an employment agent. "Each country, I find, is supposed to turn out one kind of workman of peculiar excellence. Thus England's specialty is the stableman."

"France's specialty is the chauffeur. The cook, too, is a specialty of France."

"Scotland is noted for its engineers, and in the field of sport for its golf coaches."

The Swiss are considered to be the best watchmakers. It is never any trouble to get a Swiss watchmaker a job.

"The Swedes are the best sailors. Germans are at a premium as brewery hands."

"Italians are in demand as plaster workers, a trade wherein they wonderfully excel."—Chicago Inter-Ocean.

This is the one body that I put even ahead of the veterans of the civil war; because when all is said it is the mother, and the mother only, who is a better citizen, even than the soldier who fights for his country. The successful mother, the mother who does her part in rearing and training aright the boys and girls who are to be the men and women of the next generation, is of greater use to the community and occupies, if she only would realize it, a more honorable, as well as a more important position than any successful man in it.—Theodore Roosevelt to Woman's Congress of Mothers.

A Chicago barber has been arrested for practicing dentistry. It must have been a pretty close shave that took the teeth.—San Bernardino Index. This reminds us of the barber who shaved a man whose cheeks were so thin that he had to insert his finger in his customer's mouth to make the cheek protrude, and in shaving he cut his finger.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

### Pith, Point and Pathos.

Affection leads some women to kiss their husbands and others kiss him to find out whether he has been drinking.

A man will promise a girl to work for her and then growl about it after marriage when she makes him do it.

No matter what the occasion is, a woman just naturally looks at herself in the glass.

Maybe Adam only migrated from Eden to avoid the troubles incident to Eve's tendency to clean house.

Foreign nobles merely supply the match for the American heiresses who have money to burn.

It must make an inoffensive jack-ass feel sad to notice the class of men referred to as asses.

Cupid makes a greater success of his business if he substitutes a bank-book for an arrow.

People get into the habit of consigning their fellows to the devil just as though the devil had no right to pick his company.

There is a lot of difference between robbing a clothesline and taking in washing.

### Apples for Sleeplessness.

The apple is such a common fruit, says a medical writer, that very few persons are familiar with its remarkably efficacious medicinal properties. Everybody ought to know that the very best thing they can do is to eat apples just before retiring for the night. Persons uninitiated in the mysteries of the fruit are liable to throw up their hands in horror at the visions of dyspepsia which such a suggestion may summon up, but no harm can come even to a delicate system by the eating of the ripe and juicy apple before going to bed.

The apple is excellent brain food, because it has more phosphoric acid in easily digested shape than any other fruit. It excites the action of the liver, promotes sound and healthy sleep and thoroughly disinfects the mouth. This is not all; the apple prevents indigestion and throat diseases.—London Globe.

Farmer Smith—Say, Jones, when a hen is hatching is she sitting or setting?

Farmer Jones—Oh, pshaw, that's easy; what I want to know is this: When a hen is cackling is she laying or lying?



## The Railroads Must Have Telegraph Operators

Special Inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### Bread.

Probably the earliest form of bread was simply the whole grain moistened and exposed to heat. Later the grains were roasted and ground, or pounded between stones, while unleavened bread was made by mixing this crude flour with water and baking in the form of cakes. Among the many ingenious arrangements used for baking this bread was a sort of portable oven, similar in shape to a pitcher, within which a fire was made. After the oven had been well heated, a paste of meal and water was applied to the outside. Bread of this kind was baked quickly and removed in small, wafer-like sheets.

Most of the bread of olden times was baked in the form of flat cakes, which, being too brittle to be cut with a knife, was commonly broken into pieces—hence the expression so common in scripture, "breaking bread."

Various substances have been and are still used for making this useful article. Until within the last few decades barley was the grain most generally made into bread. In regions where nuts abound, chestnuts ground into a flour are used. The ancient Thracians made bread from the water coltran, a root; the Syrians, from flour made from dried mulberries. Rice, moss, palm-tree piths, and starch-producing roots are utilized by different nationalities. In some parts of Sweden and northern Europe bread is made of one part barley meal and one part dried fish flour, to which in winter flour from the bark of trees is added.

Desiccated tomatoes, potatoes and other vegetables are frequently mixed with cereals for bread-making. In India the lower classes make their bread chiefly from millet. The Icelanders make their bread from the reindeer moss, which toward autumn becomes soft, tender and moist, and tastes like wheat bran. The flour is made by drying and finely pulverizing this moss.

The breadstuffs most generally used at the present time are the cereals—barley, rye, oats, maize, buckwheat, rice and wheat.

In Mexico the native bread is the tortilla, a flat cake made of corn which has been hulled by steeping in lime-water, then ground and re-ground on a metate until the product is a smooth, flexible dough. The cakes are shaped by dextrous tossing of the dough from hand to hand, then baked on a hot earthenware plate over a charcoal fire, in much the same way as pancakes are baked on griddles. The tortilla is toothsome, having the flavor of freshly parched corn.

In Persia bread made of wheat is baked on heated stones. The cakes are three feet in length, a foot wide and about an inch in thickness. What is termed "pebble bread" is made into unleavened sheets of wafer-like thinness, which are also of great size. These are kept in stock for a long time, and when needed for use are first dampened.

In northern Sweden the hard rye cakes which form the staff of life are baked but twice a year. Baking day

for the housewives of Finland comes but once a season. The cakes each have a hole in the center, by which the whole baking is strung on cords or hung to poles, to be used as needed.

One variety of bread in Norway is flavored with caraway seed. An unleavened bread made of coarse wheat flour is boiled instead of baked, and then sliced and toasted to make it ready for eating.

The black bread which forms the staple diet of Germany is always sour, because over-fermented. After the dough is kneaded in the home, the loaves are carried for baking to the one large oven of the village. The average baking consists of about 40 loaves.

Beans and acorns are used as material for bread by the peasants of Provence. Acorns are also used for bread by the Digger and Pomo Indians.

The oat cakes for which Scotland is famous are made by mixing coarse oatmeal and salted water to a dough which when well baked is rolled very thin and baked on a heated sheet of iron. Scotch scones are made of wheat prepared in a similar manner.

In tropical America a cassava meal, obtained by grating the fleshy root of the manioc, is made into bread. The grated pulp is first washed and pressed, to force from it the poisonous juice. The dried pulp, pounded into a coarse meal, is made into large flat loaves, three feet in diameter and a fourth of an inch in thickness. Such bread, when baked, may be kept in good condition for years.

Something of the digestibility of the various breadstuffs of the world may be judged from a test conducted some time ago at the University of Munich. This test showed that light wheat flour bread was most easily digested. Second in order was a mixed rye and wheat bread raised with yeast, then a rye bread made light with leaven, and last the pumpnickle of the Germans, a coarse, whole-wheat bread that was raised with yeast.

So universal an article of food ought always to be of the very best quality. Good bread does not cloy the appetite, as do many other kinds of food, while the simplest bill of fare that includes light wholesome bread is far more satisfying than an elaborate meal without it. Were the tables of our land supplied with good nutritious and well-baked bread, used with a plentiful supply of fresh fruit, there would be less desire for cake, pastry and other indigestible articles.—Good Health.

Servant—I've come to give notice, ma'am, as I am going to get married. Mistress—Indeed, Mary! How long have you been engaged? Servant—I ain't engaged at all, ma'am. Mistress—Well, who is the happy man? Servant—You know the big shop down the road. Well, the shop-walker looked at me the day before yesterday, and yesterday he smiled, and today he said, "Good morning," and I expect tomorrow he'll propose and, you see, ma'am, I want to be ready.—London Answers.

For a troublesome felon take common rock salt, dry in an oven, then pound it fine and mix with spirits of turpentine in equal parts; put in a rag and wrap around the parts affected; as it gets dry put on more.

### Today.

So here hath been dawning  
Another blue day;  
Think! Wilt thou let it  
Slip useless away?

Out of Eternity,  
This new day is born;  
Into Eternity,  
At night, will return.

Behold it aforeside  
No eye ever did;  
So soon it forever  
From all eyes is hid.

Here hath been dawning  
Another blue day;  
Think, wilt thou let it  
Slip useless away?

### Whiskers, Kisses and Microbes.

Science, like San Bernardino, makes good. A great scientific truth has just been demonstrated in the most impressive fashion, says a middle west newspaper. Two nice young men were chosen by a savant—one smooth-shaven, the other bearded like a pard. They were taken out on a tour of the town and permitted to see almost everything worth seeing, even to trailing along behind a street-sweeping machine.

On coming back they were in turn presented to a lovely young lady, and each—strictly in the interest of science—imprinted on her willing lips a chaste and experimental kiss. After the smooth-faced youth had essayed osculation and had been permitted to carry on his share of the experiment with such tender dilatoriness as seemed desirable, a pad of gelatine was pressed to the lips of the lovely lady, and a "culture" was made. Then up stepped he of the luxuriant whiskers and in the most scientific manner possible planted a lingering kiss on the aforesaid lips. Again a gelatine pad was applied and another "culture" made.

Upon microscopic examination it was found that the smug mug's kiss was entirely innocuous, while that of the Esau was deadly dangerous. In the "culture" from the first there were only a few flocks of lazy bacilli, which belonged to irreproachable families, while the "culture" from the second was a microscopic bear garden, swarming with the germs of tetanus, tuberculosis, typhoid, and other deadly wrigglers. In fact, the whiskered chap had left enough germs lying about loose on the lady's lips to stock up a sanatorium with patients.

Girls, the moral of this veracious and scientific tale is—but what's the use?—Ex.

### The College Student "Type."

The magazine and the clothing advertisements are responsible for a popular idea of the college young man that threatens to demoralize our American youth.

The standard type of up-to-date collegian, as the illustrators show him, is a broad-shouldered young man with a pipe, a cane, and a bulldog. Of course, there are variations. A cigarette may take the pipe's place. The college athlete is shown in various rigs. But in his hours of ease, we would be induced to believe, the college man never gets far away from nicotine, the cane, or the canine.

There are some hundred thousand American boys in the high school stage who expect to go to college. Their thoughts and aspirations turn fondly there, and with a boy's anxiety to be in the running and not queer, these future freshmen are busy getting a line on the customs and manners of the genus matriculate. They naturally form an idea that the essentials are pipe and bulldog rather than laboratory or student lamp. It is easy to forget that the purpose of a college is the acquisition of learning. With his pictorial guide only, and lacking in accurate information, the coming student will minimize the book side of the question. It is all very well to tell him that young men who dally chiefly with side issues fail to retain a residence in the academic halls. The boy has seen

the pictures, and he knows what a college man is like.

It may cost him some trouble and inconvenience later to unlearn the pictorial theory that every college student is an idle sport. — Minneapolis Journal.

### Pneumonia.

The most effective weapon with which to fight pneumonia is fresh air, real fresh air, and lots of it.

The fact that pneumonia might be called simply a shutting off of oxygen shows how important it is to give the patient plenty of air. In one large New York hospital sufferers from the disease are carried to the roof and kept there day and night. When your child grows ill, move it to the largest and sunniest room in the house and open the windows. If it is too cold for that, have another room near by into which the patient may be moved at least three times a day to permit a thorough ventilation of the sick room. All unnecessary furniture and all pictures, hangings and other impedimenta should be taken out of both rooms.

An attack of pneumonia begins in a manner which suggests a very bad cold. The patient has a chill and a fever and suffers from pains in the side. A cough soon appears, and the breath becomes short and quick. The valiant battle of the overworked heart is indicated by a quick pulse and flushed cheeks. Soon there are signs of great exhaustion, with headache, sleeplessness, and (sometimes) delirium.

During all of this period the blood is waging a tremendous war upon the invading germs. If it is destined to lose, the exhaustion will grow more and more marked, and the patient will die. But if it is destined to win there will come a time—it will be between the fifth and tenth day—when the patient will suddenly seem brighter. The temperature will fall, the breathing will be more regular, and the violent jumping of the pulse will cease. When this happens, it is a sign that the battle is won.

### United States Ahead as Usual.

An American traveling abroad was continually boring every one he met, talking about the superiority of the United States and everything in it to Europe.

He finally reached Rome, and some English friends who were tired of hearing him extol the United States planned for a dinner at which they had hopes of squelching his enthusiasm.

The evening came, the dinner was perfect. After the American had dined and wine much too well, and was quite oblivious to his surroundings, they took him to the Catacombs, where so many skulls and skeletons are to be found, and dropped him gently in the midst of the debris, hoping when he sobered up he would be sufficiently frightened to promise "never to do so again."

The Englishmen waited around, and finally they heard him stir; after a few moments he awoke, straightened himself up, looked around very much puzzled, rubbed his eyes, reached out and struck a skull—then an idea struck him, and said he:

"Hooray! This must be resurrection day. I am the first man alive. Hooray! United States ahead!"

### According to Signs.

An Irishman was walking along a road, when he was suddenly struck between the shoulders by a golf ball. The force of the blow almost knocked him down. When he recovered he observed a golfer running toward him.

"Are you hurt?" said the player. "Why didn't you get out of the way?"

"An' why should I get out of the way?" said Pat; "I didn't know there were any assassins around here."

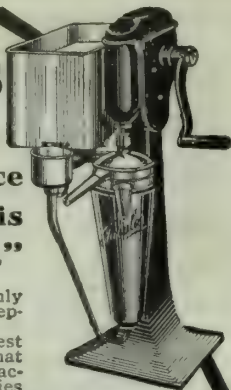
"But I called 'fore,'" said the player, "and when I say 'fore,' that is a sign for you to get out of the way."

"Oh, it is, is it?" said Pat. "Well, thin, when I say 'foive' it's a sign that you're going to get hit on the nose. 'Foive.'"—Philadelphia Public Ledger.



## Tubular Separators

**Are All Built Exactly Alike. The Best that Knowledge and Experience Can Build Alone Goes Out of This Factory. We Make No "Seconds."**



When you purchase a Tubular Separator you buy not only the best separator that is built, but also exactly the same separator that every other Tubular purchaser gets.

There are no different grades of Tubulars built. The best that can be built is what the dairyman needs, and it's what he gets who buys a Tubular. Some "bucket bowl" manufacturers advertise and advocate two or three different qualities of separators, firsts, seconds, thirds, etc. They are bound to get a man's money if he has any. They don't furnish even their own best always, but try never to miss a customer. If the present-day sale is made these hucksters of different grades don't care for the dairy service of the future.

The Tubular looks to the future interests and profits of customers. Every buyer of a Tubular gets not only the best separator that the world knows, but he gets the kind he pays for, and it is exactly the same separator that every other purchaser gets.

There is only one grade of Tubular—the suspended bowl, bottom feed, enclosed gear, self-oiling, low-down supply tank, cleanest skimming machine. Each is perfectly built, all are alike, all are guaranteed the same.

You're always safe when you buy a Tubular. If several grades were made you would not be safe, and might have a mistake to pay for. Be safe and get the best at the start; the best is not too good for any dairyman—the best is always the cheapest. Write for catalog No. 131

**THE SHARPLES SEPARATOR COMPANY,  
West Chester, Penna.**

Toronto, Can.

San Francisco, Calif.

Chicago, Ills.

## AGRICULTURAL REVIEW.

### ALAMEDA.

Pleasanton Times: Beet planting is finished on the Rancho Del Valle. Nearly 300 acres have been planted. The superintendent states that the prospect for a good crop is excellent. Even without more rain, the yield will be good. The first planting is coming up nicely and the stand is good. The sugar company reports the same conditions—large acreage and in good shape. The Del Valle ranch also has about a hundred acres in hops. For some time it has been noticed that some of the vines were rotting at the roots and their chemist is endeavoring to ascertain the cause. On the affected roots a growth similar to that of a tumor appears and as it enlarges, the root begins to rot. The object of the chemist's studies and experiments is to find the insect and then if possible, produce a resistant. The average life of a good healthy hop vine is from twelve to fifteen years, but roots affected with this tumor only survive but two or three years.

Fifty thousand tomato plants were stolen recently from a Japanese nursery near Hayward. The tomatoes, at the price they are now selling, have a value of \$1041.66. The tomato plants were in beds and sheltered with canvas. It is evident the thieves drove to the nursery and under cover of darkness loaded the plants into the wagon.

### BUTTE.

Chico Enterprise: This is a peach, apricot and almond year, while it is an off year for prunes. Cherries are not considered as there are very few orchards in this section. What cherries there are, however, are showing up in splendid shape, and the yield will be larger than at any previous season. Orchardists claim that this year there will not be one-half of a crop of prunes compared with previous seasons. The cause of the failure is not known. The buds have been blasted in most every orchard. Some attribute the failure to a north wind. Others claim that the failure

is due to the heavy crops of the two previous seasons. They believe that during past seasons the soil has been drawn upon so heavily that its nutrition has, to a considerable extent, been exhausted. Loss in the prune crop will be overbalanced by the extra heavy yield in peaches. The crop is one of the most promising in many years. The fruit is so thick on the trees that the orchardists believe they will have to thin out. The acreage is large and the fruit growing rapidly. Apricots are showing up in first class shape, and a heavy yield is assured. Almonds were affected very little by the recent frosts, and one of the best crops in years is assured. The nuts are growing fast, and have almost reached their natural size.

The beet crop at Hamilton City continues to look well. In the last few days the beets have been growing rapidly. Thinning is advancing very satisfactorily. Last year at this time there were but 800 acres of beets planted, while this year there are over 6000 acres planted. Farmers are continuing to plant in the river bottom lands.

W. S. Ballard, of the Department of Agriculture, Washington, D. C., is in Chico inspecting orchards for thrips, an insect which has ravaged prune and pear orchards extensively in Auburn, Suisun Valley and Santa Clara Valley. The insect pierces the buds of pear trees and the fruit of peaches, plums, prunes and cherries.

### EL DORADO.

A consignment of ten pairs of Hungarian partridges has been received at Placerville from the State fish and game commission. They will be released in locations where conditions are favorable for their breeding. Great pains will be taken to protect the original consignment and also their young for a number of years, in the expectation of securing to El Dorado county a new supply of desirable game birds. These partridges very much resemble the mountain quail of California, and are claimed to be hardy and also prolific breeders.

### FRESNO.

Herald: That the cut worms are

doing much damage in certain districts of the county is apparent. Many vineyardists have complained that the pests are doing more damage than the frost and in many ranches the vineyards have been stripped nearly clean. In spite of the fact that Fresno county growers are exclaiming that the peach and apricot crop has been very badly damaged, fruit buyers and shippers confidently assert that the yield will be even larger than last year.

Fowler Ensign: A pair of Durham bulls hitched to a mountain wagon created quite a stir recently. They were hitched directly to the wagon, while in the lead was a team of horses. The driver had used a good deal of ingenuity in harnessing them up, as he had turned ordinary horse collars upside down and placed them upon the bulls in lieu of the time-honored yoke.

### GLENN.

The officials of the Sacramento Valley Sugar Co. have given out that the beets of that section have made rapid gain on account of the rain. It is also stated that the crop will, in the river bottom section, be larger than it was last season. It is estimated that there will be an enormous crop of beets throughout the northern portion of the valley and that the campaign will be much longer than it ever has been before.

### MERCED.

Sun: Fresno men will at once set out a thousand acres of clingstone peaches near Atwater, according to reports.

### NAPA.

Register: A swarm of bees alighted upon a valuable buggy horse and stung him to death. The horse was in a pasture near the bee hives and the maddened insects attacked him.

### SAN BERNARDINO.

Redlands Review: A movement has been started by some of the packing houses to put into effect the gang picking system that was used this season. If the packers consent, it is likely that next season all the fruit picking in this district will be directly under the control of the packers, the same as the marketing is at this time. Some of the growers have expressed opposition, and prefer to see to their own orchards, acting in the capacity of foremen instead of having to employ that individual. It is cited by the growers that the expense would be greater by the gang picking method, as much material that is now owned by the growers would have to be purchased afresh by the packers, and foremen would have to be employed to look after the work incurring additional expense, in addition to not taking care of the fruit as would be the case were the grower to have direct say in the matter.

### SAN JOAQUIN.

Stockton advices state that the general grain yield of the county will be larger than last year, and experts say it will be double last year's. All summer-fallow crops are in good condition, and the reclaimed land crops will run as high as forty bushels to the acre without more rain. With the top soil wet at this time the yield will be very largely increased.

## Horse Owners! Use

GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FRIING. Impossible to produce scur or blenish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

### SAN BERNARDINO.

Citrograph: Oranges are moving eastward at the average rate of 150 cars a day. The shipments of this season now reach the total of 16,454 cars. About 10,000 cars—possibly less—remain to go forward. Prices remain only moderate. The season, as a whole, has not showed up as well as last year. Fruit is good, but eastern markets, to absorb the fruit as fast as sent, have shaded prices. The season of 1907-8 will go into history as being fair, but profits will not be large. Orange trees are blooming profusely, but it is impossible to predict the coming crop for at least two months yet. Trees are all in good shape, looking healthy and vigorous.

### SANTA BARBARA.

Press: Two large date palms weighing with their ball of earth from 8 to 10 tons each were transported to the front of the Potter hotel grounds to complete the line of these palms which now flanks on either side the frontage to the property. The removal of these magnificent palms so that their growth will not be checked is no light undertaking, the plants being some ten years old. The work was done in a day by the Southern California Acclimatization Association.

### SONOMA.

Sebastopol Times: The Valley Ford creamery has secured a contract for supplying the fleet with condensed cream while it is in San Francisco waters. The company secured the award over all the other makes. The contract calls for 40,000 cases of two dozen cans each, making a total of 960,000 cans.

Herald: The outlook for an abundant fruit crop was never better in the Gold Ridge section. Farmers look forward to the largest yield of peaches in the past seven or eight years and cherries are promising exceptionally well. Apple trees are in bloom everywhere and the trees never looked better.

### STANISLAUS.

The new cannery is now fairly completed and will be ready to begin packing early in June. The cannery was designed to offer a home market for both fruit and vegetable products. The latest machinery has been

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD" WHEN YOU BUY A LANTERN INSIST ON A "DIETZ" MADE BY R. E. DIETZ COMPANY Largest Makers of Lanterns in the World ESTABLISHED 1840 PIONEERS AND LEADERS

## DON'T BUY GASOLINE ENGINES

alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



## DR. HESS Poultry PAN-A-GE-A

Think how exactly contrary to nature is the condition of a hen shut in a house or closed run. Is it a wonder she mopes about, lazy, sickly, unproductive? Give the food elements nature meant her to have—make digestive organs work as nature intended them to work and your hen is healthy, happy and productive.

Dr. Hess Poultry Pan-a-ge-a takes care of the digestion.



It gives a natural condition to the hen when every surrounding is unnatural.

It makes perfect digestion—tones and strengthens the system and wards off disease. Leading poultrymen endorse Poultry Pan-a-ge-a. It is the prescription of Dr. Hess (M. D., D. V. S.) and is a guaranteed egg producer, makes chickens grow fast and helps old fowls to fatten. Costs but a penny a day for 30 hens.

**SOLD ON A WRITTEN GUARANTEE.**  
1½ lbs. 35c 5 lbs. 85c  
12 lbs. \$1.75 25 lb. pail \$3.50  
Send 2c. for Dr. Hess 98-page Poultry Book, free.

**DR. HESS & CLARK, Ashland, Ohio.**  
Instant Louie Killer Kills Lice.  
**THE PETALUMA INCUBATOR CO.,**  
Petaluma, Cal., Pacific Coast Distributors.

both years' fleeces and the sale will total about \$18,000. It was impossible to learn the exact price, but it is stated to have been better than 15 cents. The fact that wool is finally changing hands will arouse considerable interest.

### TULARE.

Delta: Mr. Switzer brought in to the office an egg, which he avers was laid by an ordinary California hen, but which would do credit to a turkey. The egg measured six inches in circumference, the short way, and eight and one-eighth inches around the ends.

### YOLO.

The prospects are that this will be a banner year for tule farmers. The season has so far advanced that there is little or no danger of a flood and all the grain planted on tule soil will yield a crop without any rain.

The fruit crops generally in the Winters section, except prunes, are said to be tremendous, nearly all varieties requiring thinning. The shipments of green fruits will be the largest in the history of the district as will also the output of dried and canned fruits. The Winters Canning Co. is adding two new iron storage warehouses to its immense plant. It is estimated that 2000 additional people will be needed in another month or six weeks to harvest the apricot crop. Prices bid fair to be good.

### A New York Dairy Report.

W. W. Hall, president of the New York State Dairymen's Association, comments as follows in the New York Produce Review:

It has been the privilege of the writer to make annual trips throughout the entire dairy sections of our State for the past 14 years. Conditions, so far as the cheese factories, the habits of dairymen and competition from the city milk supply are concerned, are about the same. The improvement in the breeding of dairy cows is marked, and one has only to visit our county fairs to see this improvement. One dairymen from Lewis county told me that this year he would reach a 10,000-lb. average from his herd of 60 cows, and that he had several individuals who had already reached this amount and were giving 55 lb. a day now. With milk netting \$1.25 per 100 lb., this will return to the owner of this herd \$125 per cow, or \$7,500 from the herd of 60 cows. This dairymen is always prepared to meet emergencies, and dry seasons do not seem to affect the flow of milk at his farm. He is also prepared to sell his milk to the city consumer or make it into cheese, as the conditions warrant.

Every farm has its limit as to the number of cows it can support. Every barn has its limit, and, besides, there is the limit of labor. Now, it makes a wonderful difference in the profits of that farm whether or not the cows are of a high producing order. The better men understand the dairy business the clearer will they see that the right thing to do is to reduce the number and increase the quality of the cows.

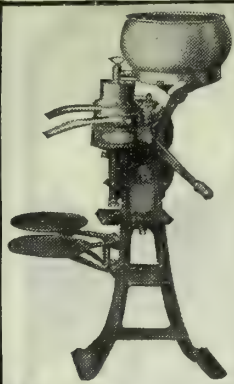
### SUTTER.

Some of the large fruit growers state that peaches are dropping badly and are not certain whether it is the natural drop of a full crop or whether it is caused from the dry spring.

### TEHAMA.

Sheep inspector W. H. Cox reports that sheep are in much better condition than they were four years ago. He praises the Tehama county sheep men for the way in which they have co-operated with the government officials in fighting the scabies.

Union: On April 25th F. B. Findley & Co. of Boston and San Francisco purchased two of the largest Tehama county clips of wool and made the first buy of the season of the Sacramento valley. The two clips are



## SWEEPING THE FIELD

## THE 1908 IMPROVED DE LAVAL CREAM SEPARATORS

Sales to date more than double any previous year.

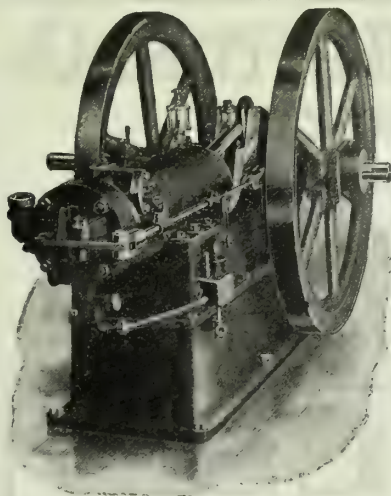
New 1908 catalogue—as interesting and superior as the machines themselves—to be had for the asking.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 First Street  
PORTLAND, OREG.  
1018 Western Ave.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.



## FAMOUS Stover Gasoline Engines BUILT UPON HONOR

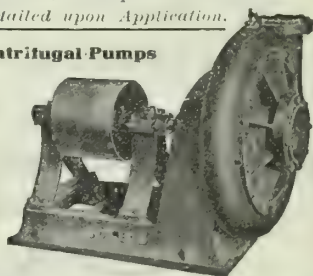
They develop more than the rated horsepower. Simple, Durable, Easily Operated, Economical in Fuel Consumption and Guaranteed. We carry in stock from 2 to 50 horsepower.

Catalogue Mailed upon Application.

### Gould's Centrifugal Pumps

are more efficient and take less power to operate them.

All sizes from 1 to 10 inch in stock.



WOODIN & LITTLE PUMP HOUSE, 70-72 Fremont Street SAN FRANCISCO, CAL.

## Gas, Gasoline and Oil Engines INCLUDING Producer-Gas Plants

BY

GARDNER D. HISCOX, M. E.

—\$2.50—

SIXTEENTH EDITION

A new book from cover to cover, entirely reset, revised and enlarged to 442 pages. Illustrated by 351 engravings.

For Sale by the Mining and Scientific Press, 667 Howard St., San Francisco

## DEMING

Hand, Knapsack, Barrel and Power Sprayers



for the poultry man, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it is possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.  
**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseeded it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious storage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth.....\$1.50





This Trade-Mark is  
on Every Roll of

## REX FLINTKOTE ROOFING

There are just two ways to tell REX Roofing—one is by the service it gives, and the other is by the Boy trade-mark on every roll. Imitations are made that have an outward resemblance to REX Flintkote, but you can't tell anything about the service until after the roofing is laid; so it will pay you to fix the Boy trade-mark in your mind before you start out to buy. It means advance assurance of satisfaction.

### Write for Book and Samples—Free

The book will tell you all about REX Flintkote ROOFING and give photographs of buildings on which it is used, with letters of recommendation from users. The samples will show you what REX Flintkote ROOFING really is and enable you to test its properties.

J. A. & W. BIRD & CO., 1 India Street, Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

## Junior Monarch Hay Press Co.

SAN LEANDRO, CAL.

Make the Leading Hay Presses  
Guaranteed to excel all others

WRITE FOR CATALOGUE

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00 593 pages Well Illustrated. \$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**

(General Agents U. S. A.)  
161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)  
San Francisco. Los Angeles. Seattle.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

## The Poultry Yard.

### VARIETY IN FEEDING FOWLS.

Mr. Walter Sullivan, the well-known Buff Orpington breeder of Agnew, Santa Clara county, gives the Town and Country Journal his conclusions on feeding, which will be found rational and suggestive.

### A Matter of Experience.

We are helped by the experience of others and from among the various methods tried fully by others we can find a system for our own needs that will insure the results we seek. Many times we believe one way or another of feeding is condemned by one who tries for the reason he fails to carry out the plan far enough to be sure it is not adapted to his needs; that is, feeds this way a short time, switches to another method before the flock becomes accustomed to the change, and again upsets the birds, which is as bad or worse perhaps, than changing from one pen to another every few days, which is, we know, a sure method of decreasing egg production.

### Changes in Feeding.

These changes in manner of feeding, if it is thought desirable to have a plan altogether different from what has been followed, are usually best brought about by gradual change, increasing the allowance in one direction perhaps and withholding in another until the full ration of the new plan is being put out, often taking two weeks or more for the change, by which time the fowls are being differently fed without being aware of it themselves or showing any change in the egg basket. Again, what seems perfectly satisfactory at one season will not give the same results another, and when such seems to be the case, perhaps with many, it is the too sudden change in system or entire change to different mixture if fed in same manner that keeps the flock in an unsettled condition, giving the owner the impression that neither method has been right, and another is tried, with the final conclusion that the fault lies with the breed or variety, they being less of layers than was expected from statements made when the flock was started.

The writer has tried many methods of feeding, and still tries some advocated by friends and acquaintances, others of his own at times, to find what will answer best from time to time with changes of seasons, and this would be of little if any help without giving some of his experience along this line. The dry mash feed is gaining many friends; some I know who have fed this way altogether, for three years find it most satisfactory, and the flock—a large one—shows that there is little to be asked for in general appearance, and the statement of the owner that egg yield is satisfactory leaves little room for doubt as to this being the right way for him at least.

### Dry Mash.

Dry mash composed of four parts bran, three parts middlings, one and one-half parts corn meal, one-half part willow charcoal, one part alfalfa meal, and one-sixth to one-seventh part meat meal—the latter according to amount of animal food to be obtained on range, and seeming needs of the birds at molt-

**Harness With "Life" in it**

A pliable strap is a strong strap. You will hold the horse all right if you have softened and toughened the whole harness with

**EUREKA Harness Oil**

Unequaled as a leather preservative. Prevents cracking and rotting. Gives a fine finish. An application now and then saves the harness—pays the owner. Ask for Eureka Harness Oil. Made by

STANDARD OIL CO. (Incorporated)

ing time—is the method used by me. This is placed in self-feeding boxes, grain fed at evening all they will clean up just before roost time. Another is about the same, with barley meal substituted for corn meal. Young and tender grass just starting where fowls can have all they want would allow the withdrawal of the ground alfalfa from the mash, and the writer has tried wetting of this alfalfa and feeding in troughs separately, allowing the hens to have such as they wished without compelling them to take a certain amount, and where green food is scarce they eat this readily and appreciate it. Prices of grains at times will necessitate some study for best combination that will lessen cost. Kaffir corn, while about the same as common wheat, is slightly more fattening, and to overcome this one naturally would feed more meat and be sure of sufficient green food to counteract the effects of a too concentrated diet; overfeeding of meat will cause bowel trouble and other disorders.

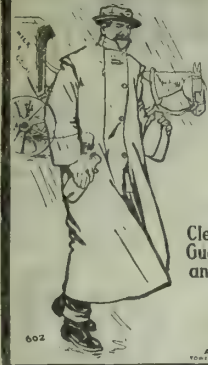
Anything that lessens labor increases profits, and we find in the dry feeding of mash a saving in this; large boxes need filling seldom and where under cover contents are safe for two weeks before any danger of becoming unfit for use, and the mash is fed at one time for the fourteen days, that would mean fourteen trips, and put out in about one-seventh of the time. Moist mash seems to be the right thing in many cases; one flock near the writer, of upward of 1200 layers, has never been fed differently. With the grain fed in the morning gives good returns, and the man handling them shows returns of over \$1000 per year for his work with them.

### More Meat.

It is desirable at times to feed more heavily of meat than at others in case of hens, perhaps just before turning to market, as they are at the last of their profitable laying and one wishes to get all there is in them in a short time then perhaps, and probably it is more profitable to feed the mash moist as when given in this form it is one of the full feeds and they are compelled to take a given amount of whatever the mash is composed of. Other plans have been in hoppers, and grain fed by hand perhaps three times daily where birds were more closely confined, the feeding of three times a day in litter giving the needed exercise, with the meat at hand tempered with bran and middlings, to prevent over-indulgence.



### THE MAN WHO SWEARS BY THE FISH BRAND SLICKER



is the man who has tried to get the same service out of some other make



Clean - Light - Durable  
Guaranteed Waterproof  
and Sold Everywhere  
at \$3.00

ILLUSTRATED CATALOG  
FREE FOR THE ASKING  
A. J. TOWER CO. BOSTON, U. S. A.  
SOLELY IMPORTED BY THE PACIFIC RURAL PRESS, OREGON

### POULTRY ON THE FARM.

Prof. Dryden, instructor in poultry culture at the Oregon Agricultural College, makes through the Pacific Homestead, contribution to the discussion of this interesting question of whether poultry can be profitably made a part of mixed farming.

The question has been asked, how many fowls can be profitably kept on the general farm? It is, of course, true that the smaller the flock the greater will be the percentage profit, because a small flock of 50 to 100 may be kept on the average farm at very little cost for food. There is usually enough waste food to support that number of hens, but if the same waste food be divided among 1000 hens it will be seen that the food cost per fowls will be greater. On a great many farms just enough hens are kept to consume the waste products and every egg is so much profit, and besides there is the poultry manure which is worth something.

Nevertheless, poultry keeping may be made a leading feature of a system of mixed husbandry, and probably under such a system it will pay larger profits than as a separate business. It is the farms that the country depends upon for a large part of the poultry products. The amount produced on special poultry farms is small compared with the immense quantities produced on the farms under a system of mixed husbandry. The same thing is probably true of the milk and fruit. At the same time poultry keeping as a separate business may be made to pay. At the prices of poultry and eggs prevailing throughout the year there is a large margin of profit between the cost of food and the price received for the food when converted into eggs, providing the fowls lay a sufficient number of eggs.

But the question I wish to discuss now is farm poultry keeping rather than the poultry business. Any system of mixed husbandry, of course, must be based on the adaptability of the farm to that system. It is an elastic system. The system must necessarily vary as the soil, climate, and markets vary, and it is this elasticity or the rapidity with which the system may be varied to meet market and other conditions that makes mixed husbandry the safest and in the end the most profitable system of farming. So that in considering poultry keeping as a prominent feature of mixed husbandry the soil and the markets should be considered.

There are farms where poultry might profitably be made the leading feature of the farm without in any way interfering with the general rotation of the crops. In other words, there are farms producing grain, fruit, and dairy products on which poultry keeping may be made a large and profitable business without any charge or cost for land. For instance, a farmer owns 160 acres of land in which he is raising wheat, oats, and clover, and possibly 10 cows and a dozen chickens are kept. A little garden produces the vegetables for the family and a few bushes and trees the required fruit. On such a farm poultry should thrive. Where wheat

and clover and fruit will grow successfully poultry will do well. Whether it would pay to make poultry keeping the leading feature of such a farm would depend largely upon the price of poultry and eggs as well as of grain. Manifestly, if the farmer could get two dollars a bushel for his wheat he would be excusable if he sold his wheat rather than to feed it to poultry or any kind of livestock; but, with the prices that have prevailed in Oregon for the past two or three years for poultry and eggs and for wheat, it is my opinion that with proper management, greater profits could be made by feeding a large part of the grain to poultry.

Objections? Yes, there are objections to poultry on the farm. It means extra work, some farmer will say, if you keep a lot of chickens on the farm. It means that you are tied down every day of the year. It is the same objection that is raised to cows on the farm. The milking has to be done and the eggs gathered every day. It means daily labor. All farmers, of course, don't take that view of farm management. The majority have to work throughout the year to make ends meet, just as workers in any other line of business have to do. If a man can make a living growing wheat or growing fruit six months in the year and spend the rest of the year trying to make life pleasant and easy for his wife, you can count upon it that it would not be many years before the men would all be wheat growers and fruit growers and the women would marry the men pledged to work only six months in the year and to spend the rest of the year entertaining wives and babies with their pipes and their smiles. But the thing is impossible. It might work a few years, but there would soon be broken pledges and hearts. The farmer would soon lose his smile and the wife her spring hat and happiness, because the wheat field would fail to produce and the fruit markets become overstocked. It is no new thing to say that there can be no permanent agricultural prosperity with a one-crop system of farming and there can be no real happiness without labor. No business can pay its way where the workmen are idle half the year.

I said it is possible for the farmer to do a good poultry business without any cost for land. Can it be done? I think it can. It is being done in Rhode Island under conditions not so favorable as here. It will entail more labor, but that will be about all the extra expense. It is a question of getting profit out of labor rather than out of land. It is starting a little factory on the farm, the farm furnishing the raw materials. It is not necessary of course to say that every farmer should not try it. That would be going to another extreme and in mixed husbandry extremes have to be avoided. You have to consider conditions. The farm may be suitable for poultry keeping, but the farmer may not be. The adaptability of the farmer as well as the farm should be considered. The farmer should try to adapt his system of farming to that line of work for which he has the strongest liking.

## Take Care of the Chicks

It is said there is a mortality of 50% among young chicks every spring. This means a tremendous loss. Think how great the poultry industry would be if even a fraction of these lost chicks were saved to become egg producers or fat market fowls. *Care and proper feeding* at the time of hatching and during the first days of the chick's life are absolutely essential to its well-being.

Begin as soon as the chick takes food regularly and give a little of Dr. Hess Poultry Pan-a-ce-a once a day in soft food. If you do this and chicks are kept dry and warm, your losses will be very slight.



## DR. HESS Poultry PAN-A-CE-A

was formulated by Dr. Hess (M. D., D. V. S.) for the express purpose of meeting and overcoming the hundred and one ills that perplex the poultryman. While it is beneficial in many ways and also destroys germs, its greatest worth is as an assistant to the digestive organs. Its use makes the largest possible per cent of food available for healthy growth. Hence chicks mature early, hens lay many eggs, and market birds fat quickly. Endorsed by the most prominent poultry men in the United States and Canada. Costs but a penny a day for 30 hens.

Sold on a written Guarantee.  
1 1/2 lbs. 35c. 5 lbs. 85c.

12 lbs. \$1.75. 25 lb. pail \$3.50.

Send two cents for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK,

Ashland, Ohio,

INSTANT LOUSE KILLER KILLS LICE.

THE PETALUMA INCUBATOR CO.,  
Petaluma, Cal., Pacific Coast Distributors.



## Greet the Fleet

AND

ADMIRAL EVANS

WITH THE

## 16 Great Battleships

AT

San Francisco, May 6th.

LOW RATES

Round Trip Tickets sold May 2nd to 10th, inclusive, at 1 1/2 rate. Good for 10 days' trip. See nearest agent for details.

SOUTHERN PACIFIC

## Nitrate of Soda

THE NITRATE AGENCIES  
COMPANY

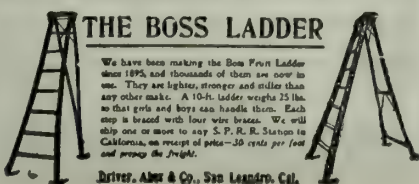
64 Stone Street, New York, N. Y.

36 Bay Street, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street,  
San Francisco, Cal.

Address Office Nearest You



Driver, Ames & Co., San Leandro, Cal.



Nitrate of Soda Sulphate of Potash  
Acid Phosphates Superphosphates

Phosphoric Acid Mixed Fertilizers

Suitable for Every Crop Grown Under the Sun, Sold by

THE MOUNTAIN COPPER COMPANY, Ltd.

150 Pine Street

San Francisco

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "ZS" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4336.



## THE MARKETS.

San Francisco, May 6, 1908.

## WHEAT.

Deliveries of grain in Chicago, May 1, on May contracts were in the aggregate the largest ever reported in one day on the Chicago Board of Trade. The Chicago wheat market is inclined to greater firmness on rumors of damage in Kansas. The San Francisco market has shown no very decided change for some time, the prevalent condition being one of dullness, in both future and cash grain. There is no speculative interest whatever, future sales being too few to establish any quotable prices. Spot prices are unchanged, and while holders show little disposition to make concessions, buyers are not sufficiently interested to warrant an advance. There is little movement here aside from local milling requirements, and while the demand seems to be increasing slightly, there is so far no great volume of business.

California White Australian..	1.70 @	—
California Club.....	1.62 @	1.65
California Milling.....	1.65 @	—
California lower grades.....	1.55 @	1.60
Northern Club.....	1.62 @	1.65
Northern Bluestem.....	1.65 @	1.70
Northern Red.....	1.60 @	—
Turkey Red.....	1.65 @	1.70

## BARLEY.

Speculative business in barley is as active as it has been for several weeks past, with future prices showing a good deal of fluctuation, with a general tendency upward. The spot market is particularly strong for feed grades, though nothing else is moving at present. There is no chartered grain tonnage in port, and no demand for shipping barley. Brewing and chevalier are quoted again, and though both are largely nominal, the brewers are beginning to show a little interest in the market. Choice bright feed is being sold to arrive as high as \$1.45, and nothing is obtainable below \$1.37½. Most of the trading is now on northern grain, spot stocks being very light in this market.

Brewing.....	1.50 @	1.55
Chevalier.....	1.75 @	1.85
Good to Choice Feed, per ctl..	1.42 @	1.45
Common to Fair.....	1.37½ @	1.40
Shipping.....	Nominal	—

## OATS.

The situation in the oats market continues very strong, and though the amount of business is comparatively small, a considerable advance is quoted in some lines. Gray, which have been nominal, are again moving at stiff prices, and white are about 2½ cents higher. Red oats are so far unchanged. Stocks are very light here, supplies are hard to get in the north, and holders accordingly show little interest. Some buyers are in the market, and show more inclination than formerly to pay the prices asked.

Choice Red, per ctl.....	\$1.55 @	1.57½
Ordinary Red.....	1.47½ @	1.52½
Gray.....	1.60 @	1.70
White.....	1.55 @	1.67½

## CORN.

Corn remains quite firm, with comparatively few lines offering. Prices are unchanged since the recent advance, and there has been no noticeable increase in the demand. Arrivals are small, but have been rather frequent for the last month, spot stocks showing a slight increase. The market, however, remains in its usual quiet condition.

California Small Round Yellow, per ctl.....	Nominal	—
Large Yellow.....	1.75 @	—
White.....	Nominal	—
Western State sacked Yellow.....	1.75 @	—
White, in bulk.....	1.67 @	—
Mixed, in bulk.....	1.65 @	—
Brown Egyptian.....	Nominal	—
White Egyptian.....	Nominal	—

## RYE.

There are no offerings of anything but California rye, and very little of that is on hand at present. Prices are nominally the same as before, though there is barely enough trading to establish the figures.

California.....	\$1.47½ @	1.50
-----------------	-----------	------

## BEANS.

Firmness still characterizes the bean market, with short supplies and a strong

demand all round. Prices on several lines show a further advance, with all stocks closely held by comparatively few handlers, and rapidly decreasing under a continued demand for shipment, as well as for the local trade. With dry weather working considerable damage to the coming crop, everything is in favor of the sellers. Both small and large whites are considerably higher, and limas have gone up about 10 cents.

Bayos, per ctl.....	\$3.00 @	3.10
Blackeyes.....	3.25 @	3.50
Butter.....	4.50 @	—
Cranberry Beans.....	3.00 @	—
Garbanzos.....	3.75 @	4.00
Horse Beans.....	2.25 @	2.75
Small White.....	3.85 @	3.75
Large White.....	3.65 @	3.85
Limas.....	4.00 @	4.75
Pea.....	3.75 @	4.00
Pink.....	3.00 @	3.10
Red.....	3.50 @	4.00
Red Kidneys.....	2.75 @	3.25

## SEEDS.

The only feature of the seed market at present is alfalfa, a small quantity of which is again offering at 20 and 22 cents a pound. At this price there is little movement. With unfavorable weather, the market has settled down to a condition of great dullness, with prices steadily held, but no particular inquiry from any quarter.

Alfalfa per lb.....	20 @	22 c
Broomcorn Seed, per ton.....	\$22.00 @	25.00
Brown Mustard, per lb.....	3 @	3½ c
Canary.....	4 @	—
Flaxseed.....	3 @	—
Hemp.....	4½ @	4½ c
Millet.....	2½ @	3½ c
Timothy.....	Nominal	—
Yellow Mustard.....	Nominal	—

## FLOUR.

Local millmen report that this market is decidedly dull, with no feature worthy of remark, prices remaining exactly as before. There is no sign of weakness, however, and Kansas and Dakota brands have been advanced about 40 cents a barrel.

California Family Extra, per bbl.....	\$5.40 @	6.00
Bakers' extras.....	5.40 @	5.65
Superfine.....	4.20 @	4.50
Oregon and Washington, Family.....	4.90 @	5.40

## HAY.

Although there have been general showers throughout the State, the tendency of this market has been somewhat stronger, with prices advanced. It is felt that the rain has not been sufficient to relieve the situation. As a result, the farmers are holding their stock until they are better able to determine the extent of their own needs. Business generally is quiet in San Francisco, and there is no considerable demand to strengthen the market. The prospects for more rain should have some effect on this market, and prices will probably drop off. There is a large supply of old crop left, and this crop should be about up to the average. The new crop has not yet appeared in this market, and there is no way of gauging what this season's prices will be.

Choice Wheat, per ton.....	\$18.00 @	20.00
Other Grades Wheat.....	15.00 @	18.00
Wheat and Oat.....	14.00 @	15.00
Tame Oat.....	11.00 @	17.00
Wild Oat.....	10.00 @	13.50
Alfalfa.....	9.00 @	13.50
Stock.....	7.50 @	9.50
Straw, per bale.....	60 @	95 c

## MILLSTUFFS.

Roller barley, after remaining stationary for some time, is again advancing, in sympathy with the raw grain. Otherwise prices on millstuffs show no change since last report. Bran, shorts and middlings are held very firm at the recent advance, with receipts running extremely light, though there is more to be had than a few weeks ago. The demand for all these lines is quite lively, owing to the scarcity of green feed. Miscellaneous lines of feedstuffs are moving about as usual at unchanged prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @	—
Jobbing.....	23.00 @	—
Bran, ton.....	31.00 @	32.50
Broom Corn Feed, per ctl.....	90 c @	1.00
Cocanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @	—
Jobbing.....	28.00 @	—
Corn Meal.....	34.00 @	35.00
Cracked Corn.....	35.00 @	36.00
Mealalfa.....	22.00 @	—
Jobbing.....	23.00 @	—

Middlings.....	33.00 @	36.00
Mixed Feeds.....	27.00 @	29.00
Oil Cake Meal, per ton.....	37.50 @	38.50
Roller Barley.....	29.00 @	31.00
Shorts.....	31.50 @	33.50

## VEGETABLES.

Garlic is gradually declining from the recent high prices. New red onions are now quite plentiful, and sell considerably below former prices, other varieties remaining steady, with fair demand. There is little shipping of asparagus east at present, but prices on fancy stock are stronger, with arrivals running very light. Large supplies of green peas and rhubarb are arriving, and prices are accordingly weak. Other miscellaneous lines are in good demand, as buyers are looking for an advance, and make large purchases of nearly everything. Supplies of summer squash and string beans are larger, however, with lower prices.

Garlic, per lb.....	18 @	20 c
Green Peas, sack.....	1.60 @	1.75
String beans, lb.....	7 @	10 c
Cabbage, per ctl.....	35 @	50 c
Onions—		
Australian, per ctl.....	5.00 @	5.50
Bermudas, per crate.....	1.75 @	2.00
New Green, box.....	50 @	65 c
New Red, sack.....	2.00 @	2.50
Summer Squash, box.....	75 @	1.00
Tomatoes, crate.....	1.50 @	2.00
Carrots, sack.....	75 @	—
Celery, crate.....	1.50 @	—
Rhubarb, box.....	50 @	1.25
Asparagus, extra, lb.....	6½ @	7½ c
Asparagus, No. 1.....	5½ @	6 c
Asparagus, No. 2, lb.....	3 @	5 c
Green Peppers, lb.....	20 @	25 c

## POULTRY.

Arrivals of western chickens last week were exceptionally heavy and a full carload was held over. Receipts from California points have also been large, causing considerable weakness on some lines, which are inclined to drag. On account of the presence of the fleet, however, the demand for all extra or choice large stock is improving, and the market cleans up fairly well. Prices are still hardly satisfactory on some lines, but show a general improvement over last week. Large young roosters are especially strong.

Broilers.....	\$4.50 @	5.50
Small Broilers.....	3.00 @	3.50
Ducks.....	4.00 @	7.00
Fryers.....	7.00 @	8.00
Geese.....	2.00 @	2.50
Goslings.....	2.50 @	3.00
Hens, extra.....	7.00 @	9.00
Hens, per doz.....	6.00 @	6.50
Small Hens.....	4.50 @	5.50
Old Roosters.....	4.00 @	4.50
Young Roosters.....	7.50 @	10.00
Pigeons.....	1.25 @	1.50
Squabs.....	2.00 @	2.50

## BUTTER.

Butter has shown considerable firmness all week, and instead of the decline expected by the storage people, a slight advance is noted. There was quite a shortage for several days on account of the delay of the Humboldt steamer, and a continued demand for shipment, together with a heavily increased movement for the local trade, and a slight activity in the way of storage, have kept the market fairly strong, with comparatively little surplus at any time. Creamery extras and firsts are a cent higher, everything else being unchanged.

Cal. (extras) per lb.....	23 c	—
Firsts.....	22½ c	—
Seconds.....	21 c	—
Thirds.....	—	—
Fresh Packing Stock, No. 1.....	19½ c	—
Fresh Packing Stock, No. 2.....	18½ c	—

## EGGS.

The egg market shows much more firmness than a week ago, with an advance of 1 cent on extras, though low grade stock is rather weak. Supplies have been liberal, and there was some easiness a few days ago, but the bull element in the Exchange continues to bid up prices, forcing the Sonoma Poultry Association to advance its price to 21 cents. With a good local demand on account of the many visitors in the city this week, no immediate decline is looked for.

California (extra) per doz.....	22 c	—
Firsts.....	19 c	—
Seconds.....	16½ c	—
Thirds.....	16 c	—

## CHEESE.

Cheese is steady to firm, local flats showing an advance of ½ cent on both extras and firms. Young Americas are

LILLY'S BEST

MEANS

## Comfort for Stock



## FLY KILLER

applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A coat of



## LICE KILLER

applied to roost or board beneath the roost will positively kill lice. For something in the powder form



## INSECT POWDER

is sure death to all vermin and is positively harmless to chicks.

These remedies are Sold by Dealers

Manufactured by

THE CHAS. H. LILLY CO.

SEATTLE and PORTLAND

also slightly firmer, though the extra grade is unchanged. Oregon and eastern storage stock are in the same position as last week.

Fancy California Flats, per lb...	12½ c
Firsts.....	12 c
New Young Americas, Fancy.....	13½ c
Storage, do.....	—
Eastern, New.....	Nominal

Eastern, Storage.....	16½ c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c

## POTATOES.

Potatoes are firmer, with no surplus on the market, and a lively movement on all choice stock. Lompoc goods are entirely cleaned up. Oregon, though firm, are unchanged, but river stock has taken another jump, nothing being offered for less than 75 cents a bag.

Oregon Burbanks.....	85 @	1.10
Burbanks, River, bag.....	75 @	1.00
New Potatoes, lb.....	1½ @	2½

## FRESH FRUITS.

The liberal receipts of cherries have brought prices down considerably, but all good ripe stock moves off under a strong demand. Buying has been heavy in strawberries, prices being noticeably higher, and though arrivals are large, all desirable offerings are readily cleaned up.

Cherries, drawer.....	85 @	1.50
Apples, fancy.....	1.25 @	1.75
Apples, common to choice.....	60 @	1.00
Strawberries—		
Longworths, chest.....	15.00 @	17.00
Cheneys, chest.....	12.00 @	15.00
Malindas, chest.....	10.40 @	14.00
Los Angeles, crate.....	1.00 @	1.50

## CITRUS FRUITS.

Supplies of navel oranges are plentiful, but with a good demand prices are held firmly up to the recent advance. Tangerines are unchanged. Grape fruit remains firm, but other citrus goods are dull. Limes are again offered at easier figures.

Choice Lemons.....	\$1.75 @	2.00
Fancy Lemons.....	2.25 @	2.50
Standard.....	1.00 @	1.25
Limes.....	5.50 @	6.00
Oranges—		
Navels.....	1.80 @	2.75
Tangerines.....	1.25 @	1.75
Grape Fruit.....	3.25 @	3.50

## DRIED FRUITS.

Several lines of dried fruits show a slight decline, but the market shows some signs of improvement. Prunes remain the strong favorite, with a small hold-over and a poor crop in prospect. Raisins remain dull and weak, with several reductions.

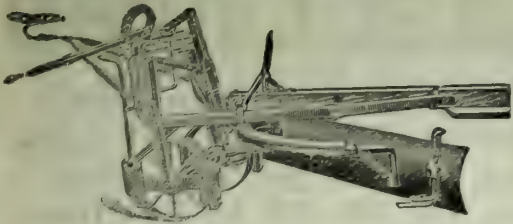
Evaporated Apples.....	5½ @	6½ c
Figs.....	2½ @	3 c
Apricots, per lb.....	12 @	14 c
Peaches.....	7½ @	8 c
Prunes, 4-size basis, 1907 crop.....	3 @	3½ c
Pears.....	7½ @	9 c

## RAISINS.

2 Crown.....	3½ @	—
3 Crown.....	4 @	—
4 Crown.....	4 @	4½ c
Seeded, per lb.....	6 @	6½ c



## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do al-

most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

## THE BAKER MANUFACTURING CO.

DEPT. I.

706 FISHER BLDG.

CHICAGO.

Seedless Sultanias .....	4 1/2 @	—
London Layers, per box .....	90 @	1.00
London Layers, cluster .....	\$1.25 @	1.50

## NUTS.

Nuts are extremely dull, with very little offering except in a jobbing way. Walnuts are especially scarce. Prices remain the same, though almonds are inclined to easiness.

Almonds, Nonpareils .....	13 1/2 @	14 1/2 c
I X L .....	13 @	14 c
Ne Plus Ultra .....	12 1/2 @	13 c
Drakes .....	11 @	11 1/2 c
Languedoc .....	10 @	—
Hardshell .....	7 @	7 1/2 c
Walnuts, Softshell No. 1 .....	13 @	—
Softshell, No. 2 .....	10 @	—
Italian Chestnuts .....	10 @	12 1/2 c

## HONEY.

Prices on honey are unchanged, and very little is offered. A few small lots of the new crop have been shipped from producing districts, but none has yet appeared in this market.

Water White, Comb .....	16 @	17 c
White .....	15 @	—
Water-white, extracted .....	8 @	8 1/2 c
Light Amber, extracted .....	7 @	7 1/2 c
Dark Amber and candied .....	5 1/4 @	5 1/2 c

## WOOL.

Local wool handlers see no signs for encouragement in the wool market, either here or in the east. Buyers take little interest in offerings, and producers are unwilling to sell at current prices.

Spring-clip, Humboldt, year's staple .....	20 @	—
Northern Humboldt and Mendocino .....	12 @	14 c
San Joaquin .....	8 @	11 c
Fall Clip, northern, free .....	7 @	8 c
Southern Coast .....	7 @	10 c
Nevada .....	9 @	12 c

## HOPS.

There is a slight improvement in prices and a better demand is felt, though the market still shows no great activity.

1906 crop .....	1 1/2 @	2 1/2 c
1907 crop .....	4 @	7 c
1908 (contracts) .....	9 @	10 c
3 to 5 year contracts .....	10 @	12 c

## MEAT.

Hogs are again becoming plentiful at Chicago. Beef is weak in this market, with a decline in dressed cows and steers, as much thin stock is arriving. Mutton is also plentiful and lower.

Beef: Steers, per lb. ....	6 1/2 @	7 1/2 c
Cows .....	5 @	6 c
Heifers .....	5 @	6 c
Veal: Large .....	5 1/2 @	8 c
Small .....	8 @	9 c
Mutton: Wethers .....	8 @	8 1/2 c
Ewes .....	7 @	7 1/2 c
Spring lamb .....	10 @	11 1/2 c
Hogs, dressed, heavy .....	7 1/2 @	8 c
Light .....	9 @	10 c

## LIVESTOCK

Steers, No. 1 .....	8 1/2 @	—
No. 2 .....	8 @	—
No. 3 .....	7 @	—
Cows and Heifers, No. 1 .....	7 @	—
No. 2 .....	6 @	6 1/2 c
Bulls and Stags .....	4 @	4 1/2 c
Calves, Light .....	5 @	—
Medium .....	4 1/2 @	—
Heavy .....	3 1/2 @	4 c
Sheep, Wethers .....	5 1/2 @	—
Ewes .....	5 @	—
Spring Lambs, lb. ....	6 @	—
Hogs, 100 to 200 lbs .....	5 1/2 @	6 c
200 to 300 lbs .....	4 1/2 @	5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

FRANK A. MEHCAM, Prop.

Importer and Breeder of

## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

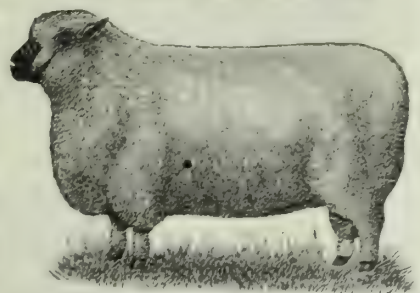
Address all communications PETALUMA, SO. NOMA CO., CAL.



FRANK A. MEHCAM

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MEHCAM, Importer and Breeder

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG &amp; CO.,

1105-6 Merchants Exchange Bldg., San Francisco Established 1860.

## Blake, Moffitt &amp; Towne

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO Blake, Moffitt &amp; Towne, Los Angeles Blake, McFall &amp; Co., Portland, Oregon

## NEW SUBSTANCE TO REPLACE SHINGLES.

A Method of Roofing Which Promises to Supersede All Other Styles.

An interesting invention has been recently announced to the building trade. It is a substance which comes in rolls like ordinary "Prepared Roofing," so-called but which has all the appearance on the roof of individual, diamond-shaped tiles.

The principle involved is novel and very interesting, yet so simple that we wonder it has not been used before.

The material comes in long sheets. Through the middle a saw tooth cut is made in manufacture. The halves are separated after the sheet is unrolled. One half is placed over the other when laying, thus developing the first course of tiles.

Each succeeding strip breaks up the strip underneath into these graceful individual tiles.

The sides of the material are slightly different shades of red, so that by alternating these sides in laying, a pleasing color contrast is developed between adjoining tiles.

This new material is called Zolium. Full information regarding this important invention can be obtained of J. A. & W. Bird & Co., Boston, Mass., who are the patentees and makers.

Danvers, Mass., Jan. 27, 1908.

Tuttle's Elixir Co., Boston, Mass.—

Gentlemen: I wish to thank you for the relief which I have received from your Elixir. One evening my husband, who is an expressman, brought to the house a bottle of your Elixir, intending it for stable use, and, as I had been suffering for weeks with what I should term sciatic rheumatism, a thought struck me that if it would relieve horses, it certainly must have some merit for a human being. After several applications upon retiring, I was relieved of the trouble. I am also troubled in the very cold weather, with a numbness from my elbow down. I resolved to try it for that. Upon application and then wrapping my arms in flannel, I have found relief and shall never be without it in the house. Again thanking you, I remain, your truly,

Mrs. M. C. Pettingell.

## BREEDERS' DIRECTORY

## POULTRY.

BUFF ORPINGTONS—Sullivan's famous buff's excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

SANTA TERESA POULTRY FARM for White Leghorns. Wm. HAUSAM, Eden Vale, Cal. Box 45.

WILLIAM NILES & CO., Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE, POLAND-CHINA, DUROC HOGS, Choice, thoroughbred Poultry. William Niles & Co., Los Angeles, Cal. Established 1876.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls

Stock for Sale Dept. 31, 320 McAllister St., S. F.

## HORSES AND CATTLE.

JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS. Thoroughbred Hogs, Poultry. William Niles & Co., Los Angeles, Cal. Breeders and Exporters. Established 1876.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY. BREEDERS OF SHORTHORN CATTLE 841 Mission St., San Francisco, Cal.

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The .....	303
Beckman, Geo. V. ....	303
Bird & Co., J. A. & W. ....	300
Blake, Moffitt & Towne .....	303
Breeders' Directory .....	303
Covina Nurseries .....	295
Croley, George H. ....	303
Cutter Laboratory, The .....	295
De Laval Dairy Supply Co. ....	299
Deming Co., The .....	299
Dewey, Strong & Co. ....	303
Dietz Company, R. E. ....	298
Disbrow, F. H. ....	295
Doak Gas Engine Co. ....	—
Driver, Aber & Co. ....	301
Driver, E. S. ....	303
Fresno Agricultural Works .....	—
Galloway, A. J. ....	295
German Kall Works .....	—
Hamlin School, The .....	296
Hausam, Wm. ....	303
Hart, Ed. ....	303
Hess & Clark, Dr. ....	299, 301
Holcomb & Co. ....	301
Howard Cattle Co. ....	303
Hoyt's Tree Support Co. ....	304
International Harvester Co. ....	—
Jackson & Co., T. W. ....	304
Junior Monarch Hay Press Co. ....	300
Lawrence-Williams Co. ....	298
Lilly Co., Chas. H. ....	302
Lister, Henry B. ....	303
Lynch, John .....	303
Meacham, Frank A. ....	302
Mountain Copper Co. ....	301
National Wood Pipe Co. ....	304
Niles & Co., Wm. ....	303
Oakland Poultry Yards .....	303
Oregon Nursery Co. ....	295
Pacific Coast Business College .....	297
Pear Blight Remedy Co. ....	304
Roeding, Geo. C. ....	303
San Francisco Sulphur Co. ....	301
Santa Teresa Poultry Farm .....	303
Shaw, Henry .....	295
Sharples Separator Co. ....	298
Shaw Co., H. C. ....	304
Silva & Bergholdt Co. ....	295
Simmons Hardware Co. ....	—
Smith, Francis .....	—
Sorby Vaccine Co. (Inc.) .....	300
Southern Pacific Railway .....	301
Standard Oil Co. ....	300
Stowe, C. A. ....	303
Sullivan, W. ....	303
Teague, R. M. ....	—
Temple Pump Co. ....	298
Tower Co., A. J. ....	301
Tuttle's Elixir Co. ....	—
Van Der Naillen, A. ....	300
Vermont Farm Machine Co. ....	295
Wagner, J. B. ....	295
Walte, Thos. ....	303
West Coast Cresol Dip .....	304
Woodin & Little .....	299

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts., San Francisco.

ASPARAGUS.—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture. special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth .....

THE NEW ONION CULTURE.—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and expert stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth .....

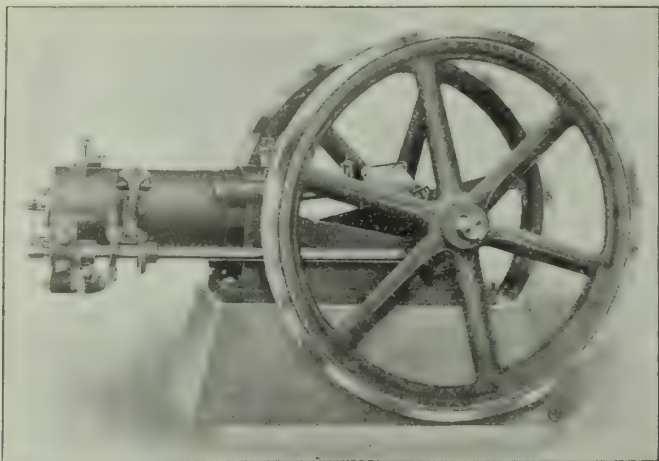
THE BOOK OF CORN.—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages, 5 by 7 inches. Cloth .....

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 288 pages. 5 by 7 inches. Cloth .....



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.

## HOYT'S TREE SUPPORT

PATENTED NOV. 26, 1901.  
PATENTED SEPT. 22, 1903.

### A USEFUL THING IS A JOY FOREVER

The Propless Prop that Properly Props a Tree



Hoyt's Tree Support on the Tree.

Over Three Million Sold Since Introduction in 1903

After your trees have broken down, overloaded with fruit, don't howl about your hard luck. The preventive is CHEAP, EFFECTIVE, PERMANENT.

For Full Particulars and Descriptive Booklet write

## MacDONALD & SONS

WATSONVILLE, CALIFORNIA

General Agents for the HOYT TREE SUPPORT COMPANY.

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

May 13, 14, 15, 28, 29, 30.  
June 3, 9, 10, 11, 15, 16, 22 to 28, Inc.  
July 2, 3, 6, 7, 8, 28, 29.  
August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	. . .	\$ 60.00
Council Bluffs	. . .	60.00
Kansas City	. . .	60.00
Chicago	. . .	72.50
St. Louis	. . .	67.50
New Orleans	. . .	67.50
Washington	. . .	107.50
Philadelphia	. . .	108.50
New York	. . .	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.



## NOW READY

### THE VERMOREL TORPILLE KNAPSACK SULPHURING MACHINE

We could not supply the demand last season so would advise you to

PLACE YOUR ORDERS NOW

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring easy work and saves sulphur. Recommended by users as the most effective sprayer used for the purpose.

SOLD BY

## THE H. C. SHAW CO.

Stockton, Cal.

General Agents for the United States.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. It resists them all. Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## WEST COAST CRESOL DIP

Great caution must be used with Carbolic, Petroleum, Sulphur-Lime and Tobacco dips. And none of these can compare in effectiveness with Cresol Dips, which are perfectly harmless. Permission of U. S. Dept. to use our dip for Sheep Scab in highest dilution ever allowed.

IF NOT SOLD BY YOUR DEALER, SEND TO US FOR TRIAL OFFER. SPECIAL PRICE AND FREIGHT PREPAID.

## WEST COAST MILL

818-826 SAN FERNANDO ST.  
Through to Alameda.

LOS ANGELES, CALIFORNIA.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 20.

SAN FRANCISCO, SATURDAY, MAY 16, 1908.

Thirty-eighth Year.

### ARRIVAL OF THE FLEET.

[By Mr. T. Arthur Rickard, Editor of the Mining and Scientific Press.]

No one who watched the stately procession of battleships filing through the Golden Gate can have helped sharing the patriotic pride of the 800,000 people who waved a welcome from the

many hills that look upon the haven of San Francisco. Yet there was a curious absence of noise; the bigness of the amphitheatre made the performers seem small and checked the applause of the onlookers. The size of the harbor of San Francisco was never more emphasized than when the American navy made its evolutions without being cramped for room and the whole countryside was lined with sightseers without being crowded. The immensity of the panorama checked applause, the thousands on the hillsides of the City knew that no shout of welcome could reach the sailors on the ships, so they stood silent, absorbed in the spectacle. The first signal was the faint boom of a gun off the Presidio. The smoke of it joined the low-lying fog that had threatened to mar the glory of the day. Soon the guns of Fort Baker on the Marin shore echoed the welcome, and the smoke almost hid the harbor entrance. Then in silent state the leading battleship glided through the Golden Gate, and at exactly equal intervals of four hundred yards the other gray men-of-war followed, each flanked by a dark torpedo-boat destroyer. The Atlantic fleet, comprising 18 battleships, advanced in single file, the westerly breeze blowing the smoke of their three-fold

funnels ahead of them, so that it mingled with the salutes from land and water, flinging a murk of battle over the peaceful parade. The clouds hung low across the Contra Costa hills and big shadows darkened the water. Suddenly, as the flagship, the Connecticut, approached Alcatraz island and swung southward toward the inner harbor, the light broke through the clouds, the sunshine changed the dull gray hull into a radiant white vessel athrob with insistent life and assertive strength. And as the battleships moved into the sunlit space, each of them seemed quickened into life and beauty. While the Atlantic fleet was entering the Bay, the Pacific fleet of 9 cruisers

had stood at attention off Angel island, and at the proper moment they took their place in the procession, making an evolution the perfection of which even a landsman could admire. They swung into their allotted order, and thus the whole fleet of 18 battleships and 9 cruisers, with the torpedo-boat destroyers, and auxiliary vessels, came round

arise to quicken the imagination. The arrival of this fleet punctuates a historic period; the path of empire has come westward at last, and the commercial importance of the Pacific Coast is conceded. Like Balboa, America stands silent on a peak of prophecy and looks across the waves of the Pacific, ready to fulfill her destiny. History

moves fast in these later days. It is barely a century and a quarter since the first ship entered the Golden Gate; that was the San Carlos, commanded by Juan de Ayala, who passed through the portal of California on August 5, 1775. Likely enough the Spaniards, in exuberance of spirit, fired the old swivel gun on board the San Carlos as a salute to the land of destiny. Thus the Mission of Dolores was founded on the sandy peninsula athwart the estuary of the Sacramento river. The mission of the padres belongs to an obliterated era, and yet only three lives separate their day from ours; some of the brave Argonauts who built their cabins near the old Spanish settlement and thus founded the modern San Francisco are even yet alive; so soon is history made; we count time not by the slow beat of the pendulum but by the quick throb of brave hearts. While the cities of the old world have scarcely changed and the highways of commerce across the Atlantic have been kept as of old, here within the space of a century and a half the Spanish dominion has been handed to a new people and from the sand hills washed by the Pacific there has risen a city, the expression of a commerce worthy the protection of a great navy. The



Photograph by Turrill & Miller.

THE CRUISER CALIFORNIA IN THE BAY OF SAN FRANCISCO.

the point into the anchorage that lies off the waterfront of the City. Thus was completed a voyage of 14,000 miles which began on December 16, 1907, and ended on May 6, 1908, after a circumnavigation of the two Americas.

As the American fleet lies at anchor its presence here marks an event of manifold significance. To the business man the \$200,000,000 of money represented by those floating arsenals is impressive in a financial way, to the townsman the 25,000 men on board represent a faithful body of defenders, to the patriot the feeling of proud possession in men and vessels is overwhelming. But beyond these obvious suggestions, other thoughts will

San Francisco that rose to greet the squadrons of Admiral Evans was a city that has risen more than once. It is barely two years since disaster swept the seven hills of this City and abased a community of half a million people. No one who saw the crowds hurrying out of the lower town in order to get a spot of vantage from which to see the incoming fleet could fail to be reminded of that other exodus in April, 1906. Two years ago today the many acres of broken brick and twisted iron lifted an ashen face to the blue of a pitifully perfect day; today the same site is covered by splendid structures of steel and stone,

(Continued on page 307.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

DEWEY PUBLISHING CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor  
EDGAR RICKARD - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., May 12, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.93	34.47	43.58
Red Bluff.....	.14	49.48	23.95
Sacramento.....	.10	19.93	19.55
Mt. Tamalpais.....	.48	23.90	22.23
San Francisco.....	.22	16.80	21.70
San Jose .....	.16	10.29	21.63
Fresno .....	.02	7.59	9.31
Independence.....	T	5.29	9.15
San Luis Obispo.....	....	18.04	19.95
Los Angeles.....	T	11.71	15.38
San Diego.....	T	8.54	9.77

## The Week.

There have been showers since our last issue, and rather low temperatures here and there, which are reported to have done some local injury to the young growth of grape vines and possibly to tree fruits, but we do not hear of any considerable ill effects. The showers have helped some to catch up orchard cultivation, and the fruit crop generally makes fair promise, with the exception of prunes, which will be very light, so far as our advices go, and some cherries scant also. Pears promise better than was hoped, and it seems to be a bad year for the blight, or else it is getting weary, for the distressful blackening of twigs after blooming is hardly noticeable this year in places where for the last few years it has put the trees in mourning for their old-time freedom from evils. There is apparently more to be learned about the pear blight, and the investigators are still on the track of it.

The excellent essay on walnut growing on page 292 of last week's issue was written by Mr. J. B. Neff of Anaheim and read at the Fruit Growers' Convention at Riverside. These facts were stated in the opening paragraph, which was unfortunately left out in arranging the manuscript for printing. Mr. Neff is a leading walnut grower of southern California and conductor of University Farmers' Institutes in that part of the State, and these facts should lend weight to the statements in the essay. Mr. Neff is making very careful study and experimentation with walnut grafting, and we are sorry his name was not printed in connection with his essay.

Upon another page of this issue there is a notable essay on the sulphur question by Mr. Arthur R. Briggs, president of the State Board of Trade. It is important that all should read it, because all, whether fruit men or not, should know just what the sulphur question is and how it came about. We expect that this will be a sort of last word about sulphur for some time to come. The issue never should have arisen. It is not a good thing for a pure-food movement to begin with the arraignment of a process which makes for purity,

cleanliness and wholesomeness, but that is the way it came about, unfortunately. In Mr. Briggs' essay reference is made to "Decision 89," which uses the words "abnormal quantity" and "marketing." Since writing his essay Mr. Briggs has learned by correspondence with Secretary Wilson that "abnormal" may be taken to mean unusual quantity, or something out of the ordinary, and the "marketing" refers to the sale either by producer or by anyone in the trade. This clears the track for the product of 1908, and probably for that of 1909 also—or at least until the referee board learns something by research upon which it can base a decision on the obscure matters involved, and which are more likely to be cleared up in favor of the use of sulphur than otherwise.

Secretary J. A. Filcher of the State Agricultural Society makes a proposition which ought to be attractive in this year of scant rainfall and tight money. It is to produce two great industrial effects at the cost of one, and enterprising individuals and communities ought to think hard about it. His plan is that all counties and others who want to be represented at Seattle shall get their exhibits ready and send them to the State Fair. Then Mr. Filcher, who is commissioner to the Alaska-Yukon-Pacific Exposition at Seattle, will take them, so far as they are suitable, and pack them and store them, and finally ship them to Seattle and install them in the California building, and all at the expense of the State. In other words, the proposition implies briefly to get California's exhibit for Seattle together this summer, so far as practicable, and assemble it and show it to our own people and our visitors before it goes north. All goods intended for Seattle have to be assembled in any event at some central point in California before going forward in earload lots, and this plan affords a rare opportunity to make double use of them and draw double prizes on them without additional expense to the exhibitor. If carried out successfully this arrangement ought to make the State Fair display one of the best ever seen in California. All who are interested should begin correspondence with Mr. Filcher at Sacramento on these points.

We claimed only last week that the British beekeepers would soon be calling for protection against American hops. It comes sooner than we thought, for on Monday of this week the "dumping" of American hops into England was the subject of some debate in the House of Lords. The Unionists pleaded for a duty of \$10 on every hundredweight of the American product, in order to save the life of the dying local industry. Carrington, president of the Board of Agriculture, on behalf of the Government accepted the resolution urging the Government to give the matter its attention, but he declined to consider the suggestion of a tax. The American hop-growers, he said, were no better off with a duty of \$14 than were the British cultivators with free trade. The whole problem could be summed up in one word, "Overproduction." Mr. Carrington is about right, perhaps, that the overproduction of hops would disappear. Such a condition has risen and disappeared many times before, because American hop-growers go in and out very quickly, as values rise and fall, and the money is made by those who stay in when others go out. Such fluctuation is of course possible with hops, which do not cost much to plant and which go to work immediately. The same free trade argument does not, however, apply to fruits, which occasion much investment of time and money before any return comes. The protection upon which our fruit industry lives and grows cannot therefore be argued down as easily

as Mr. Carrington does in the hop line. California producers should not forget that protection is essential to them, and look out when the tariff-revisor comes around.

It seems that the horn fly has reached Hawaii, and the Territorial Board of Agriculture and Forestry, the Hawaiian Planters' Association and the Hawaiian Breeders' Association have united to send Albert Koebele to Europe to find an efficient enemy of the horn fly. Within the past ten years this fly has become a great horse and cattle pest in the Islands, causing the loss of thousands of dollars annually on the cattle ranges. The same pest is troublesome in California, and we hope Mr. Koebele will do as well for the horn fly as he did for the cottony cushion scale by the introduction of the Australian ladybird. His record has never been beaten, and even in the horn fly line he can hardly do more, but he will serve another important interest of the State.

It does not appear to be quite as dry in Washington as in Kentucky, for the U. S. Commissioner of Internal Revenue has just issued new regulations which include practically all the concessions asked for by the California sweet-wine men. The regulations make a pamphlet of over 60 pages, and as the printing fund is short, it is likely that they will not be ready for distribution until some time in July or August. However, the Washington dispatch declares that the wine men may rest content that their contentions have been recognized as just and that they will get practically everything they have asked for.

Here is something which the Interstate Commerce Commission is not likely to tackle. Five hundred hives of bees, especially selected honey-makers, were started from Long Beach to Logan, Utah, recently, on the Salt Lake route. The hives filled one of the largest cars. It is described by a dispatch as "one of the strangest shipments ever made from southern California." It should be added, however, that this is not the first time bees have gone by the carload beyond the Sierra.

## Queries and Replies.

### Darnel or California Cheat.

To the Editor: I enclose something like cheat, which it may be; but I am wishing certain identification, and to couple a question with it, to this effect: Can I buy this seed in the market for sowing? I am inclined to think, from my observation, that it would pay me to sow a quarter or half an acre of it within reach of my fowls, as they seem to take to it exceedingly well, as it matures a "volunteer" crop mixed with wild oats and barley, especially on some heavy and rather alkaline soil that is sometimes in winter almost too wet for the barley. In this connection, let me ask for your impression of the value of speltz, or emmer. Would it be profitable to grow for my chickens, or would you say that Kaffir corn or Jerusalem corn (which of these?) might be better? For green feed for them I am partial to the Golden Tankard beet. Can I do better?—Reader, Los Angeles county.

The plant is what is called cheat in California, and its old name is "darnel" (*Lolium temulentum*). It has a reputation abroad for being poisonous, but California experience is not that way, for green cheat is freely used for grazing and as hay. We doubt if you can buy the seed; in fact, it is hardly necessary, for it volunteers so freely under such conditions as you describe. Speltz is a very hardy member of the wheat family which has an adhering chaff like barley. Its chief value is found in places where freezing is too hard for



wheat. We should expect much better results from Kaffir corn. As for the difference in sorghums, we shall soon print an account. It may be a question whether you will get as much from the Golden Tankard as from the Long Red Man-gold. You will have to decide that by trial.

#### Range Improvement.

To the Editor: I have recently leased for a term of years a large timber stock range. Is there any practical way of getting the grass thereon improved? It is, of course, largely hill range, but has numerous open places. I am a mason by trade, but I did not know that burr clover or alfilaria could be introduced.—Beginner, Shasta county.

It certainly would be desirable for you to try a number of forage plants to see if you can improve your range. Both the burr clover and the alfilaria, which you mention, are worth trying; also Australian rye grass, Hungarian brome grass, and orchard grass. Seeds of all these plants should be scattered at the beginning of the rainy season. Small sowings of each would do at first, and if they like the situation their growth will manifest it. You can also improve your range by being careful not to over-stock it, and by allowing the native plants to bear seed during the latter part of the rainy season. There is no royal road to such improvement as you have in mind. You will have to try many plants and study carefully those which nature has entrusted to you. It will be a long time before one can prescribe for all the different conditions of soil and climate which are encountered in California.

#### Ramie Growing.

To the Editor: I would like some information about the ramie plant. How does frost affect it? How much water per acre is required to give it proper nourishment? Does it exhaust the soil for itself or other vegetation, requiring fertilization? How long can one harvest what would be called full weight crops without intermission? What weight of fiber will one ton of stalks yield? And what would be the approximate average value of fiber in bales ready to ship?—Enquirer, Los Angeles.

According to our observation, the ramie plant is dormant during the frosty season, all the top growth dying. The plant is, however, perennial and starts freely from the roots when growing conditions become favorable. We should not consider the plant especially hard upon the soil, and under favorable conditions of heat and moisture believe that it could be continuously cut for ten years or more. The weight of the product will depend upon the soil, moisture and weather conditions. We have seen the stalks not less than twelve feet high on the moist, rich lands of Kern county, while in a poorer soil and slower climate, the growth is about half that. We cannot give you any idea as to market value of the fiber; that will depend upon what manufacturers are willing to pay for it, and we should not undertake planting ramie until we had a contract with responsible purchasers.

#### Mice in Alfalfa.

To the Editor: For the last few years we have been annoyed by mice eating the roots of the alfalfa in fields that we irrigate. We have been unable to get rid of them except by plowing the fields, and they always come back after we plant the alfalfa again. They have been increasing steadily, till now they have taken nearly all our bottom fields. We would be grateful to you for any suggestions you can make for exterminating them. They are larger than ordinary field mice but not so large as rats.—Farmer, Monterey county.

There has been much complaint of these pests

this year, especially in the central coast district of California, where they have tackled several different crops. They are rather a new trouble and we are not wise about ways to fight them. In order to ascertain just what species we have to deal with it would be desirable to send alcoholic specimens to Mr. David Lantz, Biological Survey, United States Department of Agriculture, Washington, D. C., giving such description of the work of the rodent as can be prepared, and Mr. Lantz can then prepare an article for publication which will set us wise in the premises. We supposed we had trouble enough with gophers in the alfalfa, without having mice and rats added.

#### Climatology and Grape Growing.

To the Editor: I understand that Lodi is the centre of the grape shipping industry of California, and I wish full data about the climate in order that I may see whether we can grow the same grapes in this State. Can you furnish this information?—New Settler, Washington.

Lodi is one of our most important centres in the growing of shipping grapes, but there are many other centres where climatic conditions are very different indeed from Lodi and from each other; in fact, the grape in California has manifested its acceptance of very different climatic conditions all the way from the rather cool coast valleys north of San Francisco bay, through the great Sacramento and San Joaquin valleys (where high temperature prevails and grapes are largely grown by irrigation), down to the new district of the Imperial valley and Yuma, which has been reclaimed by irrigation from the Colorado desert. Probably the ruling conditions are dry summer air, which discourages the growth of certain diseases, and comparative freedom from frost after the vine begins its growth in the spring, and a long frostless season to enable even late varieties to ripen well.

#### Trees in a Bad Place.

To the Editor: I herewith send an apricot twig that shows how some of my trees are affected. They are loaded with fruit, but the fruit does not develop like on the healthy trees. What is the disease, and can anything be done to check it and save the fruit? Kindly let me know at once. I also enclose a plum twig. The tree was white with blossoms, but only a few developed. What should be done to the plum trees.—Grower, San Joaquin valley.

We do not find any disease. The trees are probably suffering from bad soil conditions. Near one of the trees which are behaving so badly you should dig down and see if you strike mud or standing water. If not, send a pound of the soil from around the roots to the Experiment Station at Berkeley to be tested for alkali.

#### Shot-hole on Apricots.

To the Editor: Please inform me what it is that is causing those little freckle spots on the apricots which I am sending you, and what I can do to check it.—Reader, Santa Cruz.

It is the work of the shot-hole fungus which we have often discussed. It has gone too far to help it now. You must spray thoroughly with Bordeaux mixture next spring, just before the bloom buds open or immediately after the fruit is set. When the fruit has attained size and is badly covered with pustules, there is no help for it. If you still have to do thinning, pick off the worst spotted fruit of course.

#### Mostly Unsuitable for California.

To the Editor: Will you please let me know where I can get seed of these kind in say 100 or

150 pounds of each kind: 1, Japan clover; 2, smooth brome; 3, large water grass; 4, carpet grass; 5, Bermuda grass. I wish to seed down lands with them.—Farmer, Butte county.

None of these plants are largely grown in California except Bermuda grass, and Bermuda grass is an undesirable citizen except on lands where it is intended to remain permanently, because it is almost impossible of eradication if the situation suits it. Japan clover is a failure in California because it cannot endure the dry season. The other plants which you mention have not been sufficiently tested to warrant you in planting them in any such amount as you propose. It would be a great deal better to get one pound of each of these grasses and determine whether they are suited to your conditions before undertaking larger sowing. You have probably been reading some Eastern newspaper or report which has exalted these things.

#### ARRIVAL OF THE FLEET.

(Continued from page 305.)

traversed by orderly streets, and crowded with eager happy faces. So we of San Francisco give thanks for the arrival of this fleet and for much besides, accepting the event as a token of a happier day when San Francisco, guarded by the national navy, shall look as serenely across the interposing seas to the Orient as to the younger East of her Atlantic ancestry.

"The tumult and the shouting dies." Shall we forget? A people that built such a navy, and a community that re-built such a city may well be proud of the outward and visible sign of national and civic life. But shall we not hush our plaudits as we remember the mean and corrupt things done in our midst in the name of business? As nearly a million people stood watching the naval parade, was their subdued demeanor without significance? Despite justifiable national pride and personal pleasure in the event, some of them must have been touched with a deeper feeling; perhaps it seemed that the pomp and circumstance of the splendid procession was but a hollow show unless behind it all stood waiting the purified spirit of a patriotism that is unselfish rather than proud, that is willing to sacrifice personal gain to the maintenance of justice, and prepared to surrender the privilege of the one to the welfare of the many. Can a people be great and strong while yet corrupt and greedy? What is the relation of municipal debauchery to national manhood? Can we industrialize our lives without commercializing our souls? Or is it all a mistake, shall we say business is business, patriotism is sentiment, we must keep the two apart; an individual citizen or a community like ours can be undermined by municipal corruption, filthy politics, and strident incivism, and yet be a part of a national aggregate that shall be white as the hulls of the battleships and strong as the armored walls that guard the aggressive guns? The high steel buildings of San Francisco look proudly down upon the white steel ships at anchorage near-by. May either the buildings or the ships be effective in peace or war regardless of whether the men within them are moved by nobility of purpose or mere lust of life? Is patriotism only pride and civism merely self-assertion? Pardon this bombardment of questions; they are pertinent. We are grown men, not children. The irresponsibility of youth no longer becomes a nation that controls the destiny of the Pacific Ocean, and the reckless fun of a boy no longer befits the City that holds the keys of a national commerce. Let us not forget; let us play our part like men.



## Fruit Preservation.

### SULPHURED FRUIT AND ITS RELATION TO THE NATIONAL PURE FOOD LAW.

By Mr. Arthur R. Briggs, President California State Board of Trade, at the Riverside Fruit Growers' Convention.

The people of no State in the Union were more zealous of a National Pure Food Law than were the people of California. Adulteration of food products in other States, suggested the need of statutory regulations in the interest of life and health and as a protection to manufacturers of pure food products. Therefore gratification and general approval were expressed on the part of producers in this State, when Congress on June 30, 1906, passed the "National Food and Drugs Act." One of the principal features of the act was to prevent the manufacture or sale of adulterated or deleterious food products, and it prescribed the method under which adulterated foods and drugs might be sold.

How comprehensively the term "deleterious foods" was to be interpreted, how a determination was to be made in respect to them, and the status of manufacturers and producers pending a determination were matters too remote for immediate consideration and excited little interest. Later, as the law was put in operation and its scope was brought to their attention, manufacturers and distributors of food products were much exercised over the particular features of the law which affected their business.

**The Law.**—Under the act three cabinet officers were charged with the duty of making rules and regulations for carrying out its provisions, the specific terms being set forth as follows:

"Sec. 3. That the Secretary of the Treasury, the Secretary of Agriculture, and the Secretary of Commerce and Labor, shall make uniform rules and regulations for carrying out the provisions of this act, including the collection and examination of specimens of foods and drugs manufactured or offered for sale in the District of Columbia, or in any Territory of the United States, or which shall be offered for sale in unbroken packages in any State other than that in which they shall have been respectively manufactured or produced, or which shall be received from any foreign country, or intended for shipment to any foreign country, or which may be submitted for examination by the chief health, food, or drug officer of any State, Territory, or the District of Columbia, or at any domestic or foreign port through which such product is offered for interstate commerce, or for export or import between the United States or any foreign port or country.

"Sec. 4. That the examinations of specimens of foods and drugs, shall be made in the Bureau of Chemistry of the Department of Agriculture, or under the direction and supervision of such bureau, for the purpose of determining from such examinations whether such articles are adulterated or misbranded within the meaning of this Act. \* \* \*

The Bureau of Chemistry of the Department of Agriculture, by the act, is made the agency for examination of products, and the head of that branch of the department, therefore, occupies a position of much importance. The point of safety seemed to be, that it rested with the Secretary of Agriculture, jointly with the Secretary of the Treasury and the Secretary of Commerce and Labor, to promulgate rules and regulations for carrying out the provisions of the act. It was further provided:

"Sec. 7. That for the purpose of this act an article shall be deemed to be adulterated in the case of food:

"If it contain any added poisonous or other added deleterious ingredient which may render such article injurious to health: Provided, That when in the preparation of food products for shipment they are preserved by any external application applied in such manner that the pre-

servative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering or the package, the provisions of this act shall be construed as applying only when said products are ready for consumption."

**The Regulations.**—No special concern on the part of those interested in fruit was felt, as to the effect of the law as expressed in the act. It was not until the "Board of Food and Drug Inspection" suggested, and the Secretary of Agriculture promulgated, on July 13, 1907, "Food Inspection Decision 76." This decision was deemed drastic in its terms and made a large portion of the fruit dried in, and marketed from this State, contraband under the law. It says:

"It is provided in Regulation 15 of the rules and regulations for the enforcement of the food and drugs act, that the Secretary of Agriculture shall determine by chemical or other examinations those substances which are permitted or inhibited in food products; that he shall determine from time to time the principles which shall guide the use of colors, preservatives, and other substances added to foods; and that when these findings and determinations of the Secretary of Agriculture are approved by the Secretary of the Treasury and the Secretary of Commerce and Labor, the principles so established shall become a part of the rules and regulations for the enforcement of the food and drugs act.

"The law provides that no food or food product intended for interstate commerce, nor any food or food product manufactured or sold in the District of Columbia or in any Territory of the United States, or for foreign commerce, except as hereinafter provided, shall contain substances which lessen the wholesomeness or which add any deleterious properties thereto. It has been determined that no drug, chemical, or harmful or deleterious dye or preservative may be used. Common salt, sugar, wood smoke, potable distilled liquors, vinegar, and condiments may be used. Pending further investigation, the use of saltpeter is allowed."

"Pending the investigation of the conditions attending processes of manufacture, and the effect upon health, of the combinations mentioned in this paragraph, the Department of Agriculture will institute no prosecution in the case of the application of fumes of burning sulphur (sulphur dioxide), as usually employed in the manufacture of those foods and food products which contain acetaldehyde, sugars, etc., with which sulphurous acid may combine, if the total amount of sulphur dioxide in the finished product does not exceed 350 milligrams per liter in wines, or 350 milligrams per kilogram in other food products, of which not over 70 milligrams is in a free state."

The label of each package of sulphured foods, or of foods containing sodium benzoate or benzoic acid, shall bear a statement that the food is preserved with sulphur dioxide, or with sodium benzoate, or benzoic acid, as the case may be, and the label must not bear a serial number assigned to any guaranty filed with the Department of Agriculture nor any statement that the article is guaranteed to conform to the food and drugs act."

**The Sulphur Question.**—It is well known that sulphur is almost universally used in this State in drying peaches, apricots and pears and to quite an extent in drying plums and apples. It is admitted that the fruit when dried, in its raw state, contains a greater percentage of "sulphur dioxide," produced by the fumes of burning sulphur, than 350 milligrams per kilogram, or an equivalent of thirty-five one-thousandths of one per cent. Experience has shown that the use of sulphur was a necessity, in order to produce dried fruit of the color and quality required for consumption in any market. It has also demonstrated that at the unit fixed by ruling 76, viz: thirty-five one-thousandths of one per cent, the fruit would not keep for storage nor for shipment to distant markets, nor could it be dried without serious loss from decay during the drying process. A large part of the dried fruit cured in this State did not come within the limit prescribed in Decision 76 and was therefore contraband, subject to seizure and confiscation as unwholesome and deleterious product. The decision provided that "pending investigation of conditions attending processes of manufacture and the effects on health" \* \* \* that the Department of Agriculture would insti-

tute no prosecutions against fruit containing sulphur dioxide when prepared in the usual manner.

This provision did not furnish sufficient assurance of safety, for the reason that the time of immunity granted was indefinite and very uncertain.

Strong representation was made to Secretary Wilson setting forth in forcible manner the disastrous effect Decision 76 would have from this indefinite feature as to time, on the fruit interest of the State. The Secretary visited California during the curing season of the year 1907, and afforded opportunity, both public and private, for any representations or demonstrations in respect to fruit drying in the State, that were sought to be made. Under assurances given by Secretary Wilson, the business of drying, packing and distributing fruit during 1907 went forward without much interruption.

At the beginning of the year 1908 Decision 76, by reason of limitation as to qualification for the previous year, was in force as a part of the rules and regulations for the enforcement of the "Food and Drug Act." Uncertainty as to the future policy of the Department and the apparent attitude of hostility on the part of the Bureau of Chemistry, in charge of Dr. H. W. Wiley, excited apprehension, caused a stagnation in the fruit industry in the State, and made further effort on behalf of growers and distributors necessary.

During the season of 1907 large sums had been expended by the Bureau of Chemistry, under direction of the Agricultural Department, in obtaining samples of fruit cured by use of sulphur, in studying the processes of manufacture, in making scientific tests and in supplying information on which the department might be able to fix a permanent safety unit of sulphur dioxide, in fruit, and thus restore confidence to the fruit industry. It was presumed when the Bureau of Chemistry began its investigations in California that the findings would be made public, through the department, and that producers and distributors from the knowledge thus gained, could act in future with intelligence. It is a disappointment that no information has been given out in reference to these examinations.

Another effort was made early in the present year to obtain a modification of or amendment to Decision 76, in order that fruit drying, preparing it for market and the distribution, might be pursued with safety on a practical basis. This renewed effort was made necessary, because producers were unable to guarantee that the product cured by them would come within the limit prescribed in Decision 76, and buyers were unwilling to stand in the breach between producers and distributing merchants. The burden of responsibility rested on producers and they did not feel able to bear it. They claimed that fruit of the color and quality required for consumption, could not be produced in this State which did not show on chemical examination, if the test was made while in the raw state, an excess of sulphur dioxide, over thirty-five one-thousandths of one per cent. The unit fixed by Decision 76 was in their opinion and in the opinion of distributors prohibitive.

**A New Regulation.**—The Department of Agriculture appreciating the situation as it was presented to Secretary Wilson, issued a new decision on February 28th, this year, known as "Food Inspection Decision 89," as an amendment to Decision 76, the full text of which may be interesting:

"Amendment to Food Inspection Decision 76, Relating to the use in foods of benzoate of soda and sulphur dioxide:

"The question of the addition to food of minute quantities of benzoate of soda and of sulphur dioxide will be certified immediately by the Secretary of Agriculture to the Referee Board of consulting scientific experts.

"Pending determination by the Referee Board of the wholesomeness or unwholesomeness of these substances, their use will be allowed under the following restrictions:

Benzoate of soda, in quantities not exceeding one-tenth of one per cent, may be added to those foods in which generally heretofore it has been so used. The addition of benzoate of soda shall be plainly stated upon the label of each package of such food.

"No objection will be made to foods which contain the ordinary quantities of sulphur dioxide, if



the fact that such foods have been so prepared is plainly stated upon the label of each package.

"An abnormal quantity of sulphur dioxide placed in food for the purpose of marketing an excessive moisture content will be regarded as fraudulent adulteration, under the Food and Drugs Act of June 30th, 1906, and will be proceeded against accordingly.

"Food Inspection Decision No. 76, issued July 13, 1907, is hereby amended accordingly."

**The Referee Board.**—The fruit industry was by this amendment still left in a position of uncertainty and in a demoralized condition. Growers held meetings, made appeals to the department through the delegation in Congress, and finally to President Roosevelt. Acting with his accustomed promptness the President took steps to create what was denominated a "Referee Board" to which matters connected with the dried fruit industry, theretofore left with the "Bureau of Chemistry and the Agricultural Department" for determination, were to be submitted.

The Referee Board was constituted by appointment of five eminently scientific men, of extensive experience in chemistry and pathology. Its personnel is:

Dr. Ira Remsen, chairman, president Johns-Hopkins University, Baltimore; Prof. Russell H. Chittenden, Yale University, New Haven; Prof. John H. Long, Northwestern University, Chicago; Prof. Alonzo E. Taylor, University of California, Berkeley; Doctor C. A. Harter, Special Inspector of Foods, New York City.

The high character and standing of this board gives confidence to those engaged in the fruit industry. It is believed that the importance of the industry, as it relates to the welfare of the large number of people interested in it, as well as the deleteriousness of dried fruits cured with the use of sulphur, will be carefully and broadly considered. It is felt that the conditions under which "sulphur dioxide" renders dried fruit deleterious, if it is rendered so at all by the present method of drying and handling, will likewise be considered. The hope is entertained that the findings of the Referee Board and its determination, will furnish the Agricultural Department, independent of the Bureau of Chemistry, a basis on which to issue a new decision that will enable fruit growers and fruit dealers to pursue the occupation of drying and distributing fruit in a lawful and satisfactory way.

It is hoped also that the Referee Board in its investigations will come to California during the curing season. By having opportunity to observe climatic conditions, and by following the fruit from the tree to the packing house and until it is ready for distribution, the Board will be better able to decide what is essential to the fruit industry in this State, than if its findings and recommendation were based on purely technical examination.

Following closely on the issuance of Decision 89, at the request of the fruit growers of the State, I went to Washington to get, if possible, a modification of that decision. The State Board of Trade had been active in efforts to protect the fruit industry of the State, and on account of my familiarity with it and the intimate connection had with the subject at issue, I consented to undertake the task.

**Definite Postponement.**—As a result of the mission to Washington the following official declaration was obtained:

"Hon. J. C. Needham: In response to your personal inquiry made this date, when you called upon me in company with Messrs. Arthur R. Briggs and W. H. Brailsford, now here representing the fruit growers in the State of California, in regard to Food Inspection Decision 89, I beg to advise you that in my opinion, it will be impossible for the Referee Board of consulting scientific experts to arrive at a determination of the question of the wholesomeness or unwholesomeness of sulphur dioxide in fruits cured by the ordinary sulphur process for a number of months, and perhaps for a longer time than that. In any event, you and the fruit growers of California may rest assured that no decision adverse to the use of sulphur will be promulgated so as to affect the curing or marketing of the 1908 crop.

"The curing and marketing of the 1908 crop should be done under the terms of Food Inspec-

tion Decision 89, and if the terms of that decision are complied with, there will be no governmental interference with the curing or the marketing of said crop.

"JAMES WILSON,  
"Secretary of Agriculture."

Washington, D. C., March 11, 1908.

This was the status of the matter until April 24th, when Congressman Needham telegraphed to the State Board of Trade, as follows:

"Washington, D. C., Apr. 24, 1908.

"Sulphur question will not be taken up till one year from next August. Dr. Taylor has gone to Europe and this was agreed upon before he left. Growers will have two years more before any finding is made."

**The Present Situation.**—Postponement of a consideration of this matter by the Referee Board as told in Congressman Needham's telegram, affords opportunity for a campaign of education in respect to the fruit interests that may very properly be taken advantage of. Fruit drying in California is done under conditions unlike those in other States. The fruit is generally larger and juicier than that grown elsewhere. It ripens fast after coming to maturity and must be handled quickly. The size of the fruit and its richness in juice render it necessary, when it is placed on the trays to dry, that some means of arresting oxidation be used. Sulphur, which arrests oxidation and prevents the fruit from turning dark, also assists the process of drying and has come to be looked on as beneficial as well as effective.

What is described as the sulphur process is probably known to every delegate in this convention hall, but even if this is so, it may not be out of place to say, the process consists in subjecting the undried fruit, when freshly cut and placed on drying trays, to sulphur fumes formed from burning raw sulphur in a house or box. The house or box is filled with trays loaded with fruit. A small quantity of sulphur in an iron pan, is placed on the floor and ignited, when the door is closed and the fumes from the burning sulphur pass over the fruit and leave the sulphur dioxide, which is found by chemical examination in the dried product. Sulphur is a sterilizing agent and a germicide. By its use the insect germs, if any exist, are made dormant or they are destroyed. The fruit is also rendered less attractive to insects during the process of drying than it would be if not sulphured. This is the first process in sulphuring, and if the fruit is intelligently handled only a small per cent of sulphur dioxide remains after the fruit is dried.

The dried product goes then to the packer. The fruit is purchased by packers and dealers throughout the district in which they operate, and is put in merchantable condition by them. Taken from the growers promiscuously, the fruit is of many shades of color, kinds and qualities, and before it is ready to be marketed requires sorting, grading and packing. Direct from growers it is mainly unsuited for distribution in either domestic or foreign markets.

In the packing house, before it is put in boxes for distribution to the trade, the fruit is again sulphured. In being prepared for packing it is dipped quickly in hot water, which moistens the surface and softens the fruit, after which it is subjected to the sulphur process. This again prevents a change in color and with the hot water plunge kills any germs there may be in it. This is the process called resulphuring, and which has led to considerable criticism, chiefly from persons not familiar with the requirements of trade. While dipping and resulphuring adds somewhat to weight, it has little if any merit from the point of profit to the packer. This is taken into account in making purchases from growers, so that they really derive the benefit, whatever it is.

**The Right Use of Sulphur.**—If abuses have occasionally crept in under the custom of resulphuring, this is not sufficient ground for general condemnation of the use of sulphur in curing or putting up dried fruits for market. No branch of business is entirely free from abuses, and no community is free from wrong-doers. The packing of fruit is as legitimate and well conducted as any other branch of commercial business. If excessive use of sulphur has occasionally been resorted to in the dried fruit business, it does not

seem necessary to apply a remedy so drastic as to imperil the entire industry. Fruit growers, and dealers generally, recognize the merit of the National Pure Food Law and are ready to uphold it. They, however, want the law wisely and justly interpreted and administered. Abundant scientific testimony is obtainable to seemingly establish the wholesomeness of dried fruit cured in the manner usual in this State. If examination by local chemists and pathologists is insufficient there may be added to it testimony of high authority from other States and other countries. Professor Hofman, "Honorary Medical Adviser and Director of the Hygiene Institute of the University of Leipzig," Germany, in the year 1903, in an action brought in Germany to determine whether apricots said to contain a larger percentage of sulphur dioxide than was permitted in that country, testified that "neither in the literature, nor in the practice of physicians, nor in the records of the Royal Medical College, was one single case known or reported, where sulphur dioxide consumed in dried fruit, had caused injury to health."

Against the attitude of Dr. Wiley, of the Bureau of Chemistry, and his opinion, stands the opinions of eminent chemists both in the United States and foreign countries. If there exists a doubt in respect to the effect of sulphur dioxide in fruit dried by the use of sulphur, fruit growers should be entitled to the benefit of it, until the fact is indubitably established, particularly as the custom of drying fruit by the use of sulphur has been almost universally followed in this State for many years, without any known injurious results.

But laying aside the matter of opinions and preference, the National Pure Food Law it seems has clearly set forth a condition under which examinations of dried fruit should be made. The act of June 30, 1906, in reference to food, says:

"That when in the preparation of food products for shipment they are preserved by any external application applied in such manner that the preservative is necessarily removed mechanically, or by maceration in water, or otherwise, and directions for the removal of said preservative shall be printed on the covering, or package, the provisions of this act shall be construed as applying only when said products are ready for consumption."

It has been fully and satisfactorily demonstrated that by washing, soaking and cooking, the sulphur dioxide contained in dried fruit almost entirely disappears, at least the percentage is very greatly decreased. If ruling 76 had prescribed how tests of fruit should be made, as producers and packers claim was clearly intended, according to the language of the act, viz., by examination of the cooked product, "when ready for consumption" no controversy would have arisen and no doubt would have been entertained of the intent of the Bureau of Chemistry or of the justice of the act.

Another feature of Decision 76 open to fair criticism is, that it fixed an arbitrary unit of sulphur dioxide as permissible, viz., 350 milligrams per kilogram, or thirty-five one-thousandths of one per cent, prior to a determination of the unit of safety, or without attempting so far as any public utterance of the Bureau of Chemistry is concerned, to establish such safety unit.

If the unit fixed is made to apply after an examination of the cooked product, it is entirely reasonable and satisfactory. If it is applicable only to the uncooked product it is manifestly too low. The unit of .035 of one per cent appears to reflect a theory rather than a determination on examination and inquiry based on a comprehensive view of conditions incident to actual use of the product as food.

I am satisfied that reference to the Referee Board of the issues involved in the sulphur question, and the action of that Board, have the approval of Secretary Wilson, who has exhibited a disposition to protect the fruit industry of this State. Dr. Wiley maintains a different attitude. His endeavor seems now to be to demonstrate that sulphur is an unwholesome ingredient and should not be used, because its use produces sulphur dioxide, "an added substance which may render the fruit deleterious." He openly says it is the fight of his life to maintain the position he has taken in the use of sulphur.

Aside from all scientific considerations it may not be out of place to consider the sentimental



question involved. It is no exaggeration to claim that there is in the disturbance over the use of sulphur, a serious menace to the present prosperity and future development of California, which only those who know our industrial processes intimately and accurately can appreciate. It is therefore important that the question now agitating fruit growers should be wisely, speedily and permanently settled. For the crop year 1908 the matter seems to be fixed with reasonable assurance of safety on the part of all concerned, but the interpretation of the National Pure Food Law in its application to California dried fruit products is of vital and very general interest.

## Horticulture.

### HINTS TO ORANGE BEGINNERS.

From an Essay by George R. Stoddard of Modesto at a University Farmers' Institute in Stanislaus County.

The founding of an orange grove is not all poetry and romance; the stern, cold facts and responsibilities of the industry soon become apparent. The investment of money, time and labor, patience and perseverance required to plant an orange orchard and conduct it to a bearing and self-sustaining condition is of more magnitude, notwithstanding all our advantages, than beginners generally imagine it to be. This statement is not made for the purpose of discouraging the extension of our citrus interests, but is a personal knowledge of conditions to combat and my own personal experience, given gratuitously to the uninitiated.

The selection of the seed and how to raise the plants is a matter of such vital importance that it would be well for the novice to entrust this branch of the business to reputable nurserymen of years of experience and who have made the subject a special study.

A suitable locality is the first requisite for a grove. For the full development of tree and fruit, a location free from strong winds is best. The soil should be a deep, sandy loam, free from hardpan; or, at all events the hardpan should not be less than 6 feet from the surface. [Most oranges are grown on a heavier soil than indicated.—Ed.] A plentiful and reliable supply of water must be available, for the future success of the orchard depends greatly upon a bountiful supply of water; the full measure of success can never be obtained without it. If you succeed by thorough tillage without water, you will deserve to be envied, but ample irrigating facilities will be safe precautions, and will operate as an insurance policy against unusual drouth.

**The Soil and Trees.**—The soil must contain a generous supply of nitrogen potash and phosphoric acid. The selection of trees is a prime factor in the future success of the grove. Trees should have straight trunks and evenly balanced tops, and be of good, strong growth. From experience we would recommend one-year-old buds on two or three-year-old roots. Purchase the best your nurseryman has; a poor tree is a dear one and an eye-sore. Balled trees are preferable to trees from the nursery with bare roots. Transplanting to the orchard is generally considered a simple job, and, with few exceptions, is done in too much of a hurry. The question is not, as it should be, "how shall I proceed to plant my trees in the best manner possible to insure a quick and permanent growth," but "how can I plant my trees in the least possible time and with the least possible expense?"

**Planting and Cultivation.**—All possible dexterity consistent with the success of the venture is commendable and desirable; but when a proper degree of care is sacrificed to great haste and careless planting in order to finish the job, it is reprehensible in the extreme. We have had experience in planting during the months of March and May. Our last planting was on the 22nd and 23rd of May, 1907 (the weather clear and hot); 306 trees were planted without the loss of a single tree. If extreme care and caution be exercised, they can be transplanted at any time during their dormant period.

The holes for the trees must be dug sufficiently

large to receive the ball of earth around the roots of the tree, to admit of the proper handling of the soil in refilling the hole. Throw the surface soil to one side and the sub-soil to the other, when digging the hole, and when refilling the hole place the surface soil in the bottom of the hole and the sub-soil on top. Fill the hole about two-thirds full of soil, and then fill the hole with water, which will cause the soil to settle close to the roots. After the water has disappeared straighten your tree and then fill the hole with soil. Do not allow the ground around the tree to bake, but keep it worked up into a pulverized condition with a garden rake. In planting trees with bare roots it is vitally important that the roots be not exposed to the atmosphere a minute longer than is necessary to place the roots in the proper position in the hole. Do not allow a tree with exposed roots to be placed in the hole an hour or two before covering with soil. A man should be confined in the county jail for a week for doing such a trick. Cultivate the orchard often enough during the summer to keep the soil in a mellow condition. It assists to conserve the moisture in the soil and keeps down weeds. Irrigate often enough during the summer months to keep the trees in a growing condition and do not wait until the trees show signs of distress for want of a drink. Some horticulturists consider pruning a necessary evil. It would be a superfluous operation if the trees would grow symmetrically without it, and in the best form to produce the best crops of fruit. There is much diversity of opinion on this important branch of the science of horticulture. Various methods are pursued, from that of allowing trees to branch at the ground to that of commencing to form the top at an unreasonable and undesirable height; from that of severely letting them alone, allowing nature full and unrestrained sway, to that of a continuous cutting and hacking. Perhaps so wide a difference of opinion and practice does not exist among fruit growers on any other branch of fruit culture. We are in favor of a low-headed tree for this climate. We consider the furrow system of irrigating the best and have adopted the plan.

**Care of Trees.**—Our youngest lot of trees have not been irrigated since the 17th of July last but the soil has been carefully cultivated. Cultivation, irrigation and fertilization of orange trees are subjects for study, and volumes have been written on each subject, and not yet have the scientific principles been thoroughly understood by growers in general though our university professors are disseminating valuable information as a result of actual practice at the various experimental stations in the State. Many scientific articles have appeared recently relative to cover crops as a source of humus and nitrogen for the soil, bone meal as a source of phosphoric acid, and sulphate of potash for a potash. It is great care as you would bestow on a basket of eggs. It has been estimated by several of the leading packing houses in southern California that they suffer a loss of from ten to twenty thousand dollars per season each, as the result of carelessness in handling the fruit. As a result of a series of investigations carried on by Prof. Powell, the government expert from Washington, on the handling and transportation of oranges, many thousands of dollars have been saved the growers annually by simply knowing how. We have shipped oranges grown in Sunny Stanislaus to Gilroy, Santa Rosa, Oakland, Berkeley, San Francisco, San Jose and Ohio, during the month of December, highly colored, sweet and of good flavor.

**Crops Between Rows.**—"How am I to live and support my family while my orange orchard is coming into bearing," is the question arising in the mind of the average just as important to have a well balanced ration of plant food available in the soil for your vines and trees as a well balanced food for your milch cows and work horses. Remember, that trees cannot assimilate their food in the dry state; the tiny hair roots take food only through moisture, and then governed by the laws of diffusion, osmose, and capillary attraction, in conveying the food to branch and leaf. We recommend protecting the trunks of young trees from the rays of our summer sun for at least three years, and in exposed locations the trees should be protected from frost for three or four years. Never allow the water to come in contact with the trunk of a tree on a hot day, when irrigating, or

any other time, for that matter. It is sure death to a tree to pile manure around the trunk, for manure, in the process of decomposition, creates an artificial heat too intense for the tender bark of a young tree to withstand. During the harvesting period never suffer an orange to be pulled from the tree but provide yourself with suitable orange clippers, and handle the fruit with as much care as is possible for a grower of limited means. It is a question of much importance, as the universality of orange growing depends upon its favorable solution. The average advice, which admits of no argument, would be, plant your orchard and cultivate the ground solely for the orchard; plant nothing thereon but trees, and make a living independent of the ground planted to trees. All that have followed this plan are unanimous in their verdict that this will undoubtedly secure success, but hundreds who have a few acres of land adapted to orange culture would enter the business if an annual subsistence could be procured on the same land, but who could not otherwise be induced to venture. Some comparatively harmless crops may be recommended for this class. Of the cereals, corn only is admissible, always leaving a strip not less than four feet in width on each side of the rows of trees. Corn does not sap the ground and apparently poison it for orange trees as many other crops are sure to do, besides affording a temporary windbreak, which in itself would be of great value.

Pumpkins, squashes and melons are harmless crops. It is as important to know what not to plant, as to know what is admissible. Never sow any kind of grain or anything that will not admit of cultivation. Potatoes are a hot bed for gophers. Beans, though apparently harmless, are great absorbers of moisture, and will leave the ground dry as an ash heap. The safest plan is to plant only half of the contemplated orchard and raise crops on the other half.

**Fertilizers.**—Many of our progressive horticulturists are of the opinion that our orchards will grow more thriftily, produce more abundantly, and finer quality of fruit, with an ample supply of manure. We doubt not that this is true in principle, and that a judicious supply of manure applied annually to our orchards will certainly stimulate the tree to a vigorous and healthy growth, and produce and increase in size and productiveness and a better quality of fruit. It should never be mixed with the soil when filling up the excavation at the time of planting the tree. It increases the heat to an unnatural degree, which requires an unusual quantity of water to modify, and damages the tree greatly. Spreading the manure evenly on the surface of the ground and a foot or two from the tree is the proper method. The best time to apply manure is in the fall, just before the commencement of the rainy season; then subsequent irrigation and the rains carry the liquid manure down to and among the roots of the tree, where it is appropriated for the growth of the tree. Good judgment and common sense are as necessary for the proper application of manures, as in all other divisions of the subject under consideration.

### CULTIVATE FOR FRUIT BUDS.

To the Editor: The present prospect is for the smallest prune crop the State has ever known. There will probably be about half the prunes for sale this fall that were on the market last fall, and prices must be fairly high.

Climatic conditions seem to have caused a failure in setting; cold north wind and frost following diminished rainfall seem to have done this, if current reports are correct.

I wish to urge upon prune growers to give their orchard extra care and good cultivation this dry year so that their prune trees will mature sound, strong fruit buds for next year.

The tree does three things in a year: Matures its fruit, its wood and the last thing it does is to mature fruit buds for another year. If there is neglect in cultivation for fruit buds this dry year, there will be almost no crop at all next year because of poor, weak fruit buds.

In my spring work I have plowed under good crops of clover and wild oats as usual with a disk plow and am now cross cultivating with disk harrow the other way, to be followed by spring tooth harrow as long as I can get through the orchard.



Owing to this kind of care and cultivation my soil is apparently richer than it was thirty years ago when I began growing prunes on Santa Cruz mountains.

My prune trees are strong, healthy with a bearing space of 20 to 25 feet through the tops, and are so full of prunes this year that I am obliged to prop the limbs to save the trees. The even distribution of the fruit from tops of limbs through the center to the lowest fruit spur is remarkable. I owe my crop this year, probably the largest per tree in the State, to sound, strong fruit buds matured last fall. With about 35 inches of rain, good soil, healthy trees and good cultivation I shall mature the crop.

A neighbor asked me why I had such a crop, and I told him it was because I was good. He replied that was the first he had heard of it. Cultivate, then for next year's crop, even if the prospect is not good for next year.

W. H. AIKEN.

Wrights, May 3.

## The Vineyard.

### The Present and Future of Our Grape Industry.

By Mr. O. E. Bremner, State Inspector of the California Horticultural Commission at the Riverside Fruit Growers' Convention.

In spite of phylloxera, Anaheim and all the other diseases that grapes are heir to, California has today a greater acreage of grapes than ever before, and there will be planted this year more vines than in any year previous.

The ultimate success of our grape industry must be attributed to the spirit which pervaded the men, who having faith in our California soil and climatic conditions, were willing to risk something in experimenting. It may be by introducing the new varieties of grapes from Europe we also brought in the phylloxera and other less disastrous diseases; yet the same men who sought most earnestly to establish these European varieties, were just as persistent in working out the problem of resistance. Although we are profiting by their mistakes, other mistakes are being made and will continue to be made; still we feel that the future of the industry is assured, if the prospective planters will not repeat these experiments, but use the facts now before them, and plant for quality and quality alone. This is the one point and sole theme of my argument, and if I can just make you see it as I feel you ought, I believe that the last and perhaps greatest menace to our industry would be removed. To emphasize my point: In Europe after the phylloxera had ravaged their wonderful vineyards, and they had found that as large if not larger crops could be produced on their resistant vines, they immediately sought to increase their output by sacrificing those forces which formerly gave them quality, for those which produce quantity. And now what is the result? The Italian papers recently came out with an appeal for the people to drink more wine so as to reduce the glut on the market. And why this glut? This wine is quick-aging; some or much of it old at eighteen

months. It is not fit for bottling, and there is too much of it to attempt to blend with their fine bottling wines. Northern Africa is developing into an immense wine producing country, but of this same low quality. So if Europe is suffering from an overproduction of low grade wines, what can we with our limited market for such a product expect by following in her wake?

This same principle holds good, in a measure, for everything the land produces here in California, but the result is not so manifest in an almond tree producing only one crop in five years, as in a grape producing an abundance of an unmarketable product.

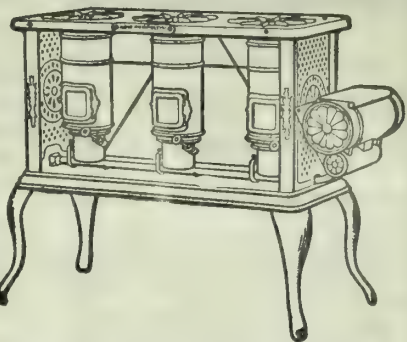
First we are to consider whether our conditions will warrant the planting of vines, then the variety and the method. I saw a query in one of our horticultural papers the other day, the substance of which was, "What variety of vines shall I plant on a low, damp piece of land subject to frost?" How could anyone expect to raise any kind of grapes under such conditions? Why try to raise grapes on land adapted to water cress or late garden truck? We necessarily look to our market as the criterion of our variety; the table grape shipper, wine maker and raisin packer will readily inform us as to the quality expected, and we cannot discriminate between a Zinfandel with a low or a high percentage of sugar and a Tokay poorly colored or badly packed. I know of no other rule or law completely covering these vital points; the individual conditions must be looked into. There are, however, some fundamental facts that we all know or should know, and as there is, just now, so much, I might say about indiscriminate wine-grape planting, it might be well to look at a case.

The Zinfandel is a first class dry wine grape in every respect, yet to produce the ideal wine, certain conditions must be adhered to. We know that this grape does not ripen evenly if not on proper soil and under proper conditions, or the quality of the grapes may vary widely. For instance, in a place that I have in mind, the hillside produces a medium-sized bunch of firm, sweet, highly flavored grapes, with tough skins, very little affected by mildew or even a rain. About a hundred yards away, in a rich, silted flat, the vines produce enormously with excessive foliage, large, compact bunches of large grapes with thin skins, lacking in sugar, very subject to mildew, and totally spoiled by a light rain.

Now in pruning these vines we must consider the quality of our crop, and the conditions under which it is grown. If you prune severely, leaving few spurs and buds, you will get a large growth and a big second crop, a condition therefore advisable where you have frosts that may destroy your first crop, as you will then have a second crop to partially make up this loss. If, on the other hand, you want all first crop, you should leave more spurs and buds and your growth will be shorter, and therefore little second crop. Zinfandels seem to do best on bottom land when pruned on the trellis system, and contrary to the European conditions, a vine pruned high will mature as early as a low one, so no uneasiness need be felt about pruning high when the conditions warrant it. If you wish to produce only first class wine, Zinfandels should

## Use A NEW PERFECTION Wick Blue Flame Oil Cook-Stove

Because it's clean.  
Because it's economical.  
Because it saves time.  
Because it gives best cooking results.  
Because its flame can be regulated instantly.



Because it will not overheat your kitchen.  
Because it is better than the coal or wood stove.  
Because it is the *perfected* oil stove.

For other reasons see stove at your dealer's, or write our nearest agency.

Made in three sizes and fully warranted.



The **Rayo Lamp** cannot be equaled for its bright and steady light, simple construction and absolute safety. Equipped with latest improved burner. Made of brass throughout and beautifully nicked. An ornament to any room, whether library, dining-room, parlor or bedroom. Every lamp warranted. Write to our nearest agency if not at your dealer's.

STANDARD OIL COMPANY  
(INCORPORATED)

## NATIONAL WOOD PIPE CO.

Patent Machine Banded  
Patent Continuous  
404 Equitable Savings Bnk. Bdg.  
Los Angeles  
Olympia, Washington  
Made from California Redwood  
Selected Puget Sound Yellow Fir.  
318 Market St., San Francisco  
Dooly Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "S" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4336.

be planted only where they will produce a sugar test of at least twenty and not over twenty-four, as a Zinfandel at twenty-two produces wine with eleven and one-half per cent alcohol, which is ideal.

I have merely used this grape as a type, the same relative conditions applying to the others, for when they are too low, or exceed the sugar limit, or lacking in the finer qualities, they depreciate themselves just so much.

As to some of the other standard varieties, the Carignan is a good grape, ripening a little later; a heavy bearer, but not quite so fine a variety. The Petite Syrah is the grape of the future—a grape fulfilling all demands as to bearing, quality, etc., with but perhaps one drawback, a very difficult vine to prune, but experiments now under way will, I believe, solve this problem this coming season. I might also mention the comparatively new Grannoir as a grape of quality. I must say, however, that the Bouschets are poor, and the planting of these should be discouraged; the wine drops color badly and is no better than third class. For blending the Burger is a

great bearer but has a tendency to be sour and cannot be universally recommended as can the Chasselas.

There is very little use to quote varieties in raisin or table grape culture, but with these latter the same characteristics prevail as to localized conditions. With the resisters there seems to be still much to learn; we can, however, profit by what has already been done and can, at least, begin where the French left off, and thus prevent nearly all of what would probably be useless experimentation. The French have settled on the bench-grafted vine as the best, and for good reasons, the principal drawback now being the lack of affinities. For instance the Zinfandel seems to be one of the worst, and takes poorly to all of the resisters, the best results attained so far being by a Champlin graft on Rupestris St. George. The shoulder graft, used by the French growers, gives fairly good results. There is little need of saying that vines on resistant roots produce just as good quality and a little larger crop, on an average, than on their own roots.

In planting rooted vines your gen-

(Continued on Page 314.)



## The Home Circle.

### Rock Me to Sleep.

Backward, turn backward, oh, time, in  
your flight!  
Make me a child again just for tonight!  
Mother, come back from the echoless  
shore,  
Take me again to your heart as of yore.  
Kiss from my forehead the furrows of  
care,  
Smooth the few silver threads out of my  
hair;  
Over my slumbers your loving watch  
keep—  
Rock me to sleep, mother, rock me to  
sleep!

Backward, flow backward, oh, tide of the  
years!  
I am so weary of toil and of tears—  
Toil without recompense, tears all in vain,  
Take them and give me my childhood  
again!  
I have grown weary of dust and decay,  
Weary of flinging my soul wealth away;  
Weary of sowing for others to reap—  
Rock me to sleep, mother, rock me to  
sleep!

Tired of the hollow, the base, the untrue,  
Mother, oh, mother, my heart calls for  
you!  
Many a summer the grass has grown  
green,  
Blossomed and faded, our faces between,  
Yet, with strong yearning and passionate  
pain,  
Long I tonight for your presence again.  
Come from the silence so long and so deep—  
Rock me to sleep, mother, rock me to  
sleep!

Over my heart, in the days that are flown,  
No love like mother love ever has shone;  
No other worship abides and endures—  
Faithful, unselfish and patient, like yours.  
None like a mother can charm away pain  
From the sick soul and the world weary  
brain;  
Slumber's soft calms o'er my heavy lids  
creep—  
Rock me to sleep, mother, rock me to  
sleep!

Come, let your brown hair, just lighted  
with gold,  
Fall on your shoulders again as of old;  
Let it droop over my forehead tonight,  
Shading my faint eyes away from the  
light,  
For, with its sunny edged shadows, once  
more  
Haply will throng the sweet visions of  
yore.  
Lovingly, softly, its bright billows sweep,  
Rock me to sleep, mother, rock me to  
sleep!

Mother, dear mother, the years have been  
long  
Since I last listened your lullaby song;  
Sing, then, and unto my soul it shall seem  
Womanhood's years have been only a  
dream.  
Clasped to your heart in a loving em-  
brace,  
With your light lashes just sweeping my  
face,  
Never hereafter to wake or to weep—  
Rock me to sleep, mother, rock me to  
sleep!

—Elizabeth Akers Allen (Florence Percy).

### Between Heaven and Earth.

We lit our pipes during a pause in  
the conversation, sitting in front of  
the fireplace at a friend's house last  
night.

We were all passionate chauffeurs,  
and every one of us had been forced  
to tell some story of what had hap-  
pened to him during his many rides  
in charge of a car.

Only George Warren, a young man,  
had so far been silent, and only  
opened his mouth a few times to  
swallow a glass of brandy and soda.  
We now insisted that he also had to  
tell a story, assuring him that he  
must have something interesting to  
tell.

"All right," said Warren, "but  
you probably will be surprised when  
I tell you that once while riding in  
an auto I felt so scared, so terribly  
afraid, that I was sick for two weeks  
afterward."

We all protested. Our English  
friend was known all over as a man  
of unusual courage, who would keep  
cool under any circumstances, and  
who never had met with an accident.

George Warren began his story.  
"It was four years ago, during the  
winter. At Christmas time I had ac-  
cepted an invitation from a relative  
of mine who lived in the little town  
Langollen in the mountains of Wales.  
It goes without saying that I made  
the trip from London in my car, but  
as the weather was exceedingly se-  
vere during my stay I did not take it  
out of the barn even for one short  
ride during that time.

"Besides, I really did not feel as  
if I cared to drive or get half frozen  
on the road when I had found in the  
house everything that makes life  
pleasant—good company, a splendid  
table, a good cup of tea, and last but  
not least, a bewitching little creature  
whom I could flirt with, a pretty but,  
unluckily, absolutely paralyzed  
young girl—a friend of one of my  
cousins who often spent weeks at the  
house.

"Myriam was charming. She was  
a beautiful blonde, had a wonderful  
complexion and deep blue eyes, and  
when she smiled you felt a pain in  
your heart that this beautiful crea-  
ture should have been deprived of  
the pleasure of moving about at will.  
Then one evening as we were sitting  
in the fireplace enjoying our tea and  
toast, a messenger came with a dis-  
patch which made everyone excited.

"Myriam had to go home as quick-  
ly as possible; her brother, an officer  
in the navy, had been given a two  
days' furlough, and before he was  
going to board his vessel for a trip  
that was to last for years, he wanted  
to say good-by to his little sister."

"Myriam's home was at Tyle, a  
small village about three miles dis-  
tant as the crow flies, but in reality  
separated from Langollen by a very  
deep valley. There were no more  
trains that night, so it was necessary  
to go either in a sleigh or in my car.  
The road connecting the two places  
runs for some distance along the  
canal which taps the River Rye, then  
it descends very suddenly and evenly  
on the other side, while the canal  
crosses the valley on a viaduct and  
again hits the road a short distance  
from Tyler.

"I read in Myriam's eyes the de-  
sire to go by auto. She did not want  
to ask me to take her, but I was very  
pleased to make the offer.

"Ten minutes later my big car was  
at the door. The little lame girl was  
put inside and wrapped up in blank-  
ets and rugs until she said that she  
felt almost too warm, and was sure  
she would feel comfortable all the  
way. Then we left.

"The night was bitterly cold and  
snow was falling quite heavy, and  
although I had all four lanterns lit  
I could only with difficulty make out  
the road, which followed the canal  
for some distance. As I was unac-  
quainted with the country, I had  
been told that all I had to do was to  
take the first road on the left, which  
I would find about two miles and a  
half from my starting point.

"When the level, wide road which  
I evidently was to follow appeared, I  
was surprised that I should have cov-  
ered two and a half miles so quickly.  
But after all, what chauffeur does  
not expect his car to perform won-  
ders. I turned then to the left, felt  
a heavy jar as if I had struck a curb-  
stone, so I set the lever on 'slow,'  
expecting that the road would soon

begin to descend into the valley.

"From time to time I looked  
through the glass front into the car  
at Myriam, who seemed to have  
fallen asleep with a smile on her  
pretty face.

"Then there was a crack; some-  
thing must have happened to the car;  
no, the sound had come from the out-  
side; I tested the various speeds and  
found everything all right.

"The snow was falling less heavily  
now, so that I could look pretty far  
ahead, and strange enough, it did not  
look as if the road was going down  
into the valley, but it seemed as if  
the trees on both sides stood much  
lower. It looked, in fact, as if we  
were on a high wall while the ground  
on both sides fell farther and farther  
down. There was another crack and  
I felt the wheel slide, and suddenly  
I knew where we were.

"The ground and trees all around  
us had disappeared, and the road  
which we were following seemed to  
hang between heaven and earth. On  
both sides there seemed to be a curb  
about 12 inches high, and something  
cracked continually underneath us.

"I had made a mistake and was  
now traveling along the canal on the  
ice, which was hardly strong enough  
to carry the weight of the car.

"Everything turned black before  
my eyes.

"The canal was so narrow that it  
was impossible to turn, and besides  
the ice we had just passed would  
never carry us a second time. What  
should I do? Stop the car and con-  
tinue afoot? And what about the  
poor, lame child? Besides it was  
very dangerous to remain in the  
same place when you felt the ice giv-  
ing way beneath you.

"And thus I drove straight ahead,  
terrified and dizzy, on this endless  
viaduct, flanked on both sides by a  
bottomless pit ready to swallow us.

"We drove ahead about ten min-  
utes, the ice continually cracking  
underneath us; but that was not all  
—before the canal left the viaduct it  
passed through a tunnel, in which  
the wind howled in the most uncanny  
manner, a black hole which seemed  
only to be waiting to swallow us up  
and to keep us in its icy arms.

"And still we escaped alive! It  
surprises me even today, and you  
can easily understand how I felt  
when we had reached Tyle, and  
the machine stopped in front of My-  
riam's house. How I thanked Provi-  
dence when I carried the little lame  
girl in my trembling arms and hand-  
ed her over to her people.

"One thing is sure, that when I  
came inside I looked so pale that the  
people would not let me think of re-  
turning that night.

"I gave in and accepted their hos-  
pitality. It lasted two weeks, and  
during all that time I was not one  
moment free from fever.

"Little Myriam often sat near my  
bed and said, again and again, 'That  
comes from the cold.'

"And I replied, 'Yes, that comes  
from the cold,' but that does not pre-  
vent me from admitting that I have  
once known what fear is, and I met  
it on the viaduct and in the tunnel  
between Langollen and Tyle."—  
Philadelphia Bulletin.

A Japanese man, who claims to be  
170 years old, is said to be the oldest  
man in the world.

Household economy is taught to  
the girls in the public schools of Bel-  
gium.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a  
full corps of teachers for all departments in the  
English branches, Latin, Greek, and the Modern  
Languages, also accredited by the University of  
California, Leland Stanford Junior University,  
and by Eastern Colleges.

Special attention is given to lessons in elocu-  
tion, singing, the violin, the piano, and to draw-  
ing and painting.

Lectures are given by professors from the Uni-  
versity of California, and a course of study for  
High School graduates and for young women  
who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July  
for boarders, under the care of the house man-  
ager. A summer school will also be maintained  
by one of the teachers.

### Pointer for Schoolma'ams.

Winston Churchill, the novelist,  
was talking in Concord about his  
failure to secure the nomination for  
the New Hampshire governorship.

"There are tricks in every trade,"  
said Mr. Churchill gravely. "Per-  
haps in politics there are tricks I  
haven't learned yet. Perhaps my  
political opponents were as crafty  
as the young Sunapee schoolma'am.

"This schoolma'am never seemed  
to work particularly hard, and yet  
she had always the best class in the  
Sunapee district school. Not one of  
her pupils ever failed to be prepared  
for his tasks. No matter how diffi-  
cult, how complex a question this  
schoolma'am might ask every hand  
would at once go up.

"Hence, whenever visitors came  
to the school, they were always tak-  
en to the schoolma'am's room, and  
she would hold a sample recitation  
for their benefit.

"And such a recitation it would  
be! Perfect, absolutely perfect! Every  
question answered with the  
most unparalleled accuracy, and ev-  
ery hand up to help out the answerer  
in case he should for an instant  
stumble.

"One day a jealous-minded teach-  
er, suspecting that it was impossible  
for any class of children to be al-  
ways so perfectly grounded in their  
lessons, gave one of the school-  
ma'am's boys a ten-pound can of  
maple sugar for a bribe, and the  
boy made a confession.

"He confessed that in exhibition  
recitations, by arrangement with the  
teacher, every pupil held up his hand  
at every question; but he held up his  
left hand if he did not really know  
the answer, his right one if he did.  
Thus, by only questioning the right-  
hand boys, the schoolma'am made  
her wonderful showing."

What do you think of a man who  
owns 35,000 sheep dogs? The man  
is Gustav Jovanovitch, the Russian  
mutton king. His sheep whiten the  
Siberian plains for hundreds of  
square miles. They number 1,750-  
000 and 35,000 dogs look after them.  
Talk of our mammoth ranching busi-  
ness enterprises! Have we anything  
comparing with one employing 35-  
000 dogs?

The number of Chinese scattered  
throughout the world outside of the  
Chinese Empire is given officially at  
6,708,139.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### How to Remain Young.

To drink the waters of the fountain of youth is still, in the opinion of some, within the range of possibility. Aging is a process of classification. After middle age is passed, a more marked development of the ossific character takes place. The arteries become thickened with calcareous matter, and there is interference with the circulation upon which nutrition depends. The whole change from youth to old age is one of steady accumulation of calcareous deposits in the system. Entire blockade of the functions of the body is a mere matter of time, and the refuse matter deposited by the blood through the system stops the delicate machinery we call life. The blood contains compounds of lime, magnesia and iron. In the blood itself are these earthly salts. In early life they are thrown off; but in age they are not. Almost everything we eat contains these elements for destroying life. Earthy salts abound in all the cereals, and bread itself, mistakenly called "the staff of life," is one of the most calcareous of edibles. Nitrogenous foods also contain these elements, hence a diet made up of fruit is best for people advanced in years. The daily use of water is, after middle life, one of the most important means of preventing secretions and derangements of the health. Diluted phosphoric acid is one of the most powerful influences known to science for shielding the human system from the inconvenience of old age. Use it daily with distilled water, and so retard the approach of senility. To retain perpetual youth avoid all foods rich in the earth's salts, use much fruit, especially juicy, uncooked apples, and take daily two or three tumblerfuls of distilled water with about fifteen drops of diluted phosphoric acid in each glassful. Thus will your days be longer in the land.

### A Word to the Farm Boys and Girls.

The writer knows something of the feelings and hopes and ambitions of the boys and girls on the farm, because he has had the same experience that they have. They do not always have a good time, but they have natural opportunities far superior to the children growing up in the cities. The luxury of rich and populous towns tend to produce puny and enervated citizens; the excessive toil, bad air, limited space, and scant food of the poor tend to degrade and destroy body and soul. but the comfortable simplicity, space, air, sunlight and abundant food of the open country, give the opportunity for the finest development of the human family. It is true that on the farm there is sometimes overwork and privation, but at the worst these cannot be so severe as in cities, so long as the sun shines, the wind blows, and green things grow for the worker out of doors.

The safe men who are willing to die for the truth are akin to the safe men who live to maintain it.

### Pith, Point and Pathos.

When a woman wants to smite her husband, she starts in looking meek so that the neighbors will pity her.

Whether one benefits from the trials of life depends solely upon what kind of a lawyer he has to represent him.

There may be a lot of difference between the amount of gas you consume and the amount you are asked to pay for.

It would be mighty interesting to know how that snake amused himself after Adam and Eve left Eden.

Conceit enables a man to think every good thing he hears meant for him and every bad thing for his enemies.

When a man has failed in every other life work his neighbors know he is safe to send to congress.

It is not necessarily so that that whale ejected Jonah for failure to pay his rent.

A scientist is a man who discovers a law that the courts cannot declare unconstitutional.

When a woman knows she is homely she feels that she has to tell that little story about men trying to flirt with her.

### How Do You Walk?

Quick steps are indicative of energy and agitation.

Tip-toe walking symbolizes surprise, curiosity, discretion or mystery.

Turned-in toes are often found with preoccupied, absent-minded persons.

Wavering and changeable steps betray uncertainty, hesitation and indecision.

The miser's walk is represented as stooping, noiseless, with short, nervous, anxious steps.

Where a revengeful purpose is hidden under a feigned smile the step will be slinking and noiseless.

Slow steps, whether long or short, suggest a gentle or reflective state of mind, as the case may be.

The proud step is slow and measured; the toes are conspicuously turned out; the legs straightened.

Obstinate people, who in an argument rely more on muscularity than on intellectual power, rest the feet flatly and firmly on the ground, walk heavily and slowly, and stand with the legs firmly planted far apart.

### The Wizard.

Some years ago an expedition from the University of Pennsylvania was sent to one of our Southern States for the purpose of observing a solar eclipse.

The day before the event one of the professors said to an old darky belonging to the household wherein the scientist was quartered:

"Tom, if you will watch your chickens to-morrow morning you'll find that they'll all go to roost at 11 o'clock."

Tom was, of course, skeptical; but at the appointed hour the heavens were darkened, and the chickens retired to roost. At this the negro's amazement showed no bounds, and he sought out the scientist.

"Perfesser," said he, "how long ago did you know dem chickens would go to roost?"

"About a year ago," said the professor, smilingly.

"Well, ef dat don't beat all!" was the darky's comment. "Perfesser, a year ago dem chickens wa'n't even hatched!" —Harper's Weekly.

### Turn About's Fair Play.

It happened at a well known savings bank. An aggressive looking woman sailed in to open an account. The clerk put her through the usual string of questions—name, age, residence, and finally family. "Any brothers?"

"Yes, four," was the reply, and the clerk recorded the genealogies of the four.

"Sisters?" proceeded the clerk.

"Seven," answered the woman wearily, and was forced to relate the life histories of the seven sisters.

When the clerk had at length written down the residence of the seventh sister, the woman straightened up. "Now, look here, young man. I'm a busy woman, and you've kept me here answering your questions before your bank will condescend to take my money. Now I'll ask you a few. How many times has the president of this bank failed to be indicted?"

The clerk dropped his pen, dumb-founded.

"How many times has he been in jail?" the Amazon continued.

"How long since the last cashier absconded?" Here the woman flung her questions so rapidly the clerk could not get in a word edgewise.

The inquisitor paused a moment for breath, and the clerk pulled himself together. "Madam, I assure you, our cashier is a Sunday school superintendent," he replied, crushingly.

"Oh, is he?" exclaimed the woman. "Why didn't you tell me that before? Then I don't open any account in this bank. Good day," and the Amazon stalked out.—The Newsbook.

### Playing School.

"How many seed compartments are there in an apple?" he queried. No one knew.

"And yet," said the school inspector, "all of you eat many apples in the course of a year and see the fruit every day probably. You must learn to notice the little things in nature."

The talk of the inspector impressed the children, and they earnestly discussed the matter at recess time.

The teacher the next day overheard this conversation. A little girl, getting some of her companions around her, gravely said:

"Now, children, just s'pose that I'm Mr. Inspector. You've got to know more about common things. If you don't, you'll grow up to be fools. Now tell me," she said, looking sternly at a playmate, "how many feathers has a hen?"

### He Set A Date.

A merchant in a Wisconsin town who had a Swedish clerk sent him out to do some collecting. When he returned from an unsuccessful trip he reported:

"Yim Yonson say he vill pay ven he sells his hogs. Yim Olsen he vill pay ven he sell him wheat, and Bill Pack say he vill pay in Yanuary."

"Well," said the boss, "that's the first time Bill ever set a date to pay. Did he really say he would pay in Yanuary?"

"Vell, aye tank so," said the clerk. He say it ban a damn cold day ven you get that money. I tank that ban in Yanuary."—Harper's Weekly.

The champion girl of the period lives out on the Muck. From April 1st to June 1st last year she planted three acres of potatoes, did all the cooking and sewing for the family, milked four cows, fed the calves, pigs and chickens, shot three chicken hawks and a wild-cat, set the dog on 18 tramps, attended 13 dances and three picnics, read five dime novels and sat up four nights in the week with her beau, and yet we often hear the question asked: "What is there for women to do?" —Tacoma Union.



**50 Cents a Week**

There's no reason now why you can't have music and fun

Fifty Cents a Week will secure a complete Victor outfit, records and all. You don't have to pay a penny down. We will send to you a

## VICTOR Talking Machine

absolutely free on trial, you don't have to pay a cent unless you decide to keep it, and we are confident you will keep it, when you hear Sousa's great band, and songs by the world's greatest singers, fine dance music by famous orchestras and solos on Cornets, Banjos, Violins and every known musical instrument.

Now, remember, we send the Victor outfit positively free to you and after a trial if you decide to keep it, the small payment of 50c a week for a few weeks will make you the owner of the world's greatest and most perfect musical instrument.

We want to impress upon you that this is the most liberal offer ever made on this wonderful instrument, and there are no strings, "if's" or "and's" tied to our offer.

We are the Victor dealers of California, and have made special arrangements with the Victor Talking Machine Company to allow us to extend this great offer, and it is the squarest, fairest, "easy payment" plan ever given to anyone.

Write Now for our book explaining everything—a postal card will bring you all.

### CLARK WISE & CO.

"The Victor Dealers of California"

1420-1422 Van Ness Ave.

San Francisco, Cal.

Write

NOW

Do it

Today



When answering this advertisement please mention the PACIFIC RURAL PRESS.

First Office Boy—I told the governor to look at the dark circles under my eyes and see if I didn't need a half-day off.

Second Office Boy—What did he say?  
First Office Boy—He said I needed a half bar of soap.

Patient (who has met with an accident)—Is it a bad fracture, doctor?

Doctor (a surgical enthusiast)—Bad? Why, it's beautiful, sir, beautiful! The bone is broken in no fewer than thirteen places.

Teacher—Of what profession is your father?

Scholar—Am I obliged to tell you?

Teacher—Certainly!

Scholar—He's the bearded lady in a show.

Unsuccessful Sportsman (to gamekeeper)—When I was in Australia I shot the biggest kangaroo the natives said they'd ever seen.

Gamekeeper—Hindeed, sir! What was you a-haimin' at?

A mistress asked her maid where she had spent her night out.

"At a meetin' at the church, ma'am."

"Oh! What did they tell you?"

"The lady said I wasn't to give you notice. I was to think you was my thorn, and bear it bravely!"

She—What was that noise I heard in the hall early this morning when you came in?

He—It must have been the day breaking, my darling.



### The Present and Future of Our Grape Industry.

(Continued From Page 311.)

eral conditions should be carefully taken into consideration that you may have the best results. For instance, in deep, warm soil with plenty of moisture where you get a large growth, it is best to cut the roots back to at least one and one-half inches; in dry, lighter soils, six inches or more should be left.

You will readily see that this resolves itself into a rule which will, I believe, fit most cases. Prune your roots in inverse proportion to the growth produced by your soil conditions. If the growth of a vine is equal above and below ground, what will happen when we plant a vine with a large root system and cut the top back to two buds? If you have plenty of moisture and your ground is fertile you will get a large root system that will take up more water than can be thrown off by the leaves, a check of sap ensues which, I believe, is the prime cause of root knot. In other words, there can be no return flow, this unassimilated sap must escape, and we therefore find the root knot breaking out at the weakest point of the vine.

In many sections, where vines are now being planted, in warm deep gravelly loam, I prefer cuttings to rooted vines if properly taken and planted. The cuttings should be long, 18 inches, with the bottom cut squarely across, just below the bud, one quarter of an inch below the diaphragm. The relative position of this partition can be more easily judged if you split a few canes and observe carefully its relationship to the bud. Never cut slanting through the bud, as is sometimes recommended; you will destroy the bot-

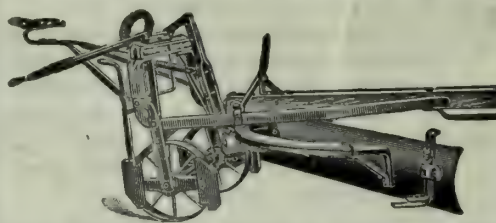
tom node and the roots will be found straggling all the way up the cane, instead of a whorl at the bottom of the node. The top cut should be slanting, one half to one inch above the bud. The cutting should be planted with just one bud above the surface of the ground. I believe by this method you will get a vineyard with root systems natural to the conditions and much less apt to suffer from root knot. You reduce to a minimum the danger of introducing diseases or insect pests. You are sure of the quality and variety of parent stock and the cost is enough reduced to be an object.

It is an old adage, but as applicable today as ever, that you should not put all your eggs in one basket. The raisin and table grape growers are not absolutely compelled to dispose of their grapes in one particular channel; but with the dry wine grape growers it is different. Their grapes would not make good raisins even if their locations would permit of drying; they are not acceptable as a table product; so it is just wine, wine, wine, and at this day when we are all going dry as far as alcoholic beverages are concerned, many who have locations admirably adapted to this variety of grape culture feel some uneasiness, if not pangs of conscience, over the future prospects of our wine industry. As I have said before, there is and always will be a demand for the best, but I feel that there is bound to be a corresponding glut of the inferior wines if the present rate of planting is indulged in. Is there then any way out of the difficulty? I think there is, and that the problem will be at least partially solved by the establishment of the unfermented or sweet juice industry. Now it may be that we are to go through the same stages in establishing this product that we have passed in our wine, raisin, or perhaps, as a better example, our olive oil industry.

The Eastern States have created a good and steadily increasing market for their sweet juice, which they produce entirely from American vines, and which is consequently endowed with their particular flavor. Whether it is advisable to continue along these lines by planting their best varieties in the locations most favorably adapted in this State or, acting independently, produce from our European varieties a sweet juice of a different flavor, is perhaps the most important question. As for me, I am for the production of a California juice as distinctive as is our olive oil, and I am as firmly convinced that its success will be much more rapid and complete than has been the production of this oil, which we all hold superior to the imported product. There are those who will contend for the eastern varieties, and their arguments are good: the particular flavor, their hardiness as shown by their resistance to phylloxera, their value as a table product, etc.

On the other hand, we run some risk of importing new pests if we introduce their vines. We have troubles of our own now, for, what with contending with phylloxera, hoppers, anaheim, etc., we have no desire for a closer acquaintance with their grape root worm (*Fidia viticida*, Walsh), the grape cane borer (*Amphicerus bicaudatus*, Say), the grape berry moth (*Polychrosis viteana*, Clemens), or the black rot (*Lasstidia bidwellii*, Say). We also import a vine adapted to only a restricted

### MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

### 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

### THE BAKER MANUFACTURING CO.

DEPT. I.

706 FISHER BLDG.

CHICAGO.

portion of our State and one which has no other uses than the aforesaid limited sale as a table product. By the production of a high-grade juice from our European vines we will create another channel into which any excess of production could be turned, we will create a market for another strictly California product, and the fact that it is distinctly Californian will assure its acceptance by the consumers who have already learned the value of a California fruit product. We will assume no liability in planting vines that we do not already know the productive value of, and that could not be turned to other purposes, should there be any delay in establishing the industry.

In New York, which produces a greater amount of sweet juice than any other State, a full crop is estimated at from two to three tons per acre, these grapes selling for from \$30 to \$40 a ton. They are of course handled with much more care than we are wont to give our wine grapes; but considering this extra cost, compare it with our California vineyards, producing from four to eight tons to the acre, and for which we would be glad to be guaranteed from \$15 to \$20 a ton. It might be that the handling of these grapes for sweet juice would be a valuable lesson to the wine men, for it is essential in the production of must to eliminate all foreign elements, and to this end the greatest care must be exercised from the picking until the juice comes out in its sterilized bottled form.

Just the opposite methods are required as prevail to a great extent in the handling of wine grapes. From the first slam into the picking box, which after a few trips to the winery is soaked with juice and reeking with dust and refuse, to the chute, they are subjected to the roughest kind of handling.

The sweet juice industry has already been started in California, and I learn that there is a growing demand for our product. Both red and white juices are being prepared from some of our highest flavored European vines of the muscat type; Cabernet and Mondeuse are being successfully used, and there has been suggested by one of the best authorities in the State the Petite Syrah, to which I have called your attention particularly as being probably the most desirable of all dry wine grapes, and now, on this suggestion, is recommended as one of the best, if not the best, for the production of red juice.

Of the Eastern varieties used, the Concord is practically the grape. Others include such grapes as Ca-

tawba, Early Moore, Delaware, Ives, Isabella. If such grapes are to be planted, I would particularly recommend a comparatively new grape, the King, a Concord seedling which is probably a better grape than the Concord. The Brighton and Bamber are also good grapes. As to location and cultivation, they require well drained, preferably sandy soil, with a moister climate than our interior valleys afford. They would therefore be better adapted to our coast counties. In the East they are generally grown on a two-wire trellis.

The method of producing the juice is a sterilizing process, which neither eliminates or changes, but merely concentrates the elements of the grapes, and thus we have a product not only pleasing to the taste but of a high nutriment value as food. It is not only used as a drink but also forms the basis for many pleasing and nutritious foods. It is also used extensively as a nourishing beverage in the sick-room, for invalids and convalescents, as it is a wonderful system builder, containing about one-fifth grape sugar, one of the most easily assimilated forms of food. The elimination of the fermentation and fortifying processes used in the production of wine leaves it absolutely non-alcoholic.

There is always a danger in exploiting a new industry; to be carried away with the project may strand some zealous follower high on the shoals of a barren market; but with this subject, if I have made my meaning as clear to you as I have intended, we are not to explore a new field, but are merely establishing a new channel for our California grapes which will tend to reduce the current of our mighty river of wines, which may eventually establish itself on a foundation just as broad and classy as any of our similar industries.

As our present success can be directly attributed to the careful selection, care and indomitable energy of the past, so will the future depend on that degree to which we exercise these same actuating principles.



### Free Veterinary Book

Infallible guide. Makes every man his own horse doctor. Postage free.

### Tuttle's Elixir

Insures sound horses. Cures splint, curb, spavin, etc. \$100 reward for failure where cure is possible.

TUTTLE'S ELIXIR CO.,  
33 Beverly St., Boston, Mass.  
Los Angeles, W. A. Shaw, Mgr.,  
1921 New England Av.

Beware of all blisters; only temporary relief, if any.  
Colfin, Redington Co., 625 Third St., San Francisco, Cal.

### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.

### Keep the Wheels Turning

One of the little economies that help toward a substantial saving is the use of a good axle grease. A grease without proper "body" runs off. One too heavy stiffens on the axle and adds to the pull.

### MICA AXLE GREASE

is right—won't run, won't stiffen, won't wear out as soon as other grease will.

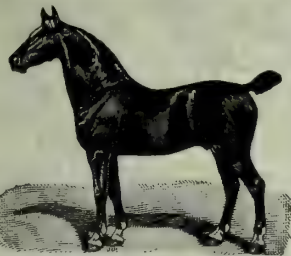
Covers the axle with an almost frictionless coating of powdered mica and keeps your wheels turning when the other fellow, who uses poor grease, is stuck.

Nothing like Mica Axle Grease for a tired wagon. Ask the dealer for it.

STANDARD OIL COMPANY  
(Incorporated)



Warranted to Give Satisfaction.

**Gombault's  
Gaustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeny, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Gaustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

**AGRICULTURAL REVIEW.****BUTTE.**

D. B. Brooks, of Chico and San Jose, is looking after the shipment of prunes to Eastern States, where the market is keen. About two carloads are moved each day, and a number of men are employed at the work.

A Chico correspondent of the Sacramento Bee states that Los Angeles is again reaping the glory and reputation of Chico grown cherries. Two thousand cherry boxes, manufactured in Los Angeles and bearing the name of a Los Angeles company, have arrived in Chico, and in them will be packed the cherries from the famous 20-acre Bidwell estate orchard. These cherries will probably be shipped south to Sacramento, thence east, and the consumers will eat in ignorance choice "Los Angeles" cherries grown at Chico.

The fruit crop of Chico and vicinity will not, according to general supposition, be short this season, with the exception of prunes. In Muir peaches and pears and varieties of cherries there will be a better crop than in many years. Muirs are especially heavy this season, but the Crawford's are reported light. To insure the development of the peaches, thinning of the fruit is urged, as is cultivation to keep the moisture near the surface. Tartarian and White Bigarreau varieties of cherries will produce a larger crop than in some years, while the Royal Anns will be a little better than last year. The largest crop of pears in the history of this section will be realized this season. Pear blight has not yet appeared, there are no scabs, and little rust. The few trees of apricots in this section are producing well.

**LASSEN.**

It is stated that there never was a better promise of an abundant crop of fruit of all kinds than at present. Cherry, pear, peach, plum and apple trees are veritable bouquets of bloom and Honey Lake valley fruit will bring in a pretty sum this year. The fruit industry, allowed to languish for many years, has taken on a new life. An impetus was given it last year by the granting of reasonably fair carload rates by the N. C. O. railway, and many thousands of boxes

of apples found their way over that road to the mining camps of Nevada. Prospects seem favorable for a larger and better market this year. Many trees have been planted this season.

**MONTEREY.**

Salinas valley farmers engaged in growing sugar beets are much concerned about the myriads of bugs that feed upon the plants when they emerge from the ground. Something should be done to check them before beet raising becomes a thing of the past in that section.

**SACRAMENTO.**

J. H. Miller of Princeton is introducing a variety of caltapa trees new to that section, which he claims is superior to the eucalyptus, in that it grows faster and the wood is more valuable.

**SAN BENITO.**

Free Lance: With the haying season at hand, the estimate of the yield is much larger than was given out earlier in the season. Experts are now of the opinion that this valley will have fully half a crop, some inclining to the opinion that it will even exceed this. Favorable weather has brought out the hay wonderfully. All the hay this year is clean and of exceedingly good quality.

**SHASTA.**

The first arrest made under the new State law compelling sheep to be dipped in California, was made at Cottonwood. E. Elliott and a band of 1900 sheep are being held there. Elliott is under arrest for failing to comply with the dipping regulations, and the sheep are being cared for at the expense of the State.

**SOLANO.**

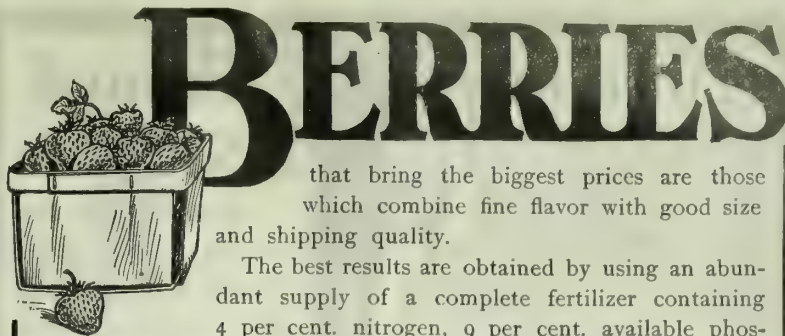
In Vacaville cherry packing is principally done by women. Heretofore they received \$1.50 per day. This year one firm, fearing they could not get enough experienced packers for their crop, offered \$1.75 per day. One of the most prominent packers in the valley met this rise with \$1.85. These wages, however, are only given to the most experienced.

**SONOMA.**

Sebastopol Times: The first run at the Green Valley cannery will be made on cherries, and this will be begun about May 25. It is the intention of the cannery management to make a very extensive pack, the largest ever made. During the few years that it has been in operation the Green Valley cannery has been very successful.

**STANISLAUS.**

Modesto Herald: The Pacific Pea Packing Co. has started operations, the first of the season's peas being threshed out in the afternoon and canned the same evening. On account of the dry weather the peas will not turn out as large a harvest as at first anticipated. But what they lack in quantity is made up in quality. Even the vines on the Crawford river bottom that gave promise of splendid returns show to some extent the result of the drought. The fruit, we are told, is in excellent condition, and there is prospect of more than usual yield. The great packing establishment will be kept busy and there will be employment for everyone. Apricots are especially prolific in yield and fine in appearance, the banner crop of years. Some who intended to grub out their apricot orchards are now patting themselves on the back that they let them stay.

**BERRIES**

that bring the biggest prices are those which combine fine flavor with good size and shipping quality.

The best results are obtained by using an abundant supply of a complete fertilizer containing 4 per cent. nitrogen, 9 per cent. available phosphoric acid, and at least 10 per cent. of actual

**POTASH**

This formula will be found productive of wonderful results with all kinds of berries.

Detailed information is given in our free book—a valuable treatise on scientific fertilizing. It is complete and trustworthy and contains suggestions which will mean money to the man who follows them out. Address

**GERMAN KALI WORKS**

New York—93 Nassau Street Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

**SUPERPHOSPHATES**

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

**MIXED FERTILIZERS,**

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**

150 PINE STREET, SAN FRANCISCO.

**SUTTER.**

Sutter county looks for a short hay crop this season. Ten dollars a ton is being offered in the field.

Farmer: The sheep men are now very busy on the ranges getting their spring shearing done and dipping the sheep. The clip this spring is reported to be good, and quality likewise. The wool market is very quiet and no buyers. A prominent San Francisco firm has been trying to get the growers to consign the wool to him, and thinks he can get 16 cents per pound, but didn't guarantee the same. The sheep are all being dipped under the direction of the deputy inspectors.

**TEHAMA.**

Eight thousand sheep are being rounded up by the E. Clement Horst Hop Co. for shipment to British Columbia. Flocks of 5000 are already there, and just as rapidly as Dr. Paxton and his assistants can handle the sheep they are receiving their immunity baths against scabies.

**TULARE.**

Tulare is to have another creamery, the third institution of this character in that city. The dairy industry is developing in the county very rapidly.

Times: There will be a bumper fruit crop in this county this year, and especially in the deciduous fruit line. The peach and prune crops will be the heaviest known in years, and the apricot crop will be the first good crop in three years. As far as the citrus crop is concerned, it will be up to the average.

**YOLO.**

Edwin A. Bullard of the Bullard company, Woodland, the most extensive breeders of Rambouillet sheep in the West, recently visited the famous Rambouillet flocks of Michigan and made important purchases. Among

**Nitrate of Soda**

Nitrate Sold in Original Bags

**NITRATE AGENCIES CO.**

64 Stone Street, New York

Keyser Building, Baltimore, Md.

36 Bay Street, East, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street,  
San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly  
Filled—Write for Quotations

them were four head of Von Homeyer rams from one to three years old, four young sons of Ben Hur, three Von Homeyer ewes and a herd of 40 Delaines. These purchases were made at Oak Hill farm.

Sacramento Bee: Now that a bumper fruit crop seems assured, the fruit growers naturally begin to discuss the labor problem. Heretofore it has been a difficult matter to procure all the labor required. But there are so many idle Greeks and Japanese in the county it would seem that if the matter of wages can be satisfactorily adjusted, there should be plenty of labor to harvest the crop. Some of the largest operators keep almost enough men the year around to meet all emergencies. They are able to do this by diversifying their crops so as to furnish employment at all seasons of the year. Manager Nash of the Winters creamery, with a view of inducing his most reliable and skillful help to remain with him from one year's end to another, has adopted the plan of furnishing them cottages.

**YUBA.**

The early cherry crop which is being picked in the vicinity of Marysville is large, and the fruit of excellent quality.

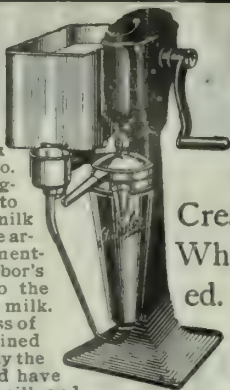


## Tubular

In February a certain man wished to try an experiment with a Tubular separator. He wanted to know by actual test exactly what the Tubular would do. He had no cows so he arranged with a dairyman neighbor to make the experiment with the milk from the dairy of the latter. The arrangement was for the experimenter to skim the milk at the neighbor's dairy, and the cream to go to the creamery instead of the whole milk. The dairy owner feared a loss of cream in this way, and so bargained that the experimenter was to pay the difference between what would have been obtained for the whole milk and the money actually received for the cream.

At the end of the month Mr. Dairyman was surprised to find that the cream had returned him \$30 more money than the factory would have allowed him for the whole milk.

Sequel—Next day the dairyman and two neighbor dairymen each bought a Tubular separator, and then hired a man out of employment to kick them



## Gained \$30 More

in a Month, for Cream Alone, than Whole Milk Yielded. Hauling and Time Losses Also Saved.

because for years they had been throwing away \$30 per month in ignorance of what a Tubular would do for them, though the opportunity to try a Tubular in their own dairies was always open to them.

If you haven't a Tubular you can gain profitable knowledge by a test similar to above; and money profits twice a day after you put the Tubular in your dairy. Write for Catalog No. 131.

**THE SHARPLES SEPARATOR COMPANY,**  
West Chester, Penna.

Toronto, Ont.

San Francisco, Calif.

Chicago, Ill.



## DON'T THROW MONEY TO THE PIGS

The mine owner gets his gold mixed with rock and combined with other metals. He gets out all the gold and then makes in addition what he can from the lead and silver, the "by-products."

The dairyman's gold is cream; the skim-milk his principal "by-

product." To get all the profit he must use an

## IMPROVED 1908 U.S. CREAM Separator

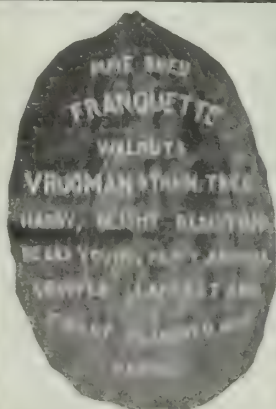
With this Separator he gets out all the cream, and then uses to best advantage the skim-milk. He can't afford to feed cream to pigs.

Our Catalogue No. 148 tells why. Let us send you one.

**VERMONT FARM MACHINE CO., Bellows Falls, Vt.**

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N.Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

**PROMPT DELIVERY ASSURED** CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all letters to Bellows Falls, Vermont.



Ask us about Walnuts

The kind for Commercial Planting.

Large, Rich and Prolific

Costs nothing to investigate. Ask for our Walnut Booklet.

**OREGON NURSERY COMPANY**  
SALEM, OREGON.  
Salesmen Wanted.

**Red Gum and Sugar Gum**  
for April and May.

\$2.25 per 100  
\$10 per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

**HENRY SHAW,**  
320 River St. Santa Cruz, Cal.

**Eureka Lemon  
Valencia and Navel Oranges  
Eucalyptus Trees**

Globulus, Rostrata, Rudis, and Tereticornis

**Phoenix Canariensis,  
Chamaerops Excelsa  
Loquats, Roses, Etc.**

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

**COVINA NURSERIES,**  
Covina, Cal.

**ORANGE SEED-BED TREES**

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

**Crimson Winter Rhubarb**

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## The Poultry Yard.

Are Special Establishments for Ordinary Poultry Usually Profitable?

To the Editor: I am one of those who believes in making use of the other fellow's experience. A few years ago we had at a State Farmers' Institute, held in Hearst Hall, Berkeley, quite an animated discussion on the above question. My own standpoint on the occasion was, I believe, that such poultry farms were much more easy to manage profitably with pencil and paper than with actual biddies and egg-baskets. Much has been talked at institutes of the success of chicken farms in Scandinavia. I now send you, clipped from the London Times, the latest summary of that Scandinavian experience, as follows:

"In the autumn of last year Mr. Edward Brown, secretary of the National Poultry Organization Society, made an official tour of inspection and inquiry of the chief poultry raising and egg producing districts in Denmark and Sweden. No one was more competent to undertake such a mission, for Mr. Brown had already paid similar visits to America, Russia and other European countries.

"His report bristles with interesting statements and suggestions. Whereas Denmark confines her attention almost exclusively to the production of eggs, Sweden, with her larger area and better facilities, is inclined to divide her efforts between the egg and chicken markets. It will surprise those who are accustomed to think of British practices as antiquated and unsatisfactory to learn on the authority of this report that, as far as methods of production are concerned, there is not much to be learned. It is in the marketing of the produce that our rivals excel us. The co-operative system has been developed to the point of perfection in Denmark, and it is approaching the same standard in Sweden. Co-operation, as conducted in Denmark, does not consist merely in the collection of eggs at appointed centers and their despatch on the cheaper terms procurable for large quantities. An important feature of the system is the preservation of the spring and summer eggs for the winter markets. But for the adoption of this practice the present measure of success—the profit being variously estimated at from 1s. 6½d. to 4s. 3d. per hen per annum—could not be attained. There is a double advantage in a method of this sort: the control which it affords serves to maintain prices in the seasons when production is plentiful, as well as to increase the saleable quantities when prices are high.

"One of the most important points brought out by Mr. Brown is that even in Denmark the proper and really only place for poultry keeping in the agricultural economy is as an adjunct of ordinary farming. There is no scarcity of theoretical advisers who would have us believe that poultry keeping is able to stand as an exclusive and independent pursuit. The example of numerous failures at home, and the fact that in a country like Denmark probably not more than 1 per cent, and in the United States not more than 5 per cent, of the total bulk is produced at special establishments, should dispel mistaken notions as to the remunerating capabilities of the business. So fully

**MADE FOR SERVICE**  
and guaranteed absolutely **WATERPROOF**

**TOWERS FISH BRAND**

**OILED SUITS, SLICKERS AND HATS**  
Every garment guaranteed Clean - Light - Durable  
Suits \$3.00 Slickers \$3.00

SOLD BY BEST DEALERS EVERYWHERE  
CATALOG FREE FOR THE ASKING  
TOWERS CO. BOSTON, U.S.A.

is this point understood in Denmark that the great majority of Danish farmers do not maintain more than 30 to 50 laying hens, not because their holdings will not carry more, but for the reason that this is about the number the farmer and his family can manage in their spare time, a clear indication that the pursuit is incapable of yielding both wages and profit."

This account should be suggestive to promoters of the poultry industry.

EDWARD BERWICK.

Pacific Grove.

[It seems to us that the lesson from the foregoing will be found in the scriptural injunction: "This ought ye to do and not leave the other undone." There is no doubt whatever that special poultry farms properly conducted, in California at least, are profitable. The great Petaluma output is largely from such special farms, and there are others also. At the same time, we ought to have vastly more poultry kept as an adjunct to other farming. We can learn much from Denmark in that line.—Ed.]

**\$30,000,000**

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

**San Dimas Citrus Nursery**  
SAN DIMAS, CAL.  
**R. M. TEAGUE,**  
PROPRIETOR.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address  
**P. O. Box 345, Vacaville, Cal.**

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address  
**A. J. GALLAWAY, Healdsburg, Cal.**





## LICE INFESTED HENS

One thing more than any other wrecks the hopes of thousands of poultry raisers—lice. A louse-infested hen is a tax—a drain on resources—a bit of property that represents loss. There's nothing in them but trouble and worry—don't keep one. It isn't necessary to be rid of hens because of lice however. Simply dust hens, roosts, nests and hidden cracks with

## Instant Louse Killer

It destroys them completely. Instant Louse Killer was formulated by Dr. Hess (M.D., D.V.S.), and kills lice on horses, cattle, ticks on sheep, cucumber, squash, cabbage worms and melon pests, as well as rose slugs. It is also a reliable disinfectant and deodorizer. See that the word "Instant" appears on the can.

**SOLD ON A WRITTEN GUARANTEE**  
In Shaker-top Cans

1-lb. can 35c 3-lb. can 85c  
If your dealer cannot supply you, send your order to us.

Manufactured by  
**DR. HESS & CLARK, Ashland, Ohio.**  
**THE PETALUMA INCUBATOR CO., PETALUMA, CAL.**  
PACIFIC COAST DISTRIBUTORS

## The Dairy.

### The Cost of Building a Creamery.

During the past few years there have been built in the United States several thousand creameries, many of which have been successful from the start, while others have failed after a few months' operation, and some were never even started.

An investigation of the creamery business in several States by the U. S. Department of Agriculture has shown that the cause of many of the failures was due to lack of a sufficient number of cows, which should not be less than 400, and that others failed because of improper organization, in the case of co-operative creameries, and excessive cost of building and equipment. Many creameries have cost about twice their actual worth, and were not of the type suited to the locality in which they were built.

The cost of a building about 28 by 48 feet will vary from \$800 to \$2400, depending upon the locality, the construction, and the cost of material and labor. Such a building usually consists of a main building, engine and boiler room (including space for refrigerator machine), coal room, refrigerator, store-room, and office.

Machinery for a hand-separator plant, consisting of 15-horsepower boiler, 10-horsepower engine, combination churn with a capacity of 600 pounds of butter, and other necessary apparatus, will cost approximately \$1200. Machinery for a whole-milk plant will cost about \$1850. This equipment will handle from 1000 to 1200 pounds of butter per day. If a refrigerating machine is included, the cost will be from \$600 to \$1000 more.

The total cost of a creamery would therefore vary from \$2000 for a simple hand-separator plant without artificial refrigeration, where labor and material are cheap, to \$4250 for a whole-milk plant, including artificial refrigeration and a higher cost of labor and material.

The Department of Agriculture is prepared to furnish information for the proper organization of creameries and cheese factories, and upon request will supply plant of organization, list of machinery, and plan for creamery. Correspondence should be addressed to the Dairy Division, U. S. Department of Agriculture, Washington, D. C.

## Forestry.

### Timber Owners Organize to Fight Fire.

One of the most important economic movements of the day, about which the general public has yet learned little, is the concerted action of owners of timber in different parts of the country in organizing associations to protect their holdings from fire. In the Pacific Northwest, the Washington Forest Fire Association has just elected officers at Seattle and begun work for the year with 3,000,000 acres under its care. The plans include a system of patrol by rangers resembling the work done by the United States Forest Service in guarding against and extinguishing fires.

Organizations of similar kind and for a like purpose are at work in Oregon and Idaho. In the latter State a portion of the expense is borne by taxation and paid from the State treasury. A western railroad company which holds large tracts of timber has taken steps to guard its property from fire, and during the short time that its plans have been in operation it has met with most encouraging success.

Similar work is being done on the other side of the continent. Forest owners in Maine have gone to work in the same systematic way to control the forest's great enemy, fire. Like organizations are found in other parts of the country, showing how fully it is now realized that protection against fire is of the greatest importance.

It is safe to say that fires in this country have destroyed more timber than lumbermen have cut. When timber was abundant, the waste passed unnoticed, but now that a scarcity is at hand and an actual wood famine threatens in the near future, the owners of forest lands are waking up and taking action to save what is left.

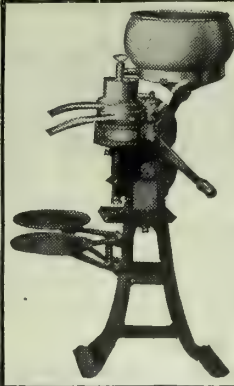
### Forestry Appointments in California

The Forest Service at Washington has just announced the following appointments on California National Forests:

Alexander M. McQuig and John Fiske, forest guards on the Stanislaus National Forest.

Randall C. Clapp, Fred A. Humphreys, T. J. Gilliam, Preston Powers, J. F. Quigley, and Oscar Sutherland, forest guards on the Sierra (S) National Forest.

Frank Price, forest guard on the Sierra (N) National Forest.



## DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest

For Thirty Years

## The World's Standard

As much better than other separators as other separators are better than gravity creamers.

Send for catalogue of 1908 Latest Improved Machines

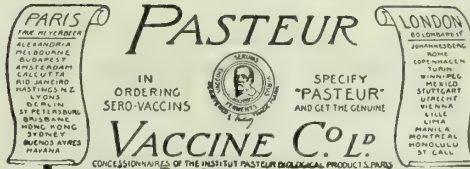
### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
**LOS ANGELES**  
42 E. Madison Street  
**CHICAGO**  
74 Cortlandt Street  
**NEW YORK**

General Offices:

101 Drumm Street,  
**SAN FRANCISCO.**

107 First Street  
**PORTLAND, OREG.**  
1018 Western Ave.  
**SEATTLE**  
Box 1052  
**VANCOUVER, B. C.**



## Pasteur Vaccine Co., Ltd. Anthrax & Blackleg Vaccines

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by the discoverers, Profs. Arloing, Cornevin and Thomas. Furnished in powder, cord and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore. It is furnished only in our established blue tube and always bears our name, trade mark and expiration date for your protection. Do not accept any other.

**PASTEUR VACCINE CO., Ltd., 7 Rue Meyerbeer, Paris**  
**NEW YORK 366-368 W. 11th Street** **CHICAGO 328-325 Dearborn Street**

When your animals are vaccinated be sure that it is with

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

### SORBY VACCINE CO. (Inc.)

(General Agents U. S. A.)

161 Randolph Street, Chicago.

### SERWE & PRIEN

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

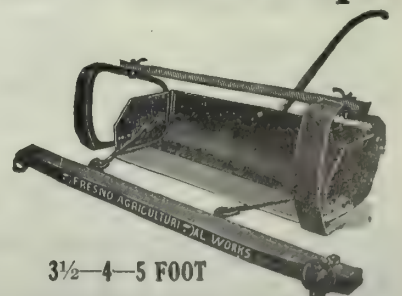
Temporary Address

Grayson and Sixth Streets, **BERKELEY, CAL.**  
West of San Pablo Ave.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. **OAKLAND, CALIFORNIA**  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

## The Fresno Scraper



3 1/2 - 4 - 5 FOOT

Send for Raisin Machinery Catalogue.

## FRESNO AGRICULTURAL WORKS

FRESNO, CALIFORNIA.

## Blake, Moffitt & Towne

Dealers in **PAPER** 1400 FOURTH ST., **SAN FRANCISCO**  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE MARKETS.

San Francisco, May 13, 1908.

## WHEAT.

Wheat shows a tendency to firmness in all markets, as crop reports indicate smaller supplies than last year. Arrivals have been very heavy both in eastern and northern markets, as the May contracts are being filled. Shipments from the north have been quite heavy all week. In this market futures are still entirely neglected, without enough transactions on the exchange to establish quotations. The cash grain is considerably stronger, showing some advance in all varieties, the rise on most lines amounting to about 5 cents. The movement is still limited, though the millers are showing some interest in the market, and the demand is said to be increasing.

California White Australian..	1.70 @ 1.72½
California Club.....	1.65 @ 1.67½
California Milling.....	1.67½ @ 1.70
California lower grades.....	1.40 @ 1.60
Northern Club.....	1.65 @ 1.67½
Northern Bluestem.....	1.70 @ 1.72½
Northern Red.....	1.65 @ 1.67½
Turkey Red.....	1.67½ @ 1.75

## BARLEY.

The speculative market on this grain still shows some activity, though rather less than a week ago, and some of the firmness seems to be departing. The spot market, however, remains very firm. The movement of brewing and chevalier grades has again fallen off, and these are no longer quoted, but feed grades have advanced. Arrivals have been small, and all stocks are strongly held. There is now very little northern barley, even of low grade, offered below \$1.45, and choice bright stock cannot be bought for less than \$1.50. At these prices buyers are showing little interest, and the market is quiet.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.47½ @ 1.50
Common to Fair.....	1.42½ @ 1.45
Shipping.....	Nominal

## OATS.

The market on oats shows very little change from week to week, as both holders and buyers have adopted a waiting policy, and there is hardly any changing hands. The demand, in fact, is not large at present, and as stocks are small, business is of little consequence. A few shipments have arrived recently, but not enough to increase the size of local stocks to any extent. Choice reds are a little easier, but holders in general are very firm in their ideas, and expect to clean up later at a further advance.

Choice Red, per ctl.....	\$1.52½ @ 1.55
Ordinary Red.....	1.47½ @ 1.52½
Gray.....	1.60 @ 1.70
White.....	1.55 @ 1.67½

## CORN.

In response to speculative operations in the Chicago market, all varieties of western corn have been steadily advancing, and now stand fully 5 cents above last quotations. In this market, however, there has been no business at present quotations, as buyers say that they are too high for trading under Coast conditions. There are no arrivals of any moment, and stocks are small.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.80 @
White.....	Nominal
Western State sacked Yellow, low.....	1.80 @
White, in bulk.....	1.72 @
Mixed, in bulk.....	1.70 @
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

There is no particular feature in this grain, the amount of trading being of little consequence. Offerings are small. There are occasional arrivals, and small sales at the prices quoted.

California.....	\$1.47½ @ 1.50
-----------------	----------------

## BEANS.

Most varieties of beans are still moderately active, and in some lines prices are decidedly in favor of sellers. With a steady shipping demand for large and small whites, and supplies growing scarce, prices have advanced about 25 cents. Pinks are also firm, though prices are

unchanged. Other colored beans, in general, show a decline.

Bayos, per ctl.....	\$2.90 @ 3.10
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @
Cranberry Beans.....	2.50 @ 3.00
Garvanzos.....	3.25 @ 3.65
Horse Beans.....	2.25 @ 2.75
Small White.....	3.90 @ 4.00
Large White.....	3.90 @ 4.00
Limas.....	4.60 @ 4.75
Pea.....	3.50 @ 4.00
Pink.....	3.00 @ 3.10
Red.....	3.25 @ 3.75
Red Kidneys.....	3.00 @

## SEEDS.

Seeds are comparatively featureless at present, with no great amount of trading going on in any line. Brown mustard shows a slight advance, and alfalfa is still very strong at former quotations, with little offering.

Alfalfa per lb.....	20 @ 22 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3¾ c
Canary.....	4 @
Flaxseed.....	3 @
Hemp.....	4½ @ 4¾ c
Millet.....	2½ @ 3¾ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

Flour prices remain quite firm in this market, with no change whatever in prices. There is some movement to supply the extra consumption and Government needs, and some large lots have been shipped in from the north, though local millmen report a quiet market. Seattle millers expect to advance the price of all patent flours about 25 cents within a short time.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

There has been a slight increase in hay shipments during the past week, the total amounting to 2680 tons, as compared with 2340 tons for the week preceding. The market shows no new or interesting features, although on the whole the situation has been holding rather strong, principally because of the rather unfavorable reports concerning crops. The fleet festivities have interfered with trading, although business has now been very generally resumed. From reports received, it is asserted that the State as a whole will yield a very fair crop. It is yet too early to forecast the crop with any certainty, but the recent showers, combined with the prevailing cool weather throughout the Coast has helped the situation materially. The account of stock in warehouses tributary to San Francisco has just been compiled by the San Francisco Hay Association, showing a total of about 60,000 tons as compared with 40,000 tons last year. This item alone will help materially during the coming season. Prices show some variation.

Choice Wheat, per ton.....	\$17.00 @ 20.00
Other Grades Wheat.....	11.50 @ 16.00
Wheat and Oat.....	12.50 @ 17.50
Tame Oat.....	11.50 @ 17.00
Wild Oat.....	10.00 @ 16.00
Alfalfa.....	9.00 @ 13.00
Stock.....	8.00 @ 10.00
Straw, per bale.....	65¢ @ 95¢

## MILLSTUFFS.

Shipments of feedstuffs from the north are of small proportions, and California mills are producing no great quantity at present, so that supplies on hand are entirely inadequate to supply the market, and the firmness is still increasing. With the disappearance of green feed, the demand is gradually increasing. Bran is higher and shorts show a marked advance. Cornmeal, cracked corn and rolled barley are considerably higher, corresponding with the advance in the raw grains.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @
Jobbing.....	23.00 @
Bran, ton.....	32.00 @ 33.00
Broom Corn Feed, per ctl.....	90¢ @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @
Jobbing.....	28.00 @
Corn Meal.....	36.00 @ 37.00
Cracked Corn.....	38.00 @ 39.00
Mealalfa.....	22.00 @
Jobbing.....	23.00 @

Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Rolled Barley.....	31.00 @ 32.00
Shorts.....	33.00 @ 35.00

## VEGETABLES.

Onions, which have been steady to firm for a month or two, have begun to weaken, and lower values are the rule from now on, as the new crop becomes available. Australian are \$1.00 a cental lower, and a similar reduction has taken place in Bermudas, while new reds are in over-supply and weak at low prices. There has been some shipping demand for this stock, but arrivals so far have been soft, with little keeping quality. Asparagus is again higher, with small receipts. Both tomatoes and summer squash are easing off a little, and most miscellaneous lines are plentiful.

Garlic, per 10.....	18 @ 20 c
Green Peas, sack.....	60 @ 1.50
String beans, lb.....	4 @ 7 c
Cabbage, per ctl.....	35 @ 50 c

## Onions—

Australian, per ctl.....	4.00 @ 4.25
Bermudas, per crate.....	1.60 @ 1.75
New Green, box.....	35 @ 60 c
New Red, sack.....	1.50 @ 1.60
Summer Squash, box.....	40 @ 65
Tomatoes, crate.....	1.50 @ 1.75
Carrots, sack.....	75 @
Rhubarb, box.....	50 @ 90 c
Asparagus, extra, lb.....	7 @ 8 c
Asparagus, No. 1.....	5½ @ 6 c
Asparagus, No. 2, lb.....	3 @ 5 c
Green Peppers, lb.....	20 @ 25 c
Cucumbers, doz.....	60 @ 1.00

## POULTRY.

An unexpected weakness has developed in the poultry market, as receipts have been very heavy on account of an expected increase in the demand. There was a large hold-over from last week, and even with the enormous number of visitors in the city the market has been unable to recover. As the market is far from cleaned up, and immediate receipts are more than sufficient for current demands, the market does not offer many encouraging prospects for general lines. Fryers and young roosters, however, are in steady demand.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.00 @ 2.50
Ducks.....	4.00 @ 7.00
Fryers.....	7.00 @ 8.00
Geese.....	2.00 @ 2.50
Goslings.....	2.50 @ 3.00
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	5.00 @ 6.00
Small Hens.....	4.00 @ 4.50
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	7.50 @ 10.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50

## BUTTER.

The upper grades of creamery butter show very little change since last report, though there has been some fluctuation during the week, extras at one time standing at 24 cents. The market is fairly active, with considerable extra business for local consumption, though there is little shipping demand. The market has been held fairly steady by some large orders for pickling, but there is no movement for this interest at present prices. Low grade stock is higher, with seconds at 22 cents and good packing at 20 cents.

Cal. (extras) per lb.....	23 c
Firsts.....	22½ c
Seconds.....	22 c
Thirds.....	
Fresh Packing Stock, No. 1.....	20 c
Fresh Packing Stock, No. 2.....	19 c

## EGGS.

Prices on high grade eggs show a little weakness at present. While the local consumption has increased, the market has been very plentifully supplied, and receivers have shown anxiety to clean up their stocks. Quotations are about the same as two weeks ago. There is some little movement into storage, which is all that holds the market up to its present position. Seconds and thirds are unchanged.

California (extra) per doz.....	20½ c
Firsts.....	19½ c
Seconds.....	18½ c
Thirds.....	16 c

## CHEESE.

Cheese shows a slightly easier tone than at last report, though so far there has been little change of prices. There has been a fairly active demand for local consumption, but at present stocks of some lines are plentiful, and the trade is

LILLY'S BEST

MEANS

## Comfort for Stock



**FLY KILLER**  
applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A cost of



**LICE KILLER**  
applied to roost or board beneath the roost will positively kill lice. For something in the powder form

**INSECT POWDER**  
is sure death to all vermin and is positively harmless to chicks.

These remedies are Sold by Dealers

Manufactured by

THE CHAS. H. LILLY CO.

SEATTLE and PORTLAND

not purchasing freely, though there is some movement for storage. California flats are weak and slightly lower, and the same is true of eastern storage, but Y. A.'s and Oregon storage are firm at former prices.

Fancy California Flats, per lb...	12 c
Firsts.....	11½ c
New Young Americas, Fancy.....	13½ c
Storage, do.....	
Eastern, New.....	Nominal
Eastern, Storage.....	16 c
Cal. Storage, Fancy flats.....	
Oregon, Fancy.....	14 c

## POTATOES.

Old potatoes are fairly steady, with very little change in prices. Most stocks are held in strong hands, and while supplies are plentiful, there is a good demand for first class stock. New potatoes are a little easier.

Oregon Burbanks.....	90 @ 1.10
Burbanks, River, bag.....	75 @ 1.00
New Potatoes, lb.....	1½ @ 2c

## FRESH FRUITS.

The strawberry market has been very weak, with a great reduction of prices all around. At present, however, there are few Los Angeles berries offering, and the prices are picking up a little. Receipts of cherries are also moderate, and stocks clean up well, though prices have declined. A few blackberries have been sold at 10 cents a basket.

Cherries—	
Black Tartarian, drawer...	75 @ 1.00
Purple Guigne.....	60 @ 75
Bulk, lb.....	3 @ 7c
Apples, fancy.....	1.25 @ 1.75
Apples, common to choice...	60 @ 1.00
Strawberries—	
Longworths, chest.....	10.00 @ 13.00
Cheney's, chest.....	7.00 @ 9.00
Malindas, chest.....	6.00 @ 8.00
Crates.....	1.00 @ 1.50

## CITRUS FRUITS.

Stocks of oranges are large, with heavy arrivals, and as the market shows much less life since fresh fruits are more plentiful, the market is inclined to easiness. Grapefruit remains firm, and other lines are unchanged.

Choice Lemons.....	\$1.75 @ 2.00
Fancy Lemons.....	2.25 @ 2.50
Standard.....	1.00 @ 1.25
Limes.....	5.50 @ 6.00
Oranges—	
Navels.....	1.85 @ 2.75
Tangerines.....	1.25 @ 1.75
Grape Fruit.....	3.25 @ 3.50

## DRIED FRUITS.

Packers are very conservative about making predictions as to new crop prices. Spot prices show no further change, and the movement in this market is light. Prunes are a strong feature, but other descriptions are inclined to easiness.

Evaporated Apples.....	5½ @ 6½ c
Figs.....	2½ @ 3 c
Apricots, per lb.....	12 @ 14 c
Peaches.....	7½ @ 8½ c
Prunes, 4-size basis, 1907 crop..	8 @ 3½ c
Pears.....	7½ @ 9½ c

## RAISINS.

2 Crown.....	3½ @
--------------	------



3 Crown .....	4 @	—
4 Crown .....	4 @	4½c
Seeded, per lb.....	6 @	6½c
Seedless Sultanias .....	4½ @	—
London Layers, per box .....	90 @	1.00
London Layers, cluster.....	\$1.25 @	1.50

NUTS.

Offerings of nuts are very small, particularly of walnuts, which are about cleaned up and very firm. Prices show no change whatever, and there is practically no movement except in a jobbing way.

Almonds, Nonpareils .....	13½ @	14½c
I X L .....	13 @	14 c
Ne Plus Ultra.....	12½ @	13 c
Dfakes.....	11 @	11½c
Languedoc.....	10	—
Hardshell.....	7 @	7½c
Walnuts, Softshell No. 1.....	13	—
Softshell, No. 2.....	10	—
Italian Chestnuts.....	10 @	12½c

HONEY.

The market is almost bare of first class old crop offerings of comb honey, and the little that has been gathered of the new crop does not appear in this market. Prices are as last quoted.

Water White, Comb .....	16 @	17 c
White .....	15 @	—
Water-white, extracted .....	8 @	8½c
Light Amber, extracted .....	7 @	7½c
Dark Amber and candied .....	5½ @	5½c

WOOL.

The recent wool sale at Marysville was a failure, as no buyers attended, and there is little to indicate that other sections will fare better. Prices have not improved, and the buyers take little interest in offerings.

Spring-clip, Humboldt, year's staple.....	20 @	—
Northern Humboldt and Mendocino .....	12 @	14 c
San Joaquin .....	8 @	11 c
Fall Clip, northern, free .....	7 @	8 c
Southern Coast .....	7 @	10 c
Nevada .....	9 @	12 c

HOPS.

There is some little movement in hops, but the market is by no means active, and prices are unchanged. The cleaning up of some surplus stock, however, offers some encouragement to the growers.

1906 crop .....	1½ @	2½c
1907 crop .....	4 @	7 c
1908 (contracts) .....	9 @	10 c
3 to 5 year contracts .....	10 @	12 c

MEAT.

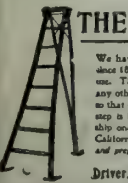
Dressed meats are practically unchanged, steers showing a slight decline. Dressed hogs are a little firmer, but other meats are weak, with a general decline in prices.

Beef: Steers, per lb.....	6½ @	7½c
Cows .....	5 @	6 c
Heifers .....	5 @	6 c
Veal: Large.....	5½ @	8 c
Small.....	8 @	9 c
Mutton: Wethers .....	8 @	8½c
Ewes .....	7 @	7½c
Spring lamb.....	10 @	11½c
Hogs, dressed, heavy.....	7½ @	8 c
Light.....	9 @	10 c

LIVESTOCK

Steers, No. 1.....	8 @	8½c
No. 2.....	7½ @	8 c
No. 3.....	6½ @	7 c
Cows and Heifers, No. 1.....	7 @	—
No. 2.....	6 @	6½c
Bulls and Stags.....	4 @	4½c
Calves, Light.....	4½ @	—
Medium.....	4 @	—
Heavy.....	3½ @	—
Sheep, Wethers.....	5 @	5½c
Ewes.....	4½ @	5 c
Spring Lambs, lb.....	5½ @	6 c
Hogs, 100 to 200 lbs .....	6 @	6½c
250 to 300 lbs.....	5½ @	6 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.



**THE BOSS LADDER**

We have been making the Boss Ladder since 1875, and thousands of them are now in use. They are lighter, stronger and stiffer than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. R. Station in California, on receipt of price—30 cents per foot and prepaid the freight.

Driver, Aber & Co., San Leandro, Cal.

**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages, 5 by 7 inches. Cloth.....\$1.00

Patrons of Husbandry.

Grange Revival.

To the Editor: On the invitation of Enterprise Grange, Sacramento County Pomona Grange No. 2 visited Enterprise Grange and conferred the third and fourth degrees on a class of eleven members. The work was done in a creditable manner and brought forth congratulations to all those who took part. A bountiful harvest feast was partaken of. After the feast an open meeting was held, which was of special interest for several reasons. It awakened memories of old days when Enterprise Grange was one of the strongest and most influential granges in the State. It brought to memory the names of pioneers such as Plummer, Toomey, Atkins, Birch, Schaffer, and others who have passed to their rest. We are glad to see this Grange revive, and may they who now take charge prove worthy of those who have gone on before.

Bro. E. Greer stated that Capital Grange had reorganized and had application for a class of seven.

Bro. Joseph Holmes stated that the Mutual Fire Insurance Co. was in a flourishing condition; on the first of January they had about half a million of insurance on their books, and had added nearly seventy thousand since.

The meeting was ably conducted by the worthy master of Pomona Grange, Bro. G. W. Hack.

GRANGER.

Sacramento.

BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I—By J. E. Morse, the wellknown Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseedling it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50

"THE OLD RELIABLE"



**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

BREEDERS' DIRECTORY

POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**SANTA TERESA POULTRY FARM** for White Leghorns. **Wm. HAUSAM**, Eden Vale, Cal. Box 45.

**WILLIAM NILES & CO.**, Los Angeles, Cal. Nearly all varieties Chickens, Geese, Ducks, Pea-fowl, etc.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE, POLAND-CHINA, Duroc HOGS.** Choice, thoroughbred Poultry. **William Niles & Co.**, Los Angeles, Cal. Established 1876.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 81, 320 McAllister St., S. F.

HORSES AND CATTLE.

**JERSEYS, HOLSTEINS, DURHAMS, AND DAIRY BULLS.** Thoroughbred Hogs, Poultry. **William Niles & Co.**, Los Angeles, Cal., Breeders and Exporters. Established 1876.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE.**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.

BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to breed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author that whom no one is better qualified. The subject

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	314
Beckman, Geo. V.....	319
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	317
Breeders' Directory.....	319
Covina Nurseries.....	316
Croley, George H.....	319
Clark Wise & Co.....	313
Cutter Laboratory, The.....	317
De Laval Dairy Supply Co.....	317
Deming Co., The.....	—
Dewey, Strong & Co.....	319
Dietz Company, R. E.....	319
Disbrow, F. H.....	316
Doak Gas Engine Co.....	320
Driver, Aber & Co.....	319
Driver, E. S.....	319
Fresno Agricultural Works.....	317
Gallaway, A. J.....	316
German Kall Works.....	315
Hamlin School, The.....	312
Hausam, Wm.....	319
Hart, Ed.....	319
Hess & Clark, Dr.....	317
Howard Cattle Co.....	319
International Harvester Co.....	—
Jackson & Co., T. W.....	320
Junior Monarch Hay Press Co.....	320
Lawrence-Williams Co.....	315
Lilly Co., Chas. H.....	318
Lister, Henry B.....	314
Lynch, John.....	319
Meacham, Frank A.....	—
Mountain Copper Co.....	315
National Wood Pipe Co.....	311
Niles & Co., Wm.....	319
Nitrate Agencies Co.....	315
Oakland Poultry Yards.....	319
Oregon Nursery Co.....	316
Pacific Coast Business College.....	313
Pasteur Vaccine Co.....	317
Pear Blight Remedy Co.....	320
Roeding, Geo. C.....	319
San Francisco Sulphur Co.....	311
Santa Teresa Poultry Farm.....	319
Shaw, Henry.....	316
Sharples Separator Co.....	316
Shaw Co., H. C.....	320
Silva & Bergtholdt Co.....	320
Simmons Hardware Co.....	—
Smith, Francis.....	319
Sorby Vaccine Co. (Inc.).....	317
Southern Pacific Railway.....	320
Standard Oil Co.....	311, 314
Stowe, C. A.....	319
Sullivan, W.....	319
Teague, R. M.....	316
Temple Pump Co.....	—
Tower Co., A. J.....	316
Tuttle's Elixir Co.....	314
Van Der Naillen, A.....	317
Vermont Farm Machine Co.....	316
Wagner, J. B.....	316
Waite, Thos.....	319
Woodin & Little.....	—

matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 450 pages. 5½ by 8 inches. Cloth.....\$1.75

PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

FRANCIS SMITH & CO., Manufacturers of

SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

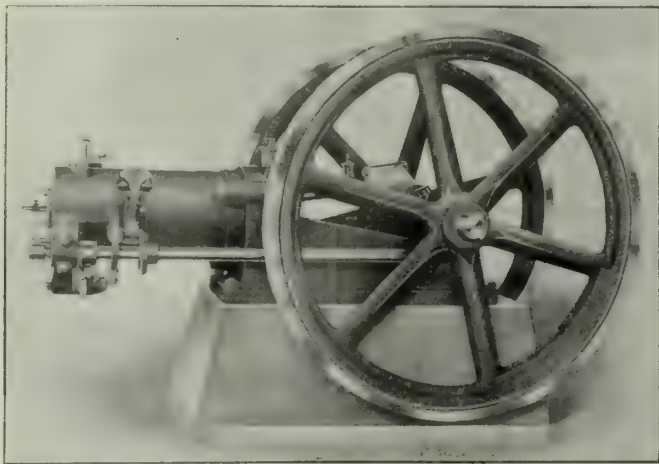
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum



# THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

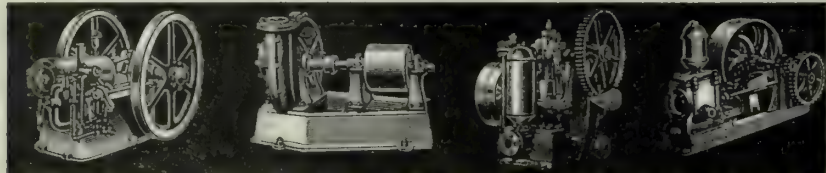
All sizes from 3 to 50 H.P. carried in stock at all times.



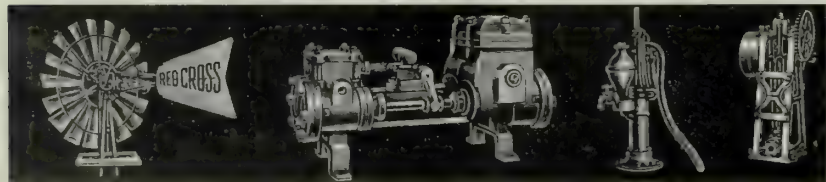
If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

**DOAK GAS ENGINE CO.,**  
Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



**WOODIN & LITTLE,** 70-72 FREMONT STREET, San Francisco, California  
DEALERS IN **PUMPS** FOR HAND, WINDMILL, IRRIGATING, SPRAYING, WHITEWASHING, ROAD SPRINKLING, SHIP, POWER AND AIR PURPOSES, STEAM AND BELT PUMPS. PUMPS FOR ANY CONCEIVABLE USE.  
**WIND MILLS, TANKS, HORSE POWERS.**  
IRON PIPE, PIPE FITTINGS, BRASS GOODS, HOSE, GASOLINE ENGINES 2 TO 50 HORSE POWER.  
Send for Complete Catalogue—Mailed Free.



## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

**PEAR-BLIGHT**

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**

# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

**May 28, 29, 30.**  
**June 3, 9, 10, 11, 15, 16, 22 to 28, inc.**  
**July 2, 3, 6, 7, 8, 28, 29.**  
**August 17, 18, 24 and 25.**

HERE ARE SOME OF THE RATES:

Omaha	.	.	.	\$	60.00
Council Bluffs	.	.	.		60.00
Kansas City	.	.	.		60.00
Chicago	.	.	.		72.50
St. Louis	.	.	.		67.50
New Orleans	.	.	.		67.50
Washington	.	.	.		107.50
Philadelphia	.	.	.		108.50
New York	.	.	.		108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.



**NOW READY**

**THE VERMOREL TORPILLE KNAPSACK SULPHURING MACHINE**

We could not supply the demand last season so would advise you to

**PLACE YOUR ORDERS NOW**

The most satisfactory dust sprayer made. Easy to carry—easy to work—outlasts all others—no getting out of order—makes sulphuring **easy work** and saves sulphur. Recommended by users as the **most effective** sprayer used for the purpose.

SOLD BY

**THE H. C. SHAW CO.**  
Stockton, Cal.  
General Agents for the United States.

**Junior Monarch Hay Press Co.**  
SAN LEANDRO, CAL.

**Make the Leading Hay Presses**  
**Guaranteed to excel all others**

WRITE FOR CATALOGUE

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

**\$4.00**      **593 pages Well Illustrated.**      **\$4.00**

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 21.

SAN FRANCISCO, SATURDAY, MAY 23, 1908.

Thirty-eighth Year.

## THE PEAR BLIGHT.

It is very encouraging to note reports from a number of districts which have suffered severely from pear blight, that the ravages of the disease are much lighter this year and that probably a good many pears will be gathered in places where the outlook for a couple of years past has been very discouraging. So greatly is the May aspect of the trees improved over that of preceding Mays that the orchards are called "clean" by those who are expert at detecting the blight. This means that the blackening of the twigs downward from the point of bloom is exceedingly scarce and the young fruits and adjacent leaves are holding healthy green color and developing well. This is, of course, not claimed to be the result of treatment, though that may have had considerable influence toward it. Natural conditions seem to have been unfavorable to carriage of the germs to the bloom, consequently the young growth proceeds normally—just as it did before the wretched disease invaded our pear orchards.

It has often been held at the East that the pear blight attacked with greatest virulence at its introduction, and afterward became less aggressive or less effective in its attack. There has been a world of conjecture as to why this should be the case, but no demonstration has been made, so far as we know. If this experience should be repeated in California it would be fortunate, for the pear is very profitable, and there is no pear which fills our bill so well as the Bartlett. Of course this year's experience will not prove that the blight will take the back track: it may mean only that this has not been a good year for blight.

But while some of the old blight districts are very clean this year, there is no doubt but that the disease is pursuing its aggressive course geographically, and the number of specimens sent to us from districts where the blackening of young fruit, wood and leaves and the retention of the blackened foliage for some time, are unusual appearances to the growers. We

also hear of trees killed outright, which shows that in these new places the blight is striking quickly at the roots. The accompanying picture, taken from a recent report by Prof. R. E. Smith, shows how a tree looks which has been stricken in the root, and how much work is occasioned by subterranean eradication. In connection with such behavior of the blight Prof. Smith says that in practice it was found necessary in inspecting trees for blight, not to simply walk through the orchard looking for blighted limbs, as at first seemed sufficient, but each inspector had to be provided with a gouge or chisel and make a thorough examination of the butt and trunk of every tree, in order to detect the frequent cases of hidden blight at that point. This necessitated further the condemning of many apparently healthy trees, and shows that the blight may enter the root through a sucker and the tree be thus undermined before the usual form of twig blackening discloses the entrance of the disease from above.

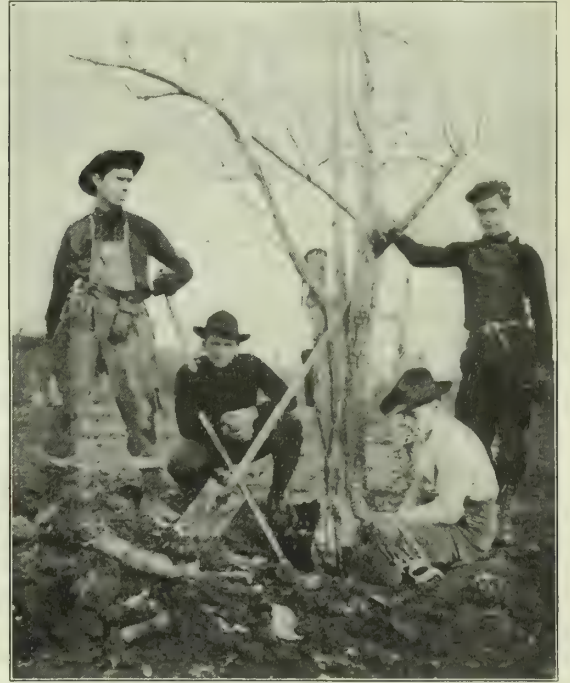
For the benefit of readers in new districts who are sending us specimens, we continue with a brief outline of advice by Prof. Smith: The general idea for the control of pear blight is very simple. It consists in inspecting the trees carefully in winter, cutting off all the affected branches below the point to which the disease has extended, and disinfecting the cut



Dolly Dimple—A Record Making Guernsey.

surfaces and the tools with an antiseptic solution. The method also insists on keeping the butt and main limbs of the trees free from all sprouts and fruit spurs, recommends a certain style of pruning, and advises as much moderation as possible in cultivation and irrigation, since a rapid growth of the tree favors the disease. Cutting out the blighted twigs as they appear in spring and summer is recommended with some reserve, the danger being that at this season when the disease is active, careless cutting or disinfecting may spread rather than eradicate the blight.

Avoiding undue enthusiasm and extravagant claims, Prof. Smith feels justified in saying that in our experience in the control of pear



Treating a Bad Case of Pear Blight.

blight this much has been established:

1. That thorough work in winter eradication prevents blossom-infection in spring.
2. That the larger the district which can be covered in winter the less will be the infection next spring, and all the infection will come from blight which remained over winter.
3. That so long as sources of infection remain over winter, producing infection even in well-worked orchards near by, frequent, prompt summer cutting and removal of butt sprouts and spurs must be practiced in order to prevent serious damage and loss of trees.
4. That if not exposed to extremely abundant infection from neglected trees near by, a pear orchard can be profitably maintained in good condition and cultivated, pruned and irrigated in the manner necessary to secure a crop, by thorough winter blight work and prompt summer cutting and sprout removal. The farther away the blight can be held the less will be the trouble.

## TWO FAMOUS ANIMALS.

We have portraits of two famous dairy animals upon this page. One is the young cow Dolly Dimple, a good representative of the Guernsey breed, which is not as well known as it ought to be in California. Dolly Dimple was bred by and is owned by Mr. F. Lothrop Ames, North Easton, Mass. She was born January 21, 1905, and dropped her first calf February 15, 1907. On March 10 she began her yearly record, which has just been completed with such satisfactory results that it stands the highest official record for both milk and butter fat production which has ever been made by a two-year-old heifer of any breed: viz., 365 days, 14,009.13 pounds of milk, with an average test of 5.02% butter fat and a total pro-

(Continued on page 323.)



Holstein-Friesian Colantha Johanna Lad.



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., May 19, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	1.32	35.79	44.08
Red Bluff.....	.58	20.06	24.21
Sacramento.....	.24	12.17	19.71
Mt. Tamalpais.....	.70	24.60	22.39
San Francisco.....	.39	17.34	21.86
San Jose .....	.35	11.64	21.79
Fresno .....	.02	7.61	9.41
Independence.....	T	9.29	9.28
San Luis Obispo.....	.02	18.06	20.04
Los Angeles.....	...	11.71	15.45
San Diego.....	...	8.54	9.86

THE RECORD OF THE PAST—THE PROMISE OF THE FUTURE.

For thirty-seven years on the live wire of California agricultural journalism, and for thirty-three years the editorial current under the guidance and control of a single mind, is a record not only to be proud of, but which, in our judgment, is hardly to be duplicated. Historically it is significant of the sturdy men and women who breathe close to the soil and who have made of California the greatest horticultural section of the world—for, within the life of the RURAL PRESS has been exploited the greatest fruit industry of our time. And this marvelous development has been accomplished under the prophetic vision of one man as editor. During this entire period Prof. E. J. Wickson has been part and parcel of California's rural industry, his best endeavors have been in giving weekly editorial expression to the best horticultural thought and practice, affording words of cheer and encouragement to the heroic men and women who are making California horticulturally famous. Always conservative in statement, a keen observer, close student in economic horticulture, a man of strong optimism, genial in his ways, who has at heart the best interests of his readers, he has by right of service become the recognized authority in his chosen field.

In the light of these facts, a change in the ownership and business management will not appeal seriously to the thousands of loyal readers of the RURAL PRESS, especially when we tell them that the new owners appreciate wherein its valor lies and will continue the dean of California horticulture in editorial control for another thirty-three years. Indeed, we shall take nothing from the paper as it now stands, aiming to maintain the high standard it has attained, but we shall hope to broaden its horizon, to stimulate a keener inter-

est in its field of operation, and by reason of making substantial improvements in the paper hope to increase its usefulness and make it helpful to every soil tiller in the State. The PACIFIC RURAL PRESS will merit your consideration, because its first ambition is to be deserving.

PACIFIC RURAL PRESS CO.,  
FRANK HONEYWELL.

The Week.

The foregoing statement from the new ownership and business management is more significant for what it implies than for what it says. It occupies itself chiefly with bouquet-throwing at the editorial department, rather than with declaration of its own qualifications and purposes. The most important fact is, however, clearly enough implied, viz.: that the PACIFIC RURAL PRESS has an entirely new business outfit; its ownership has completely changed, and its business management will be in the hands of Mr. Frank Honeywell, who also participates in ownership. Mr. Honeywell becomes, therefore, the ruling factor in the future development of this journal, and he has the right to issue the invitation to "Watch us grow," as he modestly does in the statement which appears over his signature. On our part, we are very glad to introduce Mr. Honeywell to the frankness, sincerity and cordiality which the subscribers of the RURAL PRESS have always manifested toward those who have endeavored to serve them. We do this with full confidence because Mr. Honeywell has had very successful experience on the business side of agricultural journalism and knows how to win favor by deserving it—as he declares it his intention to do. In the business integrity and enterprise which have actuated his past endeavors, and in the improvement and development of journals with which he has had to do, we all have a surety of the honor, alertness and devotion which will characterize his future work for the advancement of agriculture through this journal. He will undoubtedly demonstrate his ability to make betterments in the PACIFIC RURAL PRESS which will inure to the advantage of all old patrons and prove very attractive, we believe, to thousands of new friends in all parts of the State. To assist Mr. Honeywell in his honorable undertaking the editorial department will lend every endeavor.

The rains continue, and many a grower who was depressed by the condition of his fruit lands for lack of spring tillage has had a chance to get things into pretty good shape for the summer. In this regard the present season is, perhaps, better than last, and it will be of considerable importance, too, for there will not be too much fruit this year, and good prices for everything which comes through in good condition. To this end even these late rains will be a notable contribution in some parts of the State. Fortunately the rains have not been excessive in places where there has continued a hope for grain, and the cool air and lessened evaporation will bring to value considerable areas which were despaired of a month ago. From these points of view, and from improved pasturage also in many sections, the season is reclaiming itself measurably, and a confident and comfortable feeling is widely prevalent. In California farming it should always be remembered that the game is not over until it is played through. Some hay has, of course, been hurt, but on the whole, in the way of filling grain, bringing along fruit and giving a much better start to summer crops, the rains have been of great value, though the extra culti-

vation which they may necessitate may not be welcome in places where earth-moisture was already ample. California has so many diversifications that either universal good or ill can hardly be predicted of any weather performance. The best we can say of the last visitation is that it is on the whole good, but rather bad in spots, and this is quite characteristic of California generally, by the way.

One of the worst things about the sulphur agitation, of unblest memory, is that though the evil was fortunately headed off at Washington, it has now to be fought nearly everywhere else. The States cannot understand why California dried fruits should be under condemnation if they contained more than .0035 of sulphur compounds unless such a content was really dangerous, or at least very undesirable. We cannot understand that matter, either, but the difference is that while we know that the use of sulphur is eminently desirable, those unacquainted with the sulphur process think it must be dangerous because the Government made such a declaration. The result is that probably many State and municipal health authorities will have to be severally put wise upon the facts, or they will be likely to do unwarranted things with sulphur, just as the great Washington prototypes did. This is one of the most unfortunate burdens ever placed upon our fruit industries. The Washington promulgators of regulations cannot be compelled to retract; they can only be shut up. We shall therefore be compelled to fight regulations until the referee board comes home. For example, the other day the legislature of Oklahoma, the unspanked baby of the United States, received a bill prohibiting the sale of dried fruits, in which sulphur has been used in the process of curing, unless all trace of sulphur is removed before the fruit is offered for sale." This unreasonable proposition was first met by Congressman Needham, who explained to the new State representatives at Washington that Oklahoma proposed more drastic regulations than those adopted by the Federal Government; that the proposed law would be an unreasonable hardship on California producers, and that it would restrict the privileges of residents of the new State, because dried fruits could not be sold. Fortunately, Mr. Arthur R. Briggs was in Washington as delegate to President Roosevelt's conference of industrialists, and he went at once to Oklahoma to explain the matter to the parties who contemplate such legislation. And we shall have to do this continuously, probably. It is bad.

The newest livestock industry bids fair to be the breeding of teddy bears. In England the latest fad is real live bears, instead of monkeys, as my lady's drawing-room ornaments. The cable says the baby bears which are sold in the London market come from Borneo. The fad is an expensive one, for not much in the bear line can be obtained under \$150. The animals are most popular at about nine months of age, when they are as big as a medium-sized dog. They take to the nursing bottle like ducks to water, and are very fond of being petted. Nor is it alone abroad that small bears are the coming thing. Up north there has been a demand for cubs to give to the warship sailors for mascots when the fleet reaches Puget Sound, and a dozen or so were secured without much difficulty. If these things are really to be popular, the best way is to get busy and breed them.

The protection movement of the English hop-growers, to which we recently alluded, seems to be growing fast, and when one reflects what beer



means to John Bull it is not difficult to understand why he rises in defense of 'ome grown 'ops. At any rate, the cabled story is that 50,000 men and women interested in the hop industry held a demonstration in Trafalgar square on Saturday last, for the purpose of imposing a duty of \$10 on every hundredweight of hops imported into the country. Speakers harangued the multitude on the ruin of the industry through the dumping of American hops in England, and resolutions were adopted calling upon the Government not to delay in helping to re-establish the industry and placing a duty on all imported hops. This multitude included, we suppose, the throng which goes down into Kent for the annual profit and frolic of the hop picking. Californians will not maintain the protection which is essential to our great industries in exactly that way, but they will get there just the same. All these protected industries should be busy in preparation, as Congress has authorized a summer session of tariff revisers.

Speaking of breeding, why in the world is it that people cannot learn that a bull is not a plaything, and should never be handled without means of instant mastery. There are more people killed by tame bulls than by railroad accidents, we believe, and yet the slaughter goes on. Only last week a Santa Cruz farmer was gored to death by a pet bull. For the past year the farmer has been driving through town with his bull hitched to a cart, the animal apparently being very docile and responding to the reins like a well trained horse. While leading the animal to water by a long rope that circled his waist, the animal gored him. Judging from the torn earth and blood-bespattered boards and fences along the lane, a terrible struggle must have taken place. We have no delight in these details, but possibly some reader may be made wise as to how to handle a bull by the gruesome recital. Some years ago we saw a photograph of a child placed by its father upon the shoulder of a pet bull in a corral, and every recollection of it since that time has given us a shiver.

Here is another creepy subject, though not in any sense tragic: Some remarkable statistics have just been published with regard to the consumption of horseflesh in Paris. In 1906 there were 300 shops for the sale of horseflesh in Paris, and 141 in the suburbs. These were supplied by two special slaughter-houses, which furnished 15,000 tons of horseflesh. It is stated that the medical faculty recommends raw horseflesh to consumptives. Horse fat is largely used for frying potatoes by open-air stall-keepers, and for preparing mayonnaise sauce by the cheap restaurant proprietors. We decide not to go to Paris this summer.

It is generally counted a shame for a man to have strings upon him, and yet there is reason to believe that there is a man in Seattle who will in future have a string upon a portable part of him. The story is telegraphed that this man, visiting a produce market in Seattle, smelled a handsome red pepper at such close range that it made him sneeze so hard that his false teeth flew out, alighted in an adjacent barrel of sauerkraut, and sank from sight. As the market man refused to have soundings made, the loser was obliged to buy the whole barrel and pan out the contents to recover his oral machinery. To guard against loss, then, it seems to be surer to swallow one's teeth than to sneeze them out, and therefore it is the part of wisdom to dislodge them on the in-draft rather than the out-blow. This art can probably be acquired with a fair amount of practice.

## Queries and Replies.

### Hay in Stack or Cock—Manure Handling.

To the Editor: Does it greatly improve oat hay to stack for six or eight weeks, or is it better to leave in cocks and how long, in bright, warm weather? The hay is to be baled.

Is it advisable to spread manure (fresh) on a walnut orchard (12 years old) during the summer; that is, to clean up the manure once a week, spread on the orchard and disk in?—Enquirer, Santa Barbara county.

All our hay made from unripe grains, including oats, is somewhat improved by going through a sweat in the stack, and is usually injured somewhat by standing in the cock, more or less as the standing in the cock may be protracted. How soon it is safe to bale from the cock cannot be determined by a definite number of days, because atmospheric conditions are so different at different times and in different parts of the State. When it is safe to bale hay after cutting must be determined by experienced judgment, for in that way only can its exact position be determined.

It is better to spread fresh manure and allow it to become dry than to store it in stacks subject to fermentation. Stable manure loses nothing by drying, if there is no opportunity for fermentation. The choice lies between spreading in the corral where it can be trodden into dry dust and applied before the fall rains start fermentation in it, and the frequent spreading dry on the land to be manured as you propose. Either of the latter practices is thoroughly rational and choice of method has to be determined on the basis of economical work, and the one which is cheapest and interferes less with summer cultivation should be chosen.

### Danthonia Californica.

To the Editor: What is the enclosed grass, which is from the rolling land about 2 miles westerly from Fulton? I think that when the land was used for sheep it was called "bunch grass," though not the bunch grass of some other localities. What can you tell me of its occurrence and value? There was a grass here that grew in bunches, and the sheep liked it so well that they kept it very short, so that I never saw it form heads.—Farmer, Sonoma county.

Dr. H. M. Hall, assistant botanist of the Experiment Station, identifies the grass as *Danthonia Californica*, a native species which occurs throughout the western part of middle California. It has a good reputation, being preferred by stock to most other grasses and generally spoken of by stockmen as very nutritious. But it is not able to hold its own with many introduced sorts of less value and so is crowded out and seems to be disappearing from many of the ranges, especially where over-grazing has been practiced. The seed is abundant and under certain conditions re-seeding would undoubtedly be profitable.

### First Aid to the Injured.

To the Editor: We have an old and valuable peach and prune orchard on the property which has yielded very profitably in spite of the fact that it has had no care. It has not had any irrigation for some 12 or 15 years, in fact water was used on it only the first and second years after planting. For the last two years the orchard has not even been plowed. In planning to give the trees the better attention which they deserve the orchard was partly plowed, but owing to the very unfavorable spring the ground has become very hard so that it is almost impossible to get a plow into it. We are anxious to make use of an old ditch through which we could get water into the orchard, with the idea of irrigating enough to soften the ground to make it fit to cultivate. I am somewhat doubtful as to the advisability of

putting water at this time on such old trees. There is plenty of moisture in the ground, they are well and deeply rooted, look healthy and promise a good crop. If it will be of any advantage to put water on we can irrigate the orchard.—New Comer, Sacramento Valley.

As you have a good crop of fruit in sight and as the land is moist enough to carry the trees for a while we would not do anything to disturb the roots much. If you can disk the surface dry or catch it after a shower you can get a loose cover which will check rapid evaporation and take the bake out of the ground around the stumps with the mattock. This will carry the trees until you can get irrigation water in and by running a furrow or two between the rows put the irrigation water where it will do most good. In this way you ought to make a good crop sure and stop irrigation about a month before the ripening. Next winter you can plow and get the land into good shape for better orcharding hereafter.

### Never Mind a Few Yellow Leaves.

To the Editor: I am enclosing herewith some lemon tree leaves on which I would like very much to have your judgment. They may have simply out-lived their usefulness as they have passed through the winter on the trees. The tree is in good condition. Only occasionally a leaf like the enclosed; the balance a nice dark green color. If they are affected with scale pests of any kind I should like to apply the proper remedy as soon as possible.—Grower, Fresno county.

The leaves which you send show by their size and texture that they come from healthy trees. The fact that an occasional yellow leaf is found does not indicate otherwise. They are probably, as you suggest, individual leaves which have run their course, and no attention need be paid to them so long as all the foliage except occasional leaves is as you describe. We do not find any scales present on the leaves. If, however, you find a tendency toward multiplication of the yellow leaves it would be well to look into the matter further.

### Weed Seeds in Manure.

To the Editor: Is there any way to destroy the weed seed in barnyard manure?—Gardener, Acampo.

We know of no practical way of killing weed seed in barnyard manure. The process of composting—that is, using water and forking over the manure from time to time, so as to secure decay—does, however, very greatly reduce the amount of weed seeds which would be capable of germination.

### TWO FAMOUS ANIMALS.

(Concluded from page 321.)

duction of butter fat for the year of 703.36 pounds.

Dolly Dimple has not only beaten the world's two-year-old butter fat record by over 160 pounds, and the milk record by over 3500 pounds, but has proved herself such a great producer that there are but seven cows of her breed, of any age, that have exceeded her production.

In the dairy the male shines in the light of his female relatives. Although, therefore, the Holstein-Friesian bull shown upon this page is handsome on his own account, it is chiefly because he is the son of Colantha 4th's Johanna that he is notable. His full name is Colantha Johanna Lad 32481, and he stands at the head of Dutchland Farms of the Fred F. Field Holstein Co., Brockton, Mass. The official record of his dam was as follows: 365 days, 27,432.5 pounds of milk, containing 998.26 pounds butter fat, equivalent to butter of 80% fat, 1247.82 pounds. The average per cent test of milk was 3.64% butter fat.



## Horticulture.

### CALIFORNIA LEMON GROWING.

By Mr. C. C. Teague of Santa Paula at the Riverside Fruit Growers' Convention.

Perhaps no horticultural business in the State has made advances during the past few years as has the lemon business. Only a few years ago the California lemon was in bad repute in the markets of the country on account of its poor keeping quality. This was largely due to ignorance on the part of the grower and shipper as to proper methods of growing, handling, curing and packing, but as greater knowledge has come, the reputation of California lemons has steadily grown, until now the established brands are sought after in the markets where they are known, at prices considerably better than the best grade of foreigners. As the supply of good California lemons has increased, the Mediterranean lemon has been forced out of the West and Middle West markets, and its market is gradually narrowing in the Eastern and Atlantic States.

**Over-Production.**—The question that many growers are asking themselves is, "Is there any danger of over-production on account of the stimulus given to planting caused by the high prices of 1905, 1906 and 1907?" I think not. Why? Because the foreign lemon is the controlling factor in the lemon business. California produced about forty per cent of the lemons consumed in the United States during 1907. The balance came from the Mediterranean countries. I am of the opinion that the larger the percentage of lemons produced in the United States is to the lemons consumed in the United States, the steadier will be the market and the better will be the average price. I believe that if 90 per cent of the lemons consumed in the United States came from California, instead of 40 or 50 per cent, that the average price to the average grower would be better. This conviction is based on the fact that Mediterranean countries always seem to have plenty of lemons to supply our markets, and New York always has had speculators ready to gamble on the chance of high prices, and always will have, so long as California can supply so little of the demand. But it seems to me obvious that if California produced nearly enough lemons to supply the market, that it would be evident to the importer and speculator that the lemons produced here would have to be sold here, and he would see that any lemons that he brought here that would cause an over-supply would mean a loss to him.

Under present conditions, all of the foreigners, representing 60 per cent of the consumption, are sold at auction at seaboard points, principally New York. This means that these auction sales absolutely regulate the price of lemons in the United States, as California lemons can only be sold in interior markets for the New York price of foreigners, plus the freight from New York to these interior markets, and plus the premium the buyer is willing to pay for the superior quality, honest packing and grading of the California lemons, which in the latter case, I am glad to say, is often 50 cents to \$1.00 a box. On the other hand, the great bulk of California lemons are sold at private sales by our different marketing agencies to legitimate dealers, and not speculators, the tendency being more and more for the shippers to build up regular trade with dealers who will look to them for a supply, and who will order the lemons shipped, instead of depending for their supply on tramp cars. This means a more even distribution and less likelihood of glutted markets, and the effect is higher prices. Do not imagine, however, that the foreigner can be displaced without a fight.

**Low Prices at Times.**—It costs money to make markets, and if we have a rapidly increasing production, we shall see some low prices during that time. This, perhaps, is well illustrated by the market conditions this winter and spring. The shipments from California, on account of the heavy crops, have been much heavier than usual, whereas the foreign shipments have been fully as heavy as usual. This means that lemons have been offered to the trade faster than they wanted them, and as the foreigner was here with his usual supply, it meant low prices; but when we shall have

reached the point where we are supplying the greatest part of the markets of the country, I am confident that it will be better for the California lemon grower.

If, then, there is room for a greater lemon production, what are the requisites of success?

**Location.**—Careful selection of location is very important. It should be as nearly frostless as possible. I believe that the sections ranging from 20 to 25 miles from the ocean are best adapted to lemon growing, just as the warm inland sections are best for the orange. These coast sections grow a much higher percentage of summer lemons, and the fruit is harder and firmer, although the inland section probably grows smoother fruit. The business, however, is being successfully engaged in, in the inland districts.

**Soil and Water.**—Care should be taken in the selection of the soil. It should be loamy and well drained. Adobe soil is not suitable on account of the liability of the tree to gum disease.

A good supply of pure water, comparatively free from alkali, is necessary.

**Stock and Variety.**—The selection of the stock for planting is important. If the soil is loamy and well drained, trees budded on sweet stock will do very well, but if it is very heavy, or the grade of the land is so slight that good drainage cannot be had, by all means plant sour stock, as trees budded on the latter will be much more resistant to gum disease under favorable conditions. The buds should come from prolific trees, producing good fruit. The Eureka and Lisbon have stood the test of time, as being the best suited to California conditions. The Eureka begins bearing earlier, produces more summer fruit, gets its fruit to size greener, and perhaps is the favorite with the average grower. The Lisbon, on the other hand, is a finer variety. It grows much larger, is hardier, more resistant to frost, the fruit smoother, and produces well as it grows older.

**Culture.**—The tendency of the lemon tree is to grow sprawly. It should be pruned so as to grow compact and full of fruit wood and able to bear the tremendous load of fruit which it has to carry almost throughout the year.

The grove must be kept well irrigated, and in an even state of growth. This insures a smoother, better quality of fruit.

Thorough, deep cultivation is important throughout the summer months. If deep cultivation is practiced when the tree is young, there is no danger of injuring it by deep plowing or cultivating as it gets older.

Cover cropping should be practiced as the cheapest way of keeping up the humus content and good mechanical condition of the soil and of supplying nitrogen. As the tree gets older, it must also be fertilized, as it is impossible to gather from fifteen to twenty-five tons of fruit to the acre each year, and continue doing so without returning something to the soil.

Improper picking and handling of fruit is perhaps responsible for more bad results than any factor. If time and experience have proven anything in the lemon business, it is that the fruit must be carefully handled. It should be picked in as green a state as possible, and still get the size demanded by the trade. Advanced maturity—in other words, ripe lemons—means weak fruit and decay. Decay means red ink.

The grove must be kept from insect pests, in order that it may be vigorous and thrifty. This can only be done by vigilance, thorough study of the habits of the numerous insect pests put here for the entertainment of the citrus grower, and the best methods of keeping them in subjection.

The same care must be observed in the packing or curing house in handling. Lemons should be held in the curing house at least a month before shipment so as to eliminate by decay the weak and injured fruit. During their stay in the house, they must be properly ventilated. Excessive moisture should be eliminated, and shriveled fruit avoided. This means careful attention. If held in the house any great length of time, decays must be removed before getting too soft. Before shipment, the fruit must be carefully graded, honestly and neatly packed.

**Neglected Trees Revived.**—I know of nothing that will respond to good care better than a lemon orchard. About a year and a half ago I purchased a property on which was a ten-acre lemon grove

that had been very badly neglected. The grove had never been irrigated during the summer months, since planting; the trees had never been pruned or fertilized; neither had anything ever been done for insect pests; neither had it ever had a good cultivation. There was a gopher under almost every tree. You can imagine the state it was in. I debated in my mind whether or not it would not be better to grub the grove out, but decided to give it a trial, and see what good care would do for it. I immediately gave it a heavy pruning and thorough fertilization, cleaned up the insect pests, and have kept it well cultivated and irrigated since. During the first year, the place netted about \$1500 above all expenses of putting it in good condition. It is now full of lemons and bids fair to make a very good grove.

**Be Generous With the Trees.**—The trouble with some growers (of course there are none of them here) is that they are too penurious or too shortsighted to spend enough money to properly care for their groves. Perhaps you will be interested in the following expense account of my 20-acre lemon grove, which produced 18,932 fifty-pound picking boxes during the year 1907:

Tools and implements, 20 per cent charged off .....	\$ 68.54
Frost plant labor .....	11.04
Harness, 20 per cent charged off .....	11.38
Expense—Bookkeeping, telephone, office supplies, etc., including \$25 per month charged to orchard for my management .....	662.77
Horse feed, cost .....	251.31
Cultivation .....	276.38
Picking lemons .....	2307.66
Pruning .....	164.43
Irrigating .....	363.65
Fertilizing .....	545.28
Total .....	\$4662.44
	or \$233 per acre.

I have mentioned a few of the most important things. There are others necessary to success, but if the average grower will follow the blazed trail and give the same watchful care and attention to detail that is given by the average successful business man to his business, he will succeed.

### MR. LEIB'S EXPERIENCE WITH WALNUTS.

Mr. Frank A. Leib of San Jose, who is associated with his father, Judge S. F. Leib, in horticultural enterprises, gives the Town and County Journal an outline of his conclusions as to some points in walnut growing as follows:

I would very strongly advise your subscriber not to plant nuts in growing a walnut grove. I know of no walnut, whether English or French, which re-produces itself by planting its seed sufficiently true to variety to make such planting at all advisable. The chances of improving varieties of nuts by planting seed of that variety is about one in 20,000. The chance of equalling the quality of the variety by means of its seedlings is but little better. Such seedlings vary from a small per cent of nearly as good nuts to a very large per cent of trees producing very inferior nuts. Inferior as regards size of nuts, flavor of kernel, color of kernel, cracking qualities of shell, shape of nuts, earliness and prolificness in bearing, time of leafing out, growth of tree, time of maturing crop, freedom from blight and frost, etc. In other words, each variety has what is now termed a certain combination of unit characters, some of which I have mentioned above; and when a seed is planted the combination of units is broken up and reunited in all the possible combinations in the seedling. This breaking up and recombining of unit characters is still further accentuated by hybridization, and so, while the planting of nuts is productive of great interest and necessary to the breeder and nurseryman, who is seeking from hundreds of thousands of seedlings to select a few possible improvements over existing standard varieties, yet, obviously, it is most unwise and wasteful for the grower of commercial nuts, who wishes to obtain a product of proved and uniform value. To do this he must plant a nursery tree selected as to root from the strongest growing, wild seedling trees, such as the California and its hybrids, and selected as to top by using grafts taken only from heavy bearing trees possessing the combi-



nation of the greatest number of valuable unit characters.

Of the twenty-three varieties of French and English walnuts with which I have been experimenting, I regard the Franquette as having proved by actual test the most profitable and best suited to California conditions. Possibly the Mayette may be put on a par with it. The Santa Barbara and Santa Rosa varieties, while having varieties of great merit, yet are too susceptible to blight and frost to make planting them advisable, save in a very few parts of this State. As to irrigating such a nursery tree after planting it will certainly pay and pay well, especially during the first three years, especially if the box or basin method of irrigation is used.

As to profit in growing the Franquette walnuts I can best answer by quoting the record of the Vrooman orchard, which is as follows: As three year olds they produced eighty-two pounds of nuts; as four year olds five hundred and twenty pounds of nuts; as five year olds thirty-seven hundred pounds of nuts; as six year olds six thousand pounds of nuts; as seven year olds twelve thousand three hundred and twenty-five pounds of nuts; as eight year olds twenty-four thousand three hundred and fourteen pounds of nuts; I have not last year's report.

This orchard, as I remember it, contains eighty acres of very fine land. They are all grafted on English roots. Had they been grafted on selected California roots I think it conservative to state that the present yield would be increased by at least fifty per cent, by reason of the much greater growing power of the California root over the English. For instance, I have frequently seen in my nursery a one year old selected California grow in one year a top of six and seven feet when grafted with a selected Franquette scion. With me it would require at least two years to obtain an English or French root large enough to be grafted, and when so grafted the top grown in one year on this two year old root would not equal the top grown on the one year old California root.

#### RESEARCH ON FRUIT BUD FORMATION.

As fortifying the practical exhortation by Judge Aiken printed last week, we take the following from a paper recently written by Prof. W. S. Thornber, horticulturist of the Washington Experiment Station, for the Oregon State Horticultural Society:

The importance of this phase of fruit growing was not considered of importance until of recent years, and since then much valuable information has been secured relative to the time fruit buds are formed, the conditions most favorable to their development and why we occasionally have heavy crops followed by very light ones.

Upon beginning my investigations along these lines it was my purpose to make comparisons of the fruit buds of a large number of varieties of common orchard fruits to determine if possible the following points:

1. At what time or season of the year fruit buds were formed.
2. If all varieties of the same kinds of fruits formed buds at the same time.
3. If cultivation or no cultivation influenced their formation in the least.
4. To watch their growth and development during the so-called dormant season or period.

While I have not made a close study of the buds in the West, yet from the comparisons I have been able to make I find the same conditions of growth of buds prevailing in each place.

The method of securing this information consisted in collecting buds once a week from the 1st of June until the blossoming time the following spring. The outer scales were carefully removed from these buds and the small embryo buds were killed at once in picric acid to prevent changes; washed out in water and after a series of washings and de-hydrations in alcohol and xycol they were finally imbedded in a paraffin which made it possible to cut very thin sections for microscopic study and drawing. Drawings were made which show constant and gradual development from the early formations in July to the mature blossoms of April or May.

**When Fruit Buds Form.**—The period during which flower buds are formed in most fruits is al-

most unlimited. From the examination of a large list of orchard fruits I found a very general regularity of all developing buds at about the same time with the exception of the Lombard plum, which was from three to four weeks later than the rest of the fruit in all its parts.

As a general rule, the peaches, cherries, apples, pears and apricots began to differentiate their buds the middle of July, while plums, raspberries, strawberries, grapes and cranberries began to develop fruit buds about the middle of September.

It was also interesting to note that the parent strawberry plant and the recently formed plant from the runner developed flower buds at practically the same time, regardless of the age or maturity of the plant.

It was formerly supposed that all buds were formed at the same time and that if for any reason the tree failed to develop buds during July or August that it could not produce fruit the coming year, but from various experiments of disbudding and careful examinations we find that although a tree may have been robbed of all of its fruit buds as late as the 15th of October, during favorable seasons it was capable of developing a new set of fruit buds and would produce a fair crop of fruit the next year.

This brings us to the conclusion that the period of flower bud formation is almost unlimited and that it frequently extends from the latter part of June to late winter or early spring. From these investigations we are led to believe that from the middle of July to the middle of October under favorable conditions are very important days as far as the future crop is concerned, and if the trees have not been given every opportunity to secure abundance of plant food for the development of its fruit buds the chances of a good crop are very poor.

## Agricultural Engineer.

### OUR HIGHWAYS AND BYWAYS.

By Mr. E. C. W. MacDonald of Corralitos; prepared for the Good Roads Convention of California Promotion Committees to be held in Santa Cruz June 6, 1908.

"How's your health?" or words to that effect, is an ordinary form of salutation in two hemispheres, but one must live in the United States of America, somewhere out in the country, and meet friends in town, in order to hear at once the next question, "and how are the roads?"

It is a well known fact that the wealthiest and most prosperous nations of the world have the best roads, but although this country stands undoubtedly at the head of the list, in the condition of our roads we are away behind.

In the upbuilding of our Empire we have too exclusively entrusted its development to the railroads and the time has arrived for a radical change. In several States that change has already come. In California we have as yet merely an inkling of it, with now and then a decided stir in the right direction. And if we fully realize that the progress of civilization, education and material welfare in every community depends in a great measure upon the betterment of its roads, we shall doubtless consider this one of the most important subjects of the present time.

A good road means comfort, pleasure, contentment, happiness, and happiness is virtue. A bad road causes loss of time, temper and money, with numberless inducements to profanity and cruelty to animals. Bad roads increase enormously the cost of hauling, are damaging to perishable products of farm and field and, in very bad seasons, may sometimes cause their total loss, when the markets cannot be reached in time. They cause a waste of labor and money day after day, are a great detriment to social communication and remain a most undesirable relic of medieval times in twentieth century daily life.

How can we make our good roads better, our bad roads good and our large annual expenditure for roads more effective? It cannot be done with our present system, or rather, lack of system.

To entrust a man, because he happens to be County Supervisor, with a class of work requiring

the technical knowledge of an expert, is absurd on the face of it. In no other instance would any sane man think of it. In manufacturing, in industry or farming and in business of every kind, successful effort is the result of technical and practical experience, and as long as this axiom is not acknowledged in roadmaking, just so long shall we see bungling, happy-go-lucky methods, govern one of the most important branches of county government. Every county should have one man at the head of this department. He should be an able road engineer and a well paid county official. This office is no sinecure, and in one year's time his work would plainly prove his ability or the lack of it. He should be held responsible for the quality of his work, for the tools of every kind the county supplies and for the efficient use of convict labor on the roads.

Contract work must become the rule, wherever possible, and the people should realize how utterly out of date and ridiculous the notion is that Tom, Dick and Harry must all have a chance to earn a few dollars with road tinkering. Votes that need tickling of this sort might just as well follow the line of least resistance, or go straight to perdition. They are of no value to any community. Road work, to be efficient, must be thorough and preventive. A good road, well made, can be a joy forever, providing the proverbial stitch in time be everlastingly applied.

Right there the ounce of prevention is often worth many pounds of cure. And it is not true that it is all a mere question of money. It is a question of money judiciously spent.

In its present state of development California cannot afford to have poor roads. But it can well afford to have good ones. And since, as a general proposition, all railroads are in favor of permanent improvements, it is only fair to assume that also in our State the railroad will transport road material on favorable terms.

California has many natural advantages for road making. Cheap crude petroleum is one, and many mountain roads can, and shall in time, be made dustfree by its use, because to sprinkle them with water is too costly and sometimes impossible. A coat of oil, well applied, will last for years, and in connection herewith it is well to point out that in our beautiful mountain districts well kept roads not only pay for themselves, but bring, later on, a handsome revenue.

Nothing so induces tourist travel as good mountain roads and the home market, created thereby for many of the products, is enormously profitable. Besides cheap oil we have districts where rock, gravel and gravelly loam are abundant and conveniently available. We have clay to improve our sand roads, and sand to improve our clay roads, and could do wonders with either, and at nominal cost. It has been convincingly demonstrated that an ordinary dirt road can be made quite hard and wear-resisting by dragging, providing, of course, that it has been first well rounded up to keep it free from standing or running water. During the rainy season all that is necessary is to have a drag made of planks or round timbers, hauled to and fro as soon after every rain as the road surface is beginning to dry. Ruts are filled, the road is kept smooth and the tramping and dragging makes the soil tough and hard.

Not all roads can be macadamized, but by this inexpensive method the ordinary country road can be put in fairly good shape and rendered very serviceable if only kept in repair. And right here we find the main cause of many road evils. Road repairing is the very essence of all road making, but as yet this plain truth has not penetrated into the consciousness of the average Californian. He knows that road sprinkling in the summer is beneficial in many ways, but not that the best road ever made can be almost ruined by water running over it in winter. He knows that a chuckhole in summer means a worse mudhole in winter, their inconvenience and the resulting damage in wear and tear. But the idea seems new to him that a supply of proper road material ought to be kept in readiness along the highway, for immediate use, at all times of the year.

In modern road making the traction engine is almost indispensable. Horses are expensive and not always available in sufficient numbers, and the wide tired wheels on the engine supply the needed pressure for rolling purposes. Why this useful machine remains as yet a rarity, in



most districts, may be classed with other supervisory mysteries.

Last, but not least, we need publicity. Let us have, monthly or quarterly, frank public statements on public affairs and do away with a so-called expert annual report. It is only a good humored review of no actual value to the average citizen.

We need true records of human endeavors, and of human mistakes, as applied to public business and we need them badly.

They will educate the people, clear the atmosphere of grumbling, kicking, personal abuse and muck-raking, of which we have a plenty and to spare, and eventually they shall free the coming generation from the present sickening and corrupting belief that first, last and all the time, dishonesty and graft are rampant everywhere.

## The Field.

### MORE THOUGHTS FOR A DRY SPRING.

Two weeks ago we gave some researches on the effects of tillage in moisture conservation and as dry ground is more abundant than anything else in California this spring we continue the discussion for the benefit of our readers who are new to the arid region, with a contribution from the pen of Prof. George Severence, agronomist of Washington State College experiment station:

A study of the weather records for the past winter shows that we have received at Pullman a rainfall of 14.22 inches since the first of September, '07, reckoning to April 1, '08. The average rainfall for this period is 2.6 inches per month.

It would seem from this that our rainfall is deficient this spring, and although the problem of holding the moisture is always a very important one in the Inland Empire, it becomes especially so this spring. For that reason we should urge the farmers to follow a few practices that will do very much to relieve the suffering from drought.

It is now thoroughly understood that after the rainfalls have ceased and the weather warms up in the spring, the moisture in the soil evaporates very rapidly from the surface and keeps pumping up from below, just as a lamp wick pumps up oil when the flame is burning. It has also been found that if the moisture can be prevented from coming to the surface the loss can be very easily reduced. This is accomplished by keeping the surface of the soil covered to a depth of about three inches with loose, dry and moderately fine soil. Moisture cannot rise nearly as well through soil in this condition as when it is left in the condition of stubble lands left untouched until they are plowed for summer fallow.

The first suggestion is that as soon as the ground is fit to work in the spring, the surface of all lands to be plowed in late spring or early summer be disked enough to loosen and dry the surface, forming a mulch of three inches depth. The disk harrow may need to be followed by a spike-tooth if the land tends to break up in chunks.

Farmers who have tried this find that the soil will plow up mellow and moist, even if the plowing is delayed until in July, whereas, adjoining land not disked in the spring will plow up dry and cloddy long before that date. This practice applies to land that is to be plowed for summer-fallow, or land that is to be planted to spring crops, but is not to be plowed until time for planting such crops.

The next suggestion is that each day's plowing be gone over with a harrow before leaving the field at night, or the first thing after hitching up the next morning. This prevents the furrow from drying out. When the field is left untouched until all plowed, the furrow dries out completely, and inasmuch as the air circulates throughout and underneath the furrow, much of the moisture from the firm soil beneath the furrow is also lost. The best practice would be to go over the land with a packing tool, this to be followed with a harrow.

The soil should never be left rolled smooth without the harrow following, because a firm, smooth-rolled surface gives the very best condition for loss of moisture. On the college farm, when we are plowing up clay points, we follow the practice of working the ground down each

day, almost enough for planting, and find that we gain very much by this practice.

These two suggestions carefully followed out would prove of more value than almost any other two suggestions regarding the handling of the soil that could possibly be made. Many farmers in the Palouse country could easily make the difference between success and absolute failure by careful observance of the two practices suggested.

Other advantages are gained besides that of conserving the moisture. Working up the soil surface in the spring encourages the germination of weed seeds before plowing the ground, which is extremely desirable since, if plowed under they may retain their vitality for ten years without sprouting; and when brought near the surface they will be ready to grow.

Another advantage in this plan of cultivation is that it helps to warm up ground and hasten the chemical changes so necessary to prepare plant food for growing plants. Where ground has been well worked some little time before seeding, a crop can start much more vigorously because the soil is warmer, moister and better supplied with immediate available plant food.

Another advantage is that the soil is placed in much better physical condition.

I would suggest that any farmer who does not care to do any great amount of disking for the first time, go two or three times with a disk harrow across some stubble field that he intends to "late plow" for summer fallow; and then at plowing time, make careful note of the condition of the ground that was disked. Any farmer who practices this will need no further coaxing. Any farmer who does not believe in the advantage of harrowing each day's plowing should try it on just one day's plowing, and note results very carefully. Having done this, he will need no further argument regarding this practice.

### THE DIFFERENT SORGHUMS.

As the pasturage season will be short and everything possible should be done for summer growth of forage on lands naturally moist or which can be irrigated, the sorghums should have the widest possible announcement as they have shown themselves very valuable, especially in the interior valleys of California. Prof. A. M. Ten Eyck of the Kansas Experiment Station, gives this interesting discussion of the different kinds which are available:

The non-saccharine sorghums may be divided into three groups, namely: Kafirs, durras, and broomecorn. Although belonging to the same species, Kafir and durra represent two groups, quite as distinct as dent corn and flint corn. The methods of cultivation and handling, however, are very similar. The Kafir group includes three common varieties, namely: White, black and hulled white, and red Kafir; while the durra group includes the Milo maize, brown durra, and white durra. The last named variety of durra is also commonly known as Jerusalem corn, rice corn, and Egyptian corn.

The Kafirs come from the coast region of Eastern-Central Africa, hence the name "Kafir." The durras come from Northern Africa; also from Southwestern Asia. The durras and Kafirs differ somewhat, botanically, the principally observed difference being that the Kafir-corn heads stand erect while the heads of the durras are pendant or crook-necked. There is also a difference in the two plants in the arrangement of the bowing spikelets.

The culture and use of the two crops are somewhat similar and there is little difference in the composition and feeding value of the grain. The durras have a softer, starchier grain than the Kafirs, which may be preferred for feeding whole. The Dwarf Milo maize will mature two weeks earlier than the Kafir-corn and seems to be better adapted for growing under dry-land conditions.

At this station Kafir-corn has, on the average, yielded a little more grain per acre than Milo maize, the Dwarf Milo being the variety commonly grown here and in the western part of the State. The Kafirs are perhaps more valuable for forage than the durras, the Dwarf Milo producing a less leafy and a coarser stalk than the Kafir-corn.

Commercially, in my judgment, there should be little preference between the grain of Kafir-corn and Milo maize.

## Sylviculture.

### EUCALYPTUS GROWING IN CALIFORNIA.

By Mr. F. P. Hosp at the Riverside Fruit Growers' Convention.

In the latter half of the '50's the first eucalypti were planted in California, as well as in Southern Europe; the species used was mostly *Eucalyptus globulus*, or blue gum.

There are some 150 or more known varieties of this Australian tree which is bound to become one of the best assets before long in the products of the Pacific Coast.

Not only is our climate and soil the very best adapted for its successful growth, but, as travelers and investigators say, superior to that of its original home.

As may be expected of such a large number of species some differ more or less in their local requirements as they do in their individual characteristics and merits as producers of timber, kino, oils, etc.

Eucalypti are fast-growing trees. *Eucalyptus globulus* (or blue gum) is said to be the fastest-growing tree in the world. Now, how is it that all or most of the hills in California are lying bare and idle and treeless? It is only of late since a great railroad corporation has shown by its enterprise and faith in timber growing that the public is waking up and taking an interest in this vast and highly profitable industry.

One asks, how long have we to wait for returns? Ask them the same question when one takes a life insurance policy. It does not take a wizard to point out the best of the two investments. If it pays to grow pine forests, how much more does it pay to grow eucalypti, requiring only about one-fourth of the time to mature as it does a pine to merchantable size, and when cut it will grow up again two or three fold?

An acre when planted to trees certainly doubles in value the first year. You need not pay \$100 per acre for raw land to grow on. You do not need to irrigate excepting far inland or high ground. Prepare the land by plowing, Plant 8x5 or 7x6 feet apart, water each plant; this will be sufficient.

The varieties of eucalypti differ as much in regard to extremes of temperatures as to their requirements of humidity. *Eucalyptus rostrata* (red gum) is about the hardiest in this respect. It succeeds in temperatures ranging from ten degrees to 125 degrees Fahrenheit. It grows in dry soil as well as low and swampy lands.

*Eucalyptus corynocalyx*, or sugar gum, one of the best, is more tender and while young suffers if the temperature goes below 26 degrees. It likes high ground, and stands drought.

*Eucalyptus resinifera*, *Eucalyptus tereticornis*, *Eucalyptus citriodora*, *Eucalyptus pilularis*, are good growers and furnish excellent durable hard wood for shipbuilding, bridge and railway ties, poles, carpentering, flooring, etc.

The wood of *Eucalyptus globulus*, or blue gum, is not durable underground; it checks and twists easily. It is used much as fuel, and in numerous instances growers testify to a yearly return of \$200 per acre.

**The Ironbarks.**—*Eucalyptus crebra*, *Eucalyptus paniculata*, and *Eucalyptus sideroxylon* are not as fast growers as the above, but their wood is the very best and almost indestructible.

The *Eucalyptus* also takes a front rank as an ornamental and decorative tree. For larger parks here it really is the backbone of plantations. The varieties greatly vary in size. The many shadings of the bark and foliage, and finally the gorgeousness of the brilliant flowers of some of them, make it as great a favorite with the plant lover as with the landscape gardener.

A peculiarity with the fine flowering kinds is that they are mostly of smaller growth, ranging from a bush to a small tree, thus making them well adapted for undergrowth of the larger growing species. The varieties of this class include: *Eucalyptus foecunda*, *leicifolia*, *miniata*, *tetraptera*, *calophylla*, etc., etc.

As a street tree, *Eucalyptus polyanthema* leads, while *Eucalyptus viminalis*, *rudis*, *corynocalyx* and others are shapely-growing trees, well adapted to grace our public highways.



**Harness That Stands Strain**

It is worse than waste to let harness get dry, brittle and rotten. To stand the hard strain of daily use it must be made soft with

**EUREKA Harness Oil**

Clean the harness; let it absorb all the oil it will; wipe dry with a cloth, and your harness will be strong and tough as new leather.

Nothing like Eureka Harness Oil. Made by

**STANDARD OIL CO.**  
(Incorporated)

## AGRICULTURAL REVIEW.

### BUTTE.

Frank F. Carnduff, vice president of the Biggs Chamber of Commerce, makes the following report after a careful examination of the fruit and grain interests near Biggs: Prunes are about three-fourths of a crop; apples, an average crop; plums, a good crop; almonds, fair, in some localities good; apricots, fair; cherries, good, but small; peaches, not all up to standard but Muirs will be a heavy crop and good large fruit; Tuscans will yield an average crop but the Crawfords are quite light. The alfalfa hay crop is good and yielding well. Grain crops of barley, wheat and oats, about three-fourths of the usual yield. The rice crops are looking fine. The beet and bean crops are in fine shape, while all kinds of vegetables in the colonies, where they can be irrigated, are looking well and indicate large crops. Small fruits and berries will all yield an average crop.

An experiment with rice-growing is being made on the Balfour-Guthrie ranch near West Biggs. About twelve acres have been planted.

### COLUSA.

St. Helena Star: Grape planting around Arbuckle for this season is practically ended, with a larger acreage than was planted last season. Careful estimate of the total acreage of grapes planted in this immediate vicinity places the number at 1500 acres. Including the College City vineyards, which are within five miles of Arbuckle, the number swells to about 2300 acres in growing vines.

### EL DORADO.

General fruit conditions in El Dorado county are fairly good at the present time. Cherries, pears, prunes and apples promise average or better, while peaches and berries are even better. The recent cold snap chilled some of the pears around Camino so as to cause them to drop, but the thinning will prove more beneficial than otherwise. The Gros prunes promise the heaviest yield ever known in the county, and the apples in most places are equally promising.

### SAN DIEGO.

A. L. Grieve, a horseman of Brawley, was bitten on the hand by a diamond-back rattlesnake, which he mistook in the dark for a rope. Mr. Grieve wore gloves, so that but one fang penetrated the flesh. He at once applied a remedy which he always keeps on hand, and suffered

little inconvenience from the wound. His remedy, which is for external use only, is compounded of two ounces of indigo, two ounces of camphor gum and four ounces of grain alcohol. This, says Mr. Grieve, is a remedy often used in Oregon, where bites from rattlesnakes are not uncommon.

Imperial Press: Corn is being planted extensively west of New River. Stahl Brothers, in this neighborhood, were very successful last season in raising field corn, and shipped out a carload of hogs which were corn-fattened, and which sold above the market price.

### SAN JOAQUIN.

Preparations are being made to establish a plant for the manufacture of unfermented grape juice at Lodi, and the parties most interested in the proposition say that it will be completed and in operation by the time the coming grape crop is ready. The object is to use the culls and grapes that cannot otherwise be disposed of in making the new beverage, which is becoming quite a fad all over the country, as it can be sold in all prohibition localities.

### SANTA BARBARA.

The Santa Barbara County Walnut Growers' Association has a membership of about 150 and about two-thirds of these were present at the last session. Officers elected were G. F. Smith, president; George S. Edwards, treasurer; Erwin Kellogg, secretary.

### SANTA CLARA.

The outlook of the first crops of the valley for the coming season was discussed at a meeting of the San Jose Grange recently. From figures compiled from information gathered from several sources throughout the valley the following resume was reported as the probable percentage of the different crops for the season in the "artesian belt": Prunes, 50 per cent of a full crop; pears, 75 per cent; apples, full crop. Throughout the valley, prunes, 10 per cent; apricots, 75 per cent; freestone peaches, 75 per cent; cling peaches, 45 per cent; apples, 60 per cent; black cherries, 75 per cent; Royal Ann cherries, 20 per cent; pears, 75 per cent.

America's largest prune orchard is near Los Gatos. It contains 450 acres and has 48,000 bearing trees.

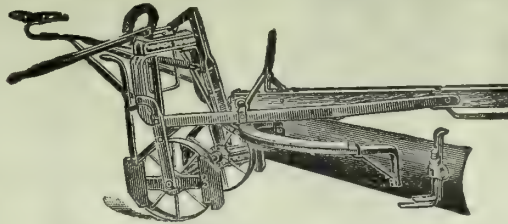
### SANTA CRUZ.

Pajaronian: It is stated that one of the most destructive pests vineyardists have to contend with, known as the kangaroo rat, has made its appearance in the vineyards around and on the summit of Ben Lomond mountain. The little pest is between the size of a large mouse and a rat, has a maltese coat, spotted with white, and a head like a gopher. Its tail is about six inches long, with a flattened or fan-like tip. In the vineyard of the Ben Lomond Wine Co. they are appearing by the hundreds, and are feeding on the young buds of the grape vines. Strychnine and other poisons have been used in great quantities, and with considerable success.

### SHASTA.

Searchlight: A band of 1900 sheep were dipped near Cottonwood and moved on toward the home range in Modoc county. These are the sheep that were stopped by the State Veterinarian because the owner had driven them out of Tehama county without having dipped them for sea-

## MAKE ROADS EASIER WITH ONE MAN GRADER



Those big costly road machines have stopped thousands from making the roads better in their sections. But now they can get a light, easy-to-pull grader and do the work quickly, cheaply, easily. One man and a team can do almost every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

## 20th CENTURY GRADER

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large illustrations. Send now for it and learn how to make good roads cheap. Address

## THE BAKER MANUFACTURING CO.

DEPT. I.

706 FISHER BLDG.

CHICAGO.

bies, as required by law. The law has been vindicated, the owner paying the extra bill of costs.

### SOLANO.

Advices from Suisun state that the American Fruit Product Co. of Rochester, N. Y., has entered the California field and will operate in Suisun. Branch offices will also be established in Vacaville and Winters. The Pacific Coast headquarters of the company will be at San Jose, where products of the Santa Clara valley will be handled. The new company will handle principally dried fruits, which will be sold in the company's branch offices in the East and in foreign countries.

### SONOMA.

According to the report of W. F. Schulz, manager of the Sonoma County Co-operative Poultry Association, since the depot was established in Santa Rosa there has been 158,824 dozen eggs received and 137,799 shipped, for which \$25,631.97 has been received, and of this amount the poultrymen have been paid \$22,181.83, leaving a balance of 21,025 dozen eggs and \$3450.14 in cash.

Reveille: A rose tree in Santa Rosa is twenty-four inches in circumference. This is believed to be the largest rose tree in the State of California. The tree is more than sixty feet high and towers over the two-story structures on either side of it many feet.

### STANISLAUS.

Herald: A band of sheep has again worked havoc among the trees planted along the Salida road. Last year a number of the trees along that road were killed by sheep, others mutilated, and many ranchers in various parts of the country about Modesto made complaint that the passing sheep had badly damaged grape vines and young trees in fields adjacent to the county roads. It is evident that steps should be taken to force the sheep men to use due precaution while driving sheep along the roads. It is out of the question to say that sheep must not be driven over the roads—the roads are public thoroughfares. But the supervisors might pass a law providing that all damage done by sheep while in the drive could be collected from the owners or drivers of sheep. Where damages are not forthcoming, let enough sheep be held to secure the amount of the damage.

### SUTTER.

Farmer: The season is far enough along now so that there are some very close estimates being made of

what the crop here on the various kinds of fruit will be. From all reports there will be a full crop or at least an average crop of all kinds of peaches, grapes, apricots, pears, almonds, figs, cherries, and apples. Prunes will only be about a quarter of a crop.

In his monthly report, H. P. Stabler, secretary of the County Board of Horticultural Commissioners, says that notices have been served on practically all the growers whose orchards were affected with blight, and with a few exceptions all growers have shown an inclination to comply with the law. In cases of refusal or neglect, the commissioners are preparing to enforce the law by removing the infections, the cost to be a lien on the property owners. Professor O'Gara discovered pear thrips in some of the orchards. This is a very serious pest and one never before seen in this section of the State. There is no remedy known that will eradicate this pest, but early fall cultivation is recommended as having the effect of destroying a great number of the insects.

### TEHAMA.

Owing to the dull wool market the clip of the past two seasons on the Stanford ranch, near Vina, is to be washed at the warehouses where it is now stored, and then held there until the prices are better. For this purpose the washing plant of the old Stanford woolen mill in San Francisco has been brought to Vina, where it will at once be set up for the work. It is expected that not only the Stanford wool will be treated there, but that other wool growers who can afford to hold their clippings will have their product cleaned for the woolen mills.

### VENTURA.

Oxnard Courier: The process of planting lima beans is always an important one in Ventura county. Now that the rain for the season seems to be about over and the ground is getting warm for the summer, the beans will be drilled in pretty fast. The Carmarillo and Somis country is usually planted first.

### YOLO.

Haybalers have agreed on the following prices: Pressing from the shock, \$2.50 per ton. Where more than one buck rake is used the farmer must furnish the same, or whatever is required to keep the press in operation. The price for pressing from the stack will be \$2.25 per ton. If board is furnished the price will be \$1.80, and where both board and wire are furnished the price will be \$1.50 per ton.



## The Home Circle.

### My Mother's Face.

There is one face of all the world,  
The fairest face to me—  
Fairer than any artist's dream  
Of angel face could be.  
I see it in my dreams at night,  
I see it in the day;  
The glory of that angel smile  
Lights all my weary way

When but a little wayward child,  
I sought my perfect rest,  
My tired head pillowed peacefully  
Upon my mother's breast,  
That same sweet face above me bent,  
That smile upon me shone;  
And now into my inmost soul  
Its peacefulness has grown.

The fairest maiden in the world  
Is not so sweetly fair;  
I see her with her glossy bands  
Of silver-sprinkled hair  
That falls in parted ripples down  
Beside the tranquil brow;  
The blessing from her calm, brown eyes  
Is with me even now.

I feel upon my fevered brow  
The touch of her cool hand;  
I hear the music of her voice,  
I hear and understand  
'Tis she who guides me tenderly  
With wisdom pure and strong;  
I feel her chiding when my heart  
Turns willfully to wrong.

My work is in the busy world,  
Life's hurry and turmoil;  
Her home is where the blessed rest  
From all their earthly toil.  
But in my life her presence lives  
To light each desert place—  
Oh! memory blest and beautiful—  
My angel mother's face.

—Abe Kinne, in N. Y. Ledger.

### LILLY AND STEVEN.

A general stir and flutter in the dressmaker's workroom announced that hours were over.

Madame Eaton—as a modiste she was "madame"; privately she was contented with "Mrs."—lifted her head and looked at the clock, and then turned her eyes upon the girls as one after the other they made preparations for departure, winding up spools of silk, sticking needles into needle books, and folding garments which were half completed.

Sarah Spruce, who stuck pins into her dress all day, seemed to be taking hundreds from all parts of her costume and stabbing them into the pincushion on the table near her; Effie Mull flew at once to the looking glass. All were in a desperate hurry but Lilly Lathrop; she was putting lace about the cuffs of a bodice and stopped to finish her work.

The other girls had said "good evening" and were off before she arose to her feet and laid the waist over the "form" in the middle of the room.

"It is very pretty," said she. "Don't you think so, madame?"

"Yes, and I'm much obliged to you for finishing it," said madame amiably. "But you always are obliging."

"I like to finish things before I go," said Lilly. Then she, too, said good night, took her hat and wrap and ran downstairs.

As she reached the hall she saw lying upon the rug a letter which someone had dropped, and picked it up. The last page was uppermost as she took it in her hand, and across it lay the signature of the writer:

"Yours affectionately,  
"STEVEN."

A cry of surprise fell from her lips. Steven Hudson was her betrothed husband. They had been engaged nearly a year, and the engagement

was likely to last another. Two years seemed long to the young people, but the old folks assured them that engagement time was the happiest in all one's life and that they would be foolish to make haste to take upon their shoulders the cares that begin with marriage.

"Put by a little money first, Steven," old man Hudson said.

"Don't leave me yet, Lilly," sighed the girl's mother.

Circumstances, too many to detail, seemed to make it impossible that they should "marry in haste," although neither of them for a moment dreamed that there was any likelihood of "repenting at leisure."

But all this time we have left Lilly in the hallway, looking at her lover's well-known signature.

As soon as she read this she put the letter in her pocket and hastened away, quite vexed with herself. That she should have brought Steven's last letter to the workroom and dropped it in the hall, for all the world to see, seemed an amazing bit of carelessness, and that it should have remained there all day with so many people going in and out, an astonishing piece of good fortune.

"I suppose everyone thought it a circular," she said. "Steven Hudson's name would not strike them as it did me. I would not have him know that I was so careless for all the world."

And so saying she hurried home where so many little duties awaited her that she did not look at the letter in her pocket again, though she thought of it often, until her mother and father were gone to bed and she was alone in the little dining room.

Then she sat down beside the table, took forth the little missive brushed away the dust that had collected upon it as it lay upon the stairs, and examined it.

Steven's handwriting—not a doubt of that. Besides, here was his signature; but this particular letter she was sure she had never seen before. Strange feelings began to creep over her. She hastily turned the page to look at the beginning, which was folded inside, and her heart began to beat wildly as she saw before her the words:

"Dear Edith."

The letter had been written to someone else, but under the circumstances who could blame her for reading it? as she did at once; and this is what she saw:

"Dear Edith: I am terribly sorry, but do not fret more than you can help. I will do all mortal man can do. True love may wander, but he always returns. Remember the old song:

"The ship will tack,  
And the tar come back  
To the true love of his heart."

"I will come to see you Wednesday evening. Keep up your spirits.  
"Yours affectionately,  
"STEVEN."

Not once, but thrice, did Lilly Lathrop read this letter, so strangely found, so inexplicable to her. Then she thrust it into her pocket again and, rising, began to pace the room. What did it all mean? she asked herself. Who was Edith? What had she to do with Steven Hudson. How did the letter come where she found it.

Suddenly she remembered a young woman who had come that afternoon to have a dress tried on.

She was sure that Madame Eaton

had spoken to her as "Miss Edith," and she had only gone away half an hour before the girls left the workroom. She had caught a glimpse of her and thought her beautiful. She was as sure that this was the Edith to whom Steven Hudson had written, and that she had lost the letter on the stairs, as though she had been told so. What else to think she knew not.

For a while she paced the room; then, fearing that her mother might hear her and ask questions concerning her restlessness, she stole away to bed.

Gray dawn was in the sky before her eyes closed, and naturally she awakened unrefreshed.

At the workroom all noticed that she looked ill. It was so unusual for Lilly Lathrop, with her bright eyes and pretty color, to look anything but well.

She was hot and feverish; at noon she found it impossible to eat her lunch. Her trouble was very great, and all the worse that she could share it with no one.

Sometimes as she sat sewing she felt as though she must have gone out of her mind and imagined such an impossible thing as that her Steven had written a letter to another girl—a letter in which he spoke of grief and anxiety, seemingly caused by their love, and bade her remember the old song:

"But the ship will tack,  
And the tar come back  
To the first love of his heart."

This Edith must be Steven's true love; what else could it mean? If so, he had behaved with cruel duplicity. How often had he vowed to her that he had never loved before; how often declared that it seemed to him that she was the only woman in the world. The rest were pretty faces, pretty figures, pretty dresses. She was love personified in his eyes. "Such folly," Lilly used to say, laughing, but it made her happy all the same.

Now she grew hot and cold with the memory of what must have been sheer flattery from one who had loved another woman, to whom his heart returned so readily.

"Miss Edith's dress must go home this afternoon," said madame, suddenly. "And that boy is not here. What shall I do?"

Miss Edith! The name caught Lilly's ear. The young dressmakers were not, of course, expected to carry home dresses. That was done either by little Tibby Jones, the errand girl, or by Jim, the boy, who was employed to do odd jobs. But Tibby was at home, ill, and Jim did not appear. And it came into Lilly's mind that Miss Edith must be the girl who was her rival, and that this would be the Wednesday night when Steven had promised to call upon her.

What an opportunity to make sure of all that she now only suspected. So she lifted her voice suddenly, and cried:

"Madame Eaton, I will take it for you."

"Why, Lilly, you are just too good!" said madame. "It will be the greatest obligation. I will not forget your kindness. The address is No. ——— street; Mrs. Austin. I knew her when she was a girl, so I always call her Miss Edith. But she is Mrs. Austin."

"A widow, I suppose?" said Lilly. Madame did not answer, and the girl went her way.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

The house will be open during June and July for boarders, under the care of the house manager. A summer school will also be maintained by one of the teachers.

The cold crisp December air did her good, and when she reached her destination, a pretty flat in an up-town street, and after delivering the dress to draw from her pocket the note she had picked up and say, quietly:

"After you had been at Madame Eaton's I found a letter on the stairs. Did you lose one, madam?"

"Indeed, I did," said the lady, taking the note which Lilly held toward her. "And I am so much obliged to you for bringing it to me."

Then Edith said "good evening" and went away.

On the corner a man hurried past without looking toward her, but she saw him plainly. It was Steven Hudson; he ascended the steps she had just left and entered the house.

There was no longer any hope, she thought, that she had made a mistake or that there could be any explanation.

Before Lilly slept she had written a letter to Steven Hudson, in which, without giving any reason for it, she broke their engagement. In this she inclosed the ring he had given her. Tears rose to her eyes as she slipped this missive into the postbox on the corner, whither she carried it herself.

"All is over now," she said. "Somehow I must manage to live without Steven, and without happiness, but it is wicked to kill one's self and, besides, it would break mother's heart."

Somehow it is harder to be unhappy about the Christmas holidays than at any other time. All the world seems to be cheerful.

It is as though one stood outside of it all, the only miserable person in existence.

Lilly was thinking this as on Christmas eve she left the workroom and turned her steps homeward.

Occupied by her own thoughts she did not notice a woman who stood in a doorway a few doors off until she suddenly stepped forward and barred her progress. Then she looked up and saw Edith Austin.

"You can't pass me, Lilly Lathrop," she cried. "I have something to say to you. Dear me! you look as miserable as Steven Hudson did when I left him just now. What did you mean by breaking with him? You'll never find another man so good and true, and yet, if I hadn't happened to discover his secret you might have parted forever; but the moment he told me what he was



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

wretched about, and described you, and said that you worked for Madame Eaton, I guessed the whole.

"You read that letter that you brought me, and you thought it a love letter, and believed Edith to be Steven's old sweetheart, to whom he had returned."

"What else could I think?" said Lilly.

"Oh, child, I know what jealousy is," said Edith. "Lilly Lathrop, I am Steven Hudson's sister. I married six years ago, and I grew jealous of my husband and left him, but lately I began to think that I had been too hasty, and I told my brother Steven of my longing for reconciliation with the man whom, after all, I had never ceased to love, and Steven undertook to bring us together again. He knew that my husband loved me, and that was what he meant by quoting those verses. And the true 'tar' did come back. A real tar, for my husband is a sea captain, and we are so happy. And Steven did it all and made himself wretched by it. So now, Lilly, I am going to take you to my house, where I left Steven wishing he had never been born. And you must make up with him and comfort him."

Having said this, Edith put her hand through Lilly's arm and marched her away up the street. Nor did she release her until she pushed her into the room where Steven sat, forlorn and wretched as his sister had described him, and left them alone together there.

What followed I leave my readers to imagine for themselves, only saying this, that no two happier people than Steven Hudson and Lilly Lathrop listened to the Christmas bells at midnight and thanked heaven that they were alive to hear them.—Mary Kyle Dallas.

## How to Cure the Tobacco Habit.

If a man really wants to be cured of the tobacco chewing habit and hasn't enough will power of his own to accomplish it, it is said that the stems of the weed known as plantain, used as a substitute, will help greatly in effecting a cure, says the Detroit Free Press. There are two kinds of plantain, looking nearly alike, said a physician who advocates this remedy. One kind has stems to the leaves which are green to the ground. The stems of the other kind are red or purplish near the ground. The last is the one to use. He advised gathering a quantity to have on hand and chewing whenever the desire for the use of the weed is felt. The doctor was confident that with perseverance in the use of this plant any person could overcome the craving for tobacco. He said he had known cases cured in a week.

Daughter—"Yes, I've graduated, but now I must inform myself in psychology, philology, bibli—"

Practical Mother—"Stop right where you are. I have arranged for you a thorough course in roastology, boilology, stitchology, darnology, and general domestic hustleology. Now get on your working clothes."

## Owlsh Wisdom.

Poultrymen dislike the owl, in fact regard it with positive hatred, and the reason is not far to seek. The Bird of Jove, held sacred to Minerva in the Roman mythology, has lost cast since pagan days. He has no friends among farmers, especially those who make a specialty of breeding domestic fowls, of which he is supposed to be an enemy of high degree. It cannot be denied that the owl loves chicken, which proves his claim to that wisdom of which he stood as an emblem in "the ancient days of yore." Truth to say he is as fond of a tender piece of breast, or a wing or thigh, as any Methodist preacher at an old-fashioned camp meeting. And his way of catching these tidbits of owlhood affords other evidence that he is a very wise old guy and considerable of a strategist in the feathered world. He does not make a frontal attack, like the hawk, darting down and seizing his prey by main force. The owl's method is much more diplomatic and comes under the head of what the military critics call sapping and mining or the gradual approach. The owl, which operates only by night, waits until the chickens have gone to roost in the tree and arranged themselves for sleep on the limbs. Then Mr. Owl takes his perch on the inner side and begins to quietly crowd his neighbors until he forces the farthest off the roost. As he falls the owl darts after and either catches the chicken before he lights or when he reaches the ground.

From this it will be seen that the poultrymen who keep their chickens in closed coops need have no fear of the owl. Only tree-roosters and those which dwell in open sheds need fear visits from this soft-flying and noiseless nocturnal depredator. Right here the writer, who is a friend of the friendless and always with the under dog in the fight, wants to put in a word for the owl. He has many good traits to offset his one cardinal fault. Not being able to defend him of the charge of loving chicken, we hereby file a plea in confession and avoidance. The investigations of the ornithological branch of the Department of Agriculture have proven conclusively that the owl's food consists chiefly of rats and mice. For one helpful bird or chicken that he destroys, he kills hundreds of noxious rodents, vile vermin in the shape of rats and mice, who do far more injury to the farmers' crops and the poultryman's fowls than is done by all the birds of prey. In fact, young chickens have no greater enemy than rats, and if the owls help to keep down these sharp-toothed ravagers, the poultry-raiser may well spare them a chicken or two occasionally. Farmers, therefore, instead of exterminating should actually protect the owls, which on investigation will be found to do much good and little harm in the world.

The owl's method of feeding is one of the most curious things in nature, and affords one of the rarest studies in ornithological science. When he catches a mouse or chicken or squirrel, he does not pick the meat off, as does the hawk and other birds of prey. The owl gulps down bones and all, but by some queer process of assimilation the meat is separated from the bones and feathers or hair in the bird's stomach,

and in time this refuse forms into a fuzzy ball an inch or so in diameter. The owl has the power to regurgitate, or throw up, this ball of bones and hair, and only meat remains in his digestive apparatus. In this power to "cough up" the undesirable while retaining the part he wants, the owl is peculiar and differs from all other animals or birds known to scientists.

## Age of Best Work.

The records give an average age of 50 for the performance of the master work. For the workers the average age is 47, and for the thinkers 52. Chemists and physicians average the youngest at 41; dramatists and playwrights, poets and inventors follow at 44; novelists give an average of 46; explorers and warriors, 47; musical composers and actors, 48; artists and divines occupy the position of equilibrium at 50; essayists and reformers stand at 51; physicians and surgeons line up with the statesmen at 52; philosophers give an average of 54; astronomers and mathematicians, satirists and humorists reach 56; historians, 57, and naturalists and jurists, 58. As may be noted, there is a rearrangement of the order at this time, but the thinkers, as before, and as would naturally be expected, attain their full maturity at a later period than the workers. The corollary is evident. Provided health and optimism remain, the man of 50 can command success as readily as the man of 30. Health plus optimism read the secret of success; the one God-given, the other inborn, but also capable of cultivation to the point of enthusiasm.

The true scholar is known by two tokens. He knows something thoroughly and he is modest about it.



50 Cents  
a Week

# VICTOR

WE have made it possible now for anyone to own a Victor, as we have, by special arrangement and permission with the Victor Talking Machine Company, the authority to send to you a complete

## VICTOR OUTFIT Absolutely FREE

on trial, records and all, if you will only write for it.

MANY senators, preachers, doctors and men and women in all walks of life who work and think, who own VICTORS, sit in their homes and listen to Sousa's great band, the U. S. Marine Band, the Royal Marine Band of Italy, or a vocal program by the world's greatest singers, all the same evening; dance music, too, when they want it.

¶ We will arrange to send you a complete VICTOR outfit to your home if you will send us your name and address on a postal while this liberal offer lasts, and if you don't like it, send the outfit back—you don't have to buy it. If you decide to keep it, 50c a week for a few weeks will secure it for you—and it is yours.

¶ We are the "Victor dealers of California" and are offering you a chance to own a VICTOR on the most liberal terms ever dreamed of.

¶ Don't delay, write at once, and you will hear from us by return mail.

## CLARK WISE & CO.

"The Victor Dealers of California,"

1420-1422 Van Ness Ave.  
SAN FRANCISCO, CAL.



When answering this advertisement please mention the PACIFIC RURAL PRESS.

## Pith, Point and Pathos.

All praise is more or less treacherous—mostly more.

Eating is one expensive habit everybody seems to have.

No, Alonzo, armed chairs are not classed as hostile furniture.

How to work an embroidered slipper—First catch your boy, and then—

A man is seldom as indifferent to his wife as he thinks she is to him.

The three best cards in the game of life are industry, honesty and sobriety.

Many a man does things he wouldn't do just because his wife tells him not to.

Owing to the present style it's rather difficult for a woman to laugh in her sleeve.

Dentists prefer women patients because a woman is naturally inclined to keep her mouth open.

The man who lives with his wife, mother and mother-in-law can give pointers on the practical working of the "rule of three."—Chicago News.

## Brevities.

One of the most important of inventions was the union of bread and butter, long after the two products had been in common use.

Like nature, the spirit is prodigal of its gifts and wasteful also. Often of 50 seeds of goodness and greatness only one is brought to bear.

Outside of the millionaire circle, the average of comfort and prosperity in the United States is greater than in any other part of the world.

The poor of all nations are not mistaken fools looking toward America as a place where poverty may be more easily escaped than elsewhere in the world.

If all foreign immigration of the industrial classes could be checked for three years, we should distribute and assimilate those that are already here, and begin to make places for more.



## Horse Owners! Use

GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## The Veterinarian.

### Lumpy Jaw.

Dr. A. S. Alexander of the Wisconsin Experiment Station gives in the Breeders' Gazette an up-to-date sketch of lumpy jaw from which we take the following:

"Lumpy jaw" is caused by invasion of the tissues by a microscopic fungus known as "actinomyces bovis" which grows upon cereals and fodders fed to cattle and other domestic animals. Barley is perhaps more commonly affected by the fungus than are other grains but the disease due to the fungus is comparatively common where neither barley nor other common cereals are fed to cattle, hence it is certain that the fungus may exist apart from the ordinary cereals and fodder plants.

In many instances barley beards (awns) or the chaff, glumes or straw of this and other cereals have been found in the depths of the diseased tissues containing the colonies of actinomyces and always it is taken as certain that the disease has been occasioned by the entrance of the fungi spores at scratches, abrasures or wounds, or by way of a diseased or missing tooth or by puncture with an affected straw or beard of grain. There has been no actual proof that actinomycosis of man (comparatively rare) has been caused by consumption of the meat of affected animals. As with animals the disease in man is caused by infection of abrasures of the skin or the mucous or serous membranes. It also may be set down as problematical that the disease among cattle is spread by the pus from the abscesses of the jaw getting upon food or other objects. While it seems possible that infection might be caused in this way there is no actual proof of such a source of the disease and where several animals at one time are affected with the disease the real cause may be taken as similar infection from infected grain or fodder which has abraded or wounded the membranes in or out of the mouth.

Cooking destroys the fungi of actinomycosis and affected animals are now condemned at the stockyards only when they are so badly affected that emaciation has occurred or internal organs are found involved. Where an animal shows the disease localized in the head and otherwise is in good health and flesh it may safely be used as human food and this disposition doubtless is the most profitable one where it is seen that the disease has invaded the bones of the head (jaw).

Actinomycosis is most commonly seen in cattle and hogs (udder) but also may affect horses and sheep. It takes different forms according to the tissues invaded, but is most commonly found affecting the lower jaw in the region of either the molar or incisor teeth, the former location being affected in a majority of instances. The reason for invasion of these parts is that shedding of the milk teeth offers an opportunity for entrance of the fungus; also that mastication of the food brings harsh food into contact with the tender gums which are easily lacerated and infected and lastly that disease of a molar tooth is not uncommon and leads to a cavity in which affected food particles may lodge or the same thing happens when a molar tooth

splits and so becomes diseased. It also is possible for the spores to enter the salivary ducts of the mouth or the small gland ducts of the buccal lining membrane of the mouth. In some cases the disease has been found in the internal organs and here it may be taken as likely that the spores have been carried from the abscesses of the mouth to the other organs by way of the alimentary canal, the blood, or the lymphatic circulation, while rare cases of actinomycosis of the lungs indicate direct invasion by inhalation. All things considered the disease may be regarded as an invasive one and not dangerous, infective or contagious either to man or beasts.

Where the soft tissues are the seat of the disease, as for instance, in the glands, tongue, gums or pharynx, treatment may be undertaken with good promise of success; but the disease tends to invade the bones, easily entering and affecting the spongy (cancellated) tissue and then is a desperate one, spreading rapidly and widely, showing no tendency to spontaneous or gradual recovery and progressing until the function of the affected part has been destroyed or prehension or mastication made impossible by distortion. It has been stated that the lower jaw most often is found affected, in which case the disease starts as a gradually increasing tumor which is found rigid, somewhat hot and slightly sensitive. Soon a few places soften, eventually rupture and then discharge pus in which gritty, sulphur-yellow particles may be felt or seen, and when these little grains are examined microscopically they are seen to contain minute, wheel shaped or "ray" fungi colonies made up of club-shaped spores having their small ends (filaments) pointing to the center of the circle. Surrounding the gritty particles is a mass of angry-looking granular sprouting new tissue which bleeds at the slightest touch and ramifying among it are fistulae sinuses (pipes) from which pus or badly smelling fluid issues.

In the bone, which is distended and honeycombed, similar new tissues and sinuses are found and here and there are sloughing and dead parts to which the bad odor is attributable. Sometimes we find masses of tissue affected and in the form of tumors not yet attached to the bone, or the glands under the ear (parotid salivary) or those of the pharynx may be affected and where this is so treatment may prove effectual. The same may be said of actinomycosis of the tongue ("wooden tongue") which is common and comparatively easy to cure.

Iodine of potash has been much advertised as "specific" for all forms of actinomycosis and while it is by long odds the most effective drug at our command it cannot truly be termed a specific so far as actinomycosis of the bone is concerned. It acts best in cases of "wooden tongue," good effects being seen a few days after treatment begins and progressing toward complete recovery in most instances, although, in a few instances, recovery may be followed by atrophy (wasting) of the organ, which is as bad as the previous disease. This drug also is indicated and fairly effective in actinomycosis of the parotid and pharyngeal glands and also should be employed in cases where the bone is affected and being treated locally. The method of administration is as follows: Iodide of potash is to be given in sufficiently large doses to cause "iodism" (iodine poisoning), which is manifested by flowing of tears, discharge from the nose, salivation (slobbering), loss of appetite, emaciation and scurfy condition of the skin. When these symptoms have been caused treatment should cease until the symptoms subside; then the medicine should be given again until reappearance of the same set of symptoms and usually it is necessary to cause at least three attacks of "iodism" to effect a cure. The amount of iodide of potash to be given with these objects in view may be said to be about 15 grains for each 100 pounds live weight. A dram equals 60 grains, therefore from 2 to 3 drams of iodide of potash, given daily in water, will be sufficient to cause iodism in an animal of ordinary weight

if continued for several days, the length of time differing according to the sensibility of the animal. In giving this drug, however, it must be remembered and expected that it will cause rapid and marked loss of flesh or suppression of milk and has a tendency to cause abortion in pregnant females or temporary impotence in males and barrenness in females.

Local treatment consists in cutting out the invaded tissues whether they be soft or bony, but where bone is affected it is usually found practically impossible to accomplish this perfectly and thorough scraping and medication of the parts, after removal of such portions as can be cut away, has to be depended on in connection with the internal use of iodide of potash. Where soft tissues are involved and can be removed recovery may prove rapid and complete, but often one can merely open deeply into the center of the affected mass and then pack it with medicated cotton or cauterize in such a manner as to cause extensive sloughing. This plan is most popular, as deep excisions lead to dangerous bleeding and therefore are dreaded by the average operator.

Various drugs, or combinations of medicines, have been proposed for the cauterization and sloughing of the actinomycotic abscess. Some insert a large crystal of sulphate of copper after making a deep incision and cutting away sprouting growths; or they use the powdered sulphate of copper wrapped in cotton or tissue paper. Corrosive sublimate and lunar caustic also are used in like manner and both will cause extensive sloughing. Arsenic (arsenious acid) is popular for similar use, while the following mixtures are likewise considered effective: Powdered arsenious acid, half ounce; caustic potash, two drams; powdered gum arabic, half ounce; distilled water, one ounce; mix. Or equal quantities of powdered sugar of lead and arsenic made into a paste with glycerine. Where these are used they should be applied by rolling into balls with cotton, these to be pressed well into the cavities of the abscess by means of a smooth, hardwood probe.

For the serious operation of bone removal and the opening of abscesses of the parotid and pharyngeal glands it will be necessary to employ a qualified veterinarian, as intimate knowledge of the anatomy of the parts is imperative.

### IMPROVED FORM OF BLACKLEG VACCINE.

In California, the use of the bothersome powder form of Blackleg vaccine has been largely supplanted by the more easily used, safer, pill form. The advantage of the Blackleg Pills over the powder form of vaccine are that the time and bother of mixing are saved; that the dose is absolutely uniform; that a package may be

opened and only a part used, the rest being saved for future use; that the operation of using it is far safer and simpler than that of using the powder form; that the slower absorption of the pills tends to the production of a higher degree of immunity.

They are small and of uniform size. Each pill is a dose for an animal of any age, as on account of the slower absorption there is no necessity for cutting down the dose for very young animals as is the case with more quickly absorbed powder vaccine; and, as before stated, the slower absorption of the pills tends to produce a higher degree of immunity.

The injector is a very simple instrument that is practically indestructible, and on account of its simplicity is little likely to get out of order. The operation of vaccinating consists simply of putting a pill in the hollow needle of the injector and after the needle has been pushed into and under the skin (between the skin and muscle) the pill is ejected by means of a plunger which is operated by a thumb piece on the side. Those who have used the complicated powder form and syringe method can readily appreciate how much simpler the pill and injector method is.

We are assured by the reports of users that the products of The Cutter Laboratory, Berkeley, California, are of the highest standard, and they are certainly fairly priced. This laboratory produces biological products only (vaccines and serums) and makes a specialty of the investigation of infectious diseases of men and animals. Their booklet on Blackleg and Anthrax contains more comprehensive and up-to-date information concerning these two diseases, and others that might be mistaken for them, than anything else we have seen, and every stockman should have one. It may be obtained, free, by application to the laboratory. Those stockmen who are not familiar with the pill form of vaccine should certainly investigate the matter. If they do they will abandon the use of the uncertain and vexatious powder form. — N. P. Rural Spirit.



### Free Veterinary Book

Infallible guide. Makes every man his own horse doctor. Postage 20c.

### Tuttle's Elixir

Inures sound horses. Cures splint, curb, spavin, etc. \$100 reward for failure where cure is possible.

TUTTLE'S ELIXIR CO., 33 Beverly St., Boston, Mass. Los Angeles, W. A. Shaw, Mgr., 1921 New England Av.

Beware of all blisters; only temporary relief, if any.

Coffin, Redington Co., 625 Third St., San Francisco, Cal.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL. West of San Pablo Ave.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

### SORBY VACCINE CO. (Inc.)

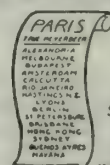
(General Agents U. S. A.)

161 Randolph Street, Chicago.

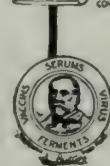
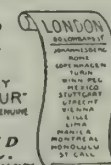
### SERWE & PRIEN

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.



PARIS  
THE HIGHEST  
REPUTATION  
PASTEUR  
VACCINE  
CO. LTD.  
LONDON



### Pasteur Vaccine Co., Ltd. Anthrax & Blackleg Vaccines

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by the discoverers, Profs. Arloing, Cornavin and Thomas. Furnished in powder, cord and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore. It is furnished only in our established blue tube and always bears our name, trade mark and expiration date for your protection. Do not accept any other.

PASTEUR VACCINE CO., LTD., 7 Rue Meyerbeer, Paris  
NEW YORK 866-868 W. 11th Street CHICAGO 828-825 Dearborn Street

When your animals are vaccinated be sure that it is with



## Cheerful Chickens

Nature intended the hen to make her own living, hence she cannot possibly be healthful, happy and prolific in confinement unless bodily functions operate in nature's own way.

Therefore "cheerful chickens" and a full egg basket are possible only when the hen is taken back to nature by a common-sense method of feeding.

## DR. HESS Poultry PAN-A-GE-A

gets at the bottom of the poultryman's troubles by creating and maintaining an absolutely healthful condition of fowls in confinement. It contains the bitter tonics to aid digestion, iron to make good blood and nitrates to expel poisonous matter.

It is the prescription of Dr. Hess (M.D., D.V.S.), and by aiding the hen to assimilate the food, it makes abundance of eggs. Poultry Pan-a-ge-a possesses a germicidal principle which makes it specially useful in preventing disease. Endorsed by leading poultry associations and sold on a written guarantee. Costs a penny a day for 30 hens.

1 1/2 lbs. 35c; 5 lbs. 85c;  
12 lbs. \$1.75; 25 lb. pack \$3.50  
Send 2c. postage for Dr. Hess 48-page Poultry Book, free.

DR. HESS & CLARK,  
Ashland, Ohio.  
Instant Louse Killer Kills Lice.  
THE PETALUMA INCUBATOR COMPANY,  
PETALUMA, CAL. Pacific Coast Distributors.

## The Poultry Yard.

### Poultry Chat and Bogus Coffee.

TO THE EDITOR:—Very gratifying it is, on the part of the progressive poultrymen of our State, to note the increased interest taken in the business of raising fowls in every part of the commonwealth. The volume of trade is constantly enlarging; better fowls are used in larger numbers for breeders and there is manifested, in very many localities, a love for the occupation, and a desire to acquire all knowledge, that shall minister to the success that is coveted.

All this speaks well for the future of the industry, the volume of which, the capital invested, and the number of persons engaged in the care of fowls, if not beyond computation, being large enough to tax the credulity of the reader. When James Wilson, Secretary of Agriculture, states, as he does in his last report, that the income of the poultry kept in the States of the Union last year was \$600,000,000—equal in amount to the annual expense of carrying on the Government—it makes the genuine poultryman proud of his occupation and gives the outsider some idea of the importance of the business.

As in other States, so in California—the bulk of poultry kept is to be found on farms, the care of the birds, for the most part, falling to the lot of the good housewife. In quite an extensive inspection of country poultry yards in many of the counties of this State, it is to be noted that fowls as a whole are raised for the eggs they will lay.

Of course, this means that one sees many flocks of Leghorns, generally the whites. Yet there is a call on many farms for what is termed an all-around fowl, which means a bird that will lay a goodly number of eggs and afterward be well adapted for table use. But this is an age of specialty, and in the poultry business, when fowls are run at high pressure in order to derive from them the greatest income, we generally make use of the Mediterranean breeds.

Yet go where one may, the Plymouth

Rocks are in evidence to a greater or less extent—that is, there are localities where these birds seem to be more popular than others. The writer is gratified to note that there is quite a general call for well bred cocks of this breed, and there is not the least call for our people to send to the far East for good breeders, for they can be obtained right here at home. In the matter of raising poultry for high degree of excellence, California may well take a position far to the front, and all hands should have pride enough for our State to patronize home breeders, all things being equal. The same remark may well apply to other branches of business. Why do we poultrymen send such vast amount of money East for the shoes we wear when we might be as well served by home factories?

There are many grand specimens of Orpingtons to be found here and there in our different counties. They are magnificent birds, being classed among the all-around fowls mentioned above. It will not do to pass by the Rhode Island Reds, for in our travels we have found many an admirer for these useful birds and a desire to breed up to highest degree of beauty and usefulness. The White Rocks and the Wyandottes are fairly well represented. But summing it all up, we come back to the declaration that the White Leghorns are by far in the lead.

It is a grand procession, and the fair to be held next fall will make for our State an unsurpassed showing; it will make a "record," to use a modern term.

The co-operative movement made by the poultrymen of Sonoma county has, from its inception, been narrowly watched by poultrymen in other parts of California. Now that the management has shown they are fully equal to the occasion, and that, even in this short length of time, there has been a wonderful saving to the poultrymen of the county named, it should spur producers in other sections of the State to co-operate in the marketing of their produce. The wonder of it all is that poultrymen have been so slow in combining for the betterment of their interests. There are by far too many leaks in the business. Farmers, whatever branch of agriculture to which they may devote their attention, are disposed to act as single units. It is by reason of all this that many a business has been built up by outsiders, in cities and in the country, which would never have gained foothold if it were not for the heedlessness, shall we say, of the farmer.

There are pessimists in the ranks of poultrydom, as there are in other branches of business, who tell us that, owing to the high price of poultry feeds and from other causes, the net results of the calling will not warrant them to continue in the business. But there are knockers in every vocation and in every locality. The wise manager goes right along and makes good money from his fowls, deriving therefrom a greater revenue, when the amount of capital invested is taken into consideration, than can be obtained from any other branch of farming or, possibly, of any other business. We note the awakened interest as we look over the market reports of the city dailies and read each day quotations from Stockton, San Jose, and other points. If, with all, we, who have the interests of the hen at heart, will constantly aim to keep none but the best fowls, to breed to highest degree of excellence, to keep well abreast of the times—success, financially and otherwise, will fall to our lot; and while we take pardonable pride in the appearance and development of our own flocks, we will have the additional satisfaction of seeing the business, as a whole, thrive and placed upon a very broad footing.

CHICORY.—One of the prettiest of the flowers that greet the traveler along our highway during the early and late summer months is the winsome chicory blossom—an escape from garden and field. The dark blue of its fringed petals and the formation of the blossom, as a whole, is the great attraction, for

the plant itself, growing to the height of two feet, is rough looking, the botanist Gray giving it the description of "twiggy," which is not at all inappropriate. This lovely blossom, which closes its sleepy eyes at nightfall, not opening them until the next morning at about eight or nine o'clock, is to be found very often in large fields, well cultivated, from Massachusetts to California. For what purpose it is raised many a coffee drinker well knows. The leaves of the plant make a capital salad, quite popular in old Roman times, for Horace so mentions the fact.

COFFEE BEANS.—In a recent trip down the San Joaquin valley we were made aware that a very large acreage of the black-eyed bean is cultivated, one man having nearly one hundred acres. We suppose these beans may be called second cousins to the chicory root, for the final destination of each is the same—to be found in many a farmer's cupboard, if his family partakes of ground coffee. To the true coffee lover the above statement seems incredible, for if there is one thing its votaries demand just right without foreign admixtures, it is coffee. He may use it according to fancy, with or without cream and sugar, but he peremptorily calls for coffee, not chicory, beans, barley nor prepared sawdust.

A. WARREN ROBINSON.  
Twin Lakes, Santa Cruz, Cal., May 8.

## Patrons of Husbandry.

### Tulare Grange Meeting.

To the Editor: Tulare Grange convened in regular session on Saturday, the 16th inst. The Secretary read communications from Sequel and Lincoln Granges enquiring as to the condition of crops in this county. The subject was reported on by several members present. In peaches and grapes the present outlook promises more than a good average crop. Apricots will be a good third of a crop, also prunes. These will be the only deciduous fruits in commercial quantities. Citrus fruits promise a full crop. Not to exceed one-third of the acreage sown to wheat and barley will be cut for grain, but that will be ample for the home market. Hay and forage crops promise well. While there is now in this county three times as many cattle, horses and hogs as there were when Tulare was a strictly cattle county, there will be more than ample forage for all. It is expected, however, that the demand from outside of this county for hay and grain for feeding purposes will advance the price.

It was considered that mutual enquiry and report of crop conditions between the several Granges of this State is a desirable feature of Grange work, and surely will be advantageous to all.

The subject of the day was "Which is the most profitable way to market our milk—in butter or cheese?" Several participated in the consideration; it was not a discussion. Bro. La Marsh, who milks over two hundred head of dairy cows, gave an interesting talk from experience and observation, giving the price paid for milk or cream at the butter or cheese factories and the value of the buttermilk and whey for feeding purposes. The butter factory people call at the farm for the cream, leaving the skimmed milk to be fed there; the cheese factory buys the milk delivered and returns the whey. The cheese factory pays more in proportion than does the butter factory, but the whey returned is of less value for feeding purposes than is the skimmed milk left at home.

A communication from W. S. Carpenter & Co., manufacturers of Tulare full cream cheese, was read by Sister La Marsh. Full cream cheese, as defined by the Pure Food law, should be made from milk containing 3.75% of butter fat. Butter, according to the same law, may contain "in the overchurn" 16% of water and 4% of salt.

Write for Samples and Booklet of

## FLINTKOTE REX ROOFING

and see for yourself

J. A. & W. BIRD & CO.,  
91 India Street, Boston, Mass.  
PACIFIC COAST AGENTS: W. P. Fuller & Co., San Francisco.  
Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

## Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.  
THE DEMING COMPANY  
595 Depot St., Salem, Ohio.  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma, San Francisco, Salt Lake City.

## Nitrate of Soda

Nitrate Sold in Original Bags

NITRATE AGENCIES CO.

64 Stone Street, New York

Keyser Building, Baltimore, Md.

36 Bay Street, East, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street,  
San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly Filled—Write for Quotations

These are limits; every pound of butter should weigh 16 ounces. When purchased at the retail store by the consumer, does it? Tulare has two butter factories and a third one putting up-to-date machinery; neither had a representative present nor a communication to be read. This was the more noticeable in view of the fact that Tulare's output of cream and butter averages about \$35,000 per month.

The subject for discussion at next meeting, June 6th, will be "Will co-operative marketing bring better returns than individual selling will?" Worthy Master J. T. Lawson will lead the discussion. As this will apply to all farm products, it is expected to have a good attendance and an open meeting for discussion. It is expected that the Worthy Master of the State Grange—M. V. Griffith—will be present.

Tulare. J. T.

### No Fees on Sierra Addition.

The Forest Service has made recommendation to the Secretary of Agriculture that all stock which have grazed regularly on the range on the new tracts of land added to the Sierra National Forest, California, during the past be allowed to graze free of charge and without permit during the season of 1908.

In the addition recently made to the Sierra Forest, it is reported that a large portion of the area is used for grazing and that the live stock industry is of importance to the welfare of the people. The number of cattle, horses, sheep, and goats, occupying the range is unknown and the season is now so far advanced that it is not possible to give proper notice to applicants for grazing privileges, and for this reason it has been recommended that there should be no grazing fees on the addition this year.



# The Greatest in the World

Are you attracted by big buildings and a vast throng of busy workmen?

Stands for something, don't it?

No separator factory in the world is so big as the one where the Tubular is made; there are no employes more skillful than those who build the Tubular; nowhere are there so many people making separators.

More than one complete

## Tubular Separator

in every three minutes, is turned out from our West Chester factory alone. We own another complete factory at Harburg, Germany, from which we supply the European trade. Another factory at Toronto, makes the machines for Canadian dairymen. Bigness alone don't make the finest separator in the world, but the finest separator in the world made the bigness and number of factories, and made it necessary to have the vast number of workmen. If you haven't one of the world's best separators you are losing dairy money.

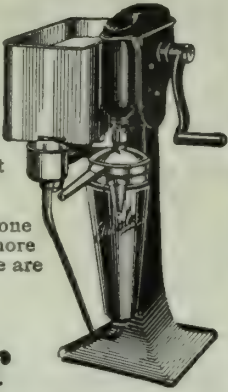
Let us tell you more. Write for Catalog No. 131.

**THE SHARPLES SEPARATOR COMPANY, West Chester, Penna.**

Toronto, Canada

San Francisco, Calif.

Chicago, Ills.



## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4386.

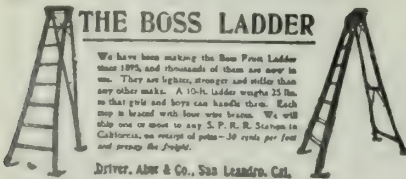
### A NEW SHEEP BOOK.

"Modern Sheep; Breeds and Management," by "Shepherd Boy," author of "Fitting Sheep for Show Ring and Market," is the latest work from the American Sheep Breeder press of Chicago, and it is perhaps within bounds to say that it is the best work on sheep ever published in this or any other country. It contains over 100 halftone engravings, among them being something like thirty of different breeds of sheep from different parts of the world. The subjects covered by this work are divided into eight parts: Part I deals with History and Breeds; Part II, General Management; Part III, Sheep Management in the Western States; Part IV, Fitting Sheep for Show; Part V, Raising House or Spring Lambs; Part VI, Dressing Sheep and Lambs; Part VII, Pastures, Forage Crops, etc.; Part VIII, Diseases. The author of this work is one of the world's best known authorities on sheep, having had practical management of flocks in several different countries, and is at present associate editor of the world's leading sheep journal. A unique feature of this work is that wherein the author seems to upset the theory advanced by some scientists that on account of the differences of the genus of the sheep and goat a hybrid from such a mating is impossible, since the pages of this volume contain a halftone engraving from a photograph of the produce of such a mating and the statement of a member of the Government Bureau of Agriculture giving his opinion that this hybrid is genuine. This is a book that will be read with interest and profit by the veteran sheep breeder as well as the novice. It can be ordered through the PACIFIC RURAL PRESS at \$1.50, postpaid.

## FOR SALE

In Solano County, Cal., 640 Acres of highly improved land. Near Railroad and Town. Price \$32,000.00, on easy terms. Address

P. O. Box 345, Vacaville, Cal.



### THE BOSS LADDER

We have been making the Boss Ladder since 1895, and thousands of them are now in use. They are lighter, stronger, and stiffer than any other make. A 10 ft. ladder weighs 25 lbs. in that price and carries a heavy load. Each step is braced with four wire braces. We will ship one or more to any S. P. R. R. Station in California, on receipt of order—30 cents per foot and prepaid the freight.

Driver, Aber & Co., San Leandro, Cal.

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAALLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts., San Francisco.

### Blake, Moffitt & Towne

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## Sheep and Wool.

### The Bullards Securing More Fine Stock.

The American Sheep Breeder gives an appreciative notice of what our well known breeder, Mr. E. A. Bullard of Woodland, has recently been doing in the East.

This was Mr. Bullard's fourth tour of the eastern flocks in quest of high class rams for service in the oldest and most famous fine-wool flock on the Pacific coast. He had gleaned the leading Ohio flocks on his former trip, and on this occasion was persistent upon the acquisition of strictly new strains of blood and set his heart upon the ownership of some ranking sons or grandsons of Wood's old "Kaiser" and "Jumbo" or Lockwood's "Baron" and "American Boy," and fortunately got what he wanted of both. Here is what Mr. Lockwood says of the "Baron" and "American Boy" stuff now on the way to California:

"Yes, I sold Mr. Bullard four head of pure Von Homeyer rams, from one to three years old, that were fit to head any flock in this or any other country. The three-year-old ram was by old "Baron" and out of one of the best ewes running to Baron Von Homeyer's sensational exhibit at the Columbian World's Fair in 1893, a ram that John P. Ray and myself used long enough to demonstrate his greatness as a stock getter. The other three-year ram was a son of "American Boy" and I had reserved him for show purposes, and the ram that beats him this year, if he is shown, will know that he has been to a big show. He has a full neck, with tail, arm-pit and flank marks made to order, and a perfect head, horn and grand set fleece—just such a ram as we are all trying to get at the head of our flocks and will easily go to 250 pounds. Money would not have tempted me to part with him if I had not "Ben-Hur"

and "Mesella" to fall back on. The two-year-old ram by "American Boy" was a reserve ram, just what we are all looking for in fleece, and the fine little furnishings—show points—and should give grand results in the stud. The lamb, a full Von Homeyer, will be a yearling when he reaches Woodland. Mr. Bullard is too far up in the higher arts of successful sheep breeding to make any mistake in selection. Mr. Bullard also bought four young sons of "Ben-Hur" that were particularly promising and will be yearlings when they reach destination. They showed great perfection of form and fleece. To this grand ram contingent were added three fine aged Von Homeyer ewes, bred by Mr. Markham, and my entire ewe flock of 40 Delaines, whose blood lines run back in unbroken chain to Edwin Hammond, L. P. Clark and other masters of the Merino hey-day. The parent ewe stock of that old day came to us with three and four-pound fleeces and diminutive 50 and 60-pound carcasses and their descendants go to the Bullard Company, weighing 120 to 160 pounds with capacity for 14 to 20-pound fleeces, covering ideal mutton forms. This is Oak Hill evolution, and a 20 per cent greater development in fleece and avoirdupois awaits them in the alfalfa fields of their new home. It was like parting with members of my own family to see them go. Only pure Von Homeyers remain and henceforth we conjure along with this strain. How we did enjoy the visit with the Bullards, the level-headed, self-contained master of the great flock, and the two charming women who followed him critically through every detail of his selections at the barn!"

With the purchase at Oak Hill Farm the Bullards had equal good fortune at A. A. Wood & Sons, Hickory Grove Farm, Saline, Mich., where they secured fifteen royally bred rams, all but one sired by Hickory Grove's splendid head ram "Twenty," a grand breeder and, we believe, a son of Wood's great "Jumbo," and a grandson of the illustrious American champion "Kaiser," each of the three being pure Von Homeyers. Of the fifteen rams that go from Hickory Grove to the Bullard flock through this purchase, five are Von Homeyer and the remainder Francos with Von Homeyer top cross. A good string of these won signal honors last fall at the Michigan State Fair in the hottest competition and under the baton of the eminent sheep critic, John P. Ray. "Twenty," himself the sire of fourteen of the Bullard purchase, was champion at that great show. The second prize yearling ram and the third prize ram in the Rambouillet

U S U S

WHY DOES THE

IMPROVED 1908

**U. S.**

CREAM SEPARATOR

Win So Many Laurels?

Because it has that solid, low frame; most simple yet efficient bowl, holding World's Record for cleanest skimming; so many conveniences; and the easiest running separator made.

If you have cows, you need a separator, you need the best separator. That one is the

**U. S.**

Simply send for catalogue "No. 148," read it carefully, and we leave it to you, which is best.

ADDRESS ALL LETTERS TO

**Vermont Farm Machine Co.**

BELLOWS FALLS, VT.

DISTRIBUTING WAREHOUSES AT:

Chicago, Ill.; La Crosse, Wis.; Minneapolis, Minn.; Kansas City, Mo.; Omaha, Neb.; Toledo, O.; Salt Lake City, Utah; Denver, Colo.; San Francisco, Cal.; Spokane, Wash.; Portland, Ore.; Buffalo, N. Y.; Auburn, Me.; Montreal and Sherbrooke, Quebec; Winnipeg, Man.; Hamilton, Ont.; Calgary, Alta.

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

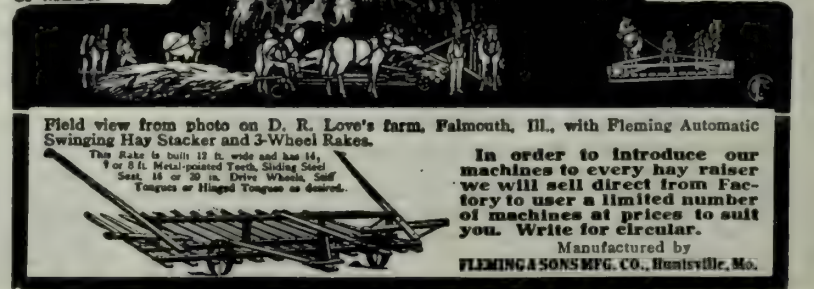
class; the first prize yearling ram, first and second prize ram lambs, junior champion and grand champion ram in the Delaine class; the third prize aged ram, first prize yearling ram, first and second prize ram lambs, senior, junior and grand champion ram in Merino B class, all winning in the sharpest kind of competition at the same fair, go to the California stud, and, with them in the lot purchased several rams that won distinction in the breeding stud at Hickory Grove last season.

For uniform character and quality, fine head, fine covering and quality of fleece, we believe this to be the greatest lot of rams that ever went from Hickory Grove to any single flock, and we know that the record price which these rams commanded was due to their superior quality, which was apparent from end to end of the bunch, and the fact that some of them had demonstrated their inherent quality as stud rams. And with equal assurance do we believe

## Put Up 145 Acres Heavy Hay in Seven Days

The Horse Swings the Load as He Raises It, which makes the Fleming the Only Automatic Swinging Stacker Made.

Will Build a Stack 20 Feet Wide by 50 Feet Long, 25 to 30 Feet High. Made in 2 Sizes.



Field view from photo on D. R. Love's farm, Palmdale, Ill., with Fleming Automatic Swinging Hay Stacker and 3-Wheel Rakes.

This Rake is built 12 ft. wide and has 14, 16 or 18 Metal-pointed Teeth, Sliding Steel Seat, 16 or 20 in. Drive Wheels, Self Tongues or Hinged Tongues as desired.

In order to introduce our machines to every hay raiser we will sell direct from Factory to user a limited number of machines at prices to suit you. Write for circular.

Manufactured by FLEMING & SONS MFG. CO., Huntville, Mo.



that the entire contingent of 23 rams now on the way from Oak Hill and Hickory Grove to the Bullard stud will carry with it the largest measure of strong flock renewing blood that has yet come into the life of the incomparable Woodland flock.

## The Dairy.

### Passing of a Famous Dairy Herd.

Mr. M. B. Stevens, who has recently been testing cows at the Riverside herd under the auspices of the California Experiment Station, writes an interesting account for the North Pacific Rural Spirit, of the dispersion of the herd and the turning of the land to other uses, as follows:

With the passing of the Riverside premier herd of Holsteins the State of California lost one of the finest herds of Holsteins ever collected in, not only the State, but the United States. A recent visit by the writer to the Riverside ranch on Rough and Ready island near Stockton, California, found the place much the same as when the royal Holsteins were grazing in those rich meadows. The group of buildings, hard to equal for suitability of arrangement for the conducting of a dairy, will soon be used for other purposes. The cow stables in the rear of the big hay barracks are remarkably well lighted, airy and convenient for keeping clean. Plenty of piped water for washing down the manure gutters and filling the mangers or feed gutters for the cows to drink whenever the weather was very stormy, was a great convenience. And in fact everything necessary was present that could make work light and afford the most comfort for the cows.

The cow Juliana De Kol, who was reared there, made a world's record as a two-year-old with her first calf. The following is her record:

	Milk, Lb.	Butter, Lb. Oz.
7 days.....	417	22 9
30 days.....	1852	92 7½
60 days.....	3512	175 9
100 days.....	5866	283 13

The cow is now a seven-year-old and still keeps her remarkable capacity for giving milk. Many great cows lived here and at one time there were over 90 cows and heifers qualified for the advanced register. At the State fair in 1904 Professor W. L. Carlyle, of the Colorado Agricultural College, stated that the imported bull Jetze, and cow De Kol of Valley Mead of the premier herd, were the two best specimens of the breed he ever passed upon and he could find no criticism.

The natural question is why did Mr. Charles D. Pierce get rid of this great herd of Holsteins and shut up his fine stables and barns with emptiness. He answers, that the problem of securing competent, reliable milkers discouraged him. Those great milking cows would not stand being slighted when it came to being milked and many had their udders spoiled. He tried the milking machines when they first came out but they did not prove satisfactory, from his point of view. Finally the herd was sold.

This place is destined to again become known throughout the land, for its product. This time it will not be stock of any kind but a soil product. Professor Henry, of soil and agricultural fame in the east, said of the

soil, "It is not the best, the low Netherlands not excepted," and the name, the California Netherlands, still stays by it. Mr. Pierce is turning under his rich grass and clover meadows and is working that rich peat soil up to receive asparagus roots. Several hundred acres will be planted this year and if it does well he may see fit to turn his six hundred acres to the culture of that crop. His well lighted stables and immense hay barracks, he figures, would make a fine cannery with a little altering. The buildings are but a few rods from the San Joaquin river and the large freight boats can handle the output very cheaply. This year much of the land is being planted to onions and potatoes and the yield they have had in the past is very large. Chinamen and Japs do

most of the work and they are successful farmers with these crops.

This year Mr. Pierce has bought a number of young draft mares, most of them with foal. He plans to every year rear a bunch of big colts and the work of the ranch will not hurt the mares if handled carefully.

To look at this ranch would delight the eye of any farmer. Stock feeding on a thick clover pasture as level as a floor and shaded along the outskirts by the green willows,—fields with new turned furrows as black as your hat and mellow with decayed tule roots,—water in the irrigation ditches potent with the stimulus for plant life,—great cows have found sustenance in this place and crops of great yield will pay for well directed labor,—the place has been greatly blessed by nature.

# A FEW OF THE MANY VERY PROMINENT USERS OF THE DE LAVAL CREAM SEPARATORS

U. S. Department of Agriculture, Washington, D. C.  
Hon. Levi P. Morton, Ex-Vice-President of United States.  
J. Pierpont Morgan, Esq., the great banker.  
Andrew Carnegie, Esq., the great steel magnate.  
Judge Alton B. Parker, Ex-Candidate for President.  
John D. Rockefeller, Esq., President the Standard Oil Co.  
William K. Vanderbilt, Esq., New York City.  
Hon. Seth Low, Ex-Mayor of New York City.  
Ex-Gov. W. D. Hoard, proprietor of *Hoard's Dairyman*.  
J. B. Duke, Esq., President American Tobacco Co.  
H. B. Gurler, Esq., the Dean of American dairying.  
C. I. Hood, Esq., of "sarsaparilla" and fancy cattle fame.  
Sir Hugh Montagu Allan, head of the Allan steamship lines.  
Pennock E. Sharpless, Esq., of Sharpless butter fame.  
Richard Watson Gilder, Esq., editor the *Century Magazine*.  
Thomas W. Lawson, Esq., of "frenzied finance" fame.  
E. M. Barton, Esq., President the Western Electric Co.  
W. Campbell Clark, Esq., of the Clark Thread Co.  
Denman Thompson, Esq., the actor of "Old Homestead" fame.  
H. N. Higginbotham, Esq., President Chicago World's Fair.  
T. Eaton, Esq., President Canada's greatest department store.  
R. T. Crane, Esq., President the Crane Co., Chicago.  
Dr. J. A. Mead, President the Howe Scale Co.  
John H. Starin, Esq., of "Glen Island" and steamship fame.  
Fairfield "Certified" Dairies, Montclair, N. J.  
William A. Wright, Esq., President New York Milk Exchange.  
Prof. W. H. Caldwell, Secretary American Guernsey Cattle Club.  
Dr. Leslie D. Ward, Vice-President Prudential Life Insurance Co.  
Hon. F. E. Dawley, State Director Farm Institutes, New York.  
Oakleigh Thorne, Esq., President Trust Co. of America.  
Walker-Gordon Laboratories, of all large cities.  
C. Brigham & Co., Boston's great milk dealers.  
Borden's Condensed Milk Co., the world's greatest milk concern.  
Dr. S. B. Hartman, of "Peruna" and stock farm fame.  
J. B. Haggis, Esq., the great capitalist and land owner.  
Rev. E. M. Stires, Rector of St. Thomas', New York.  
W. W. Montague, Esq., Ex-Postmaster, San Francisco.  
Hon. Herbert W. Bowen, Ex-Minister to Venezuela.  
William Ladd, Esq., the prominent Pacific Coast financier.  
S. R. Guggenheim, Esq., the smelting magnate.  
P. G. Henderson, Esq., President Red Polled Cattle Club.  
D. H. Anderson, Esq., editor of the *Irrigation Age*, Chicago.  
W. H. Wanamaker, Esq., the Philadelphia clothier.  
Hon. Wayne McVeagh, Ex-U. S. Attorney-General.  
Philip Moen, Esq., the great wire manufacturer.  
Dr. Charles McBurney, the great surgeon.  
Col. Charles F. Mills, editor *Farm Home*, Springfield, Ohio.  
T. S. Cooper, Esq., the chief importer of Jersey cattle.  
Edw. R. Strawbridge, Esq., Strawbridge & Clothier, Philadelphia.  
W. A. Shaw, Esq., proprietor of the *Texas Farmer*.  
J. McLain Smith, Esq., editor of *Farmer's Home*, Dayton, Ohio.  
Hon. B. P. Norton, Ex-State Dairy Commissioner of Iowa.  
Hon. H. K. Boyer, Ex-Superintendent U. S. Mint.  
Joseph L. Jones, Esq., President Philadelphia Milk Exchange.  
Hon. Edward Burnett, of "Deerfoot Farm" fame.  
Mrs. W. E. H. Massey, Dentonia Park Farm, Toronto.  
Tilson's Farm, of "Tilson's Oats" fame.  
Prof. F. J. Sleightholm, Government Dairy School, Strathroy.

And thousands of others equally well known.

CATALOGUE AND COMPLETE PARTICULARS REGARDING  
DE LAVAL CREAM SEPARATORS ARE TO BE HAD FOR THE ASKING

## De Laval Dairy Supply Company

108 So. Los Angeles St. 42 E. Madison Street General Offices: 107 First Street 1016 Western Avenue  
LOS ANGELES CHICAGO 101 Drumm Street PORTLAND, OREG. SEATTLE  
165-167 Broadway  
NEW YORK SAN FRANCISCO  
Box 1052  
VANCOUVER, B. C.

The total value of the stone product of the country in 1906 was \$66,378,794, an increase of \$2,570,046 over that of 1905, and an increase of \$42,413,565 over that of 1896.

Vermont gets the credit for being the granite State, but Pennsylvania leads in the production of stone, with nearly 14% of the total to her credit.

Animal life is to be found at all depths under the water, but vegetation does not flourish under great pressure.

The water of the Norwegian fjords is so clear that it is possible to discern small objects at a depth of 20 fathoms.



## THE MARKETS.

San Francisco, May 20, 1908.

## WHEAT.

The condition of the wheat market during the past week has been lifeless, with a weakening of prices all along the line. There has been little buying of cash wheat at the quoted prices and futures have been neglected entirely. The arrivals of wheat have hardly been up to the average and altogether it has been a rather dead week in grain. A decrease of several cents is noted in most grades.

California White Australian..	1.70 @ 1.75
California Club.....	1.57½ @ 1.62½
California Milling.....	1.70 @ 1.75
California lower grades.....	1.45 @ 1.60
Northern Club.....	1.65 @ 1.67½
Northern Bluestem.....	1.67½ @ 1.72½
Northern Red.....	1.55 @ 1.62½
Turkey Red.....	1.60 @ 1.65

## BARLEY.

The barley market is quieter than last week, with prices on cash barley a little lower. Brewing and chevalier grades are not quoted on the market at all, and the buying of feed barley is not so brisk as last week. The darker grades of barley which were selling last week for \$1.45 have dropped to \$1.40@1.42½. Some arrivals from the North are reported to have gone to \$1.45, but today's market closed at \$1.42½ for dark grades. Choice feed is quoted at \$1.45, 5 cents lower than a week ago. The arrivals during the week have been normal. There is little trading in futures, but the price remains firm at \$1.50.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl.	1.42½ @ 1.45
Common to Fair.....	1.40 @ 1.42½
Shipping.....	Nominal

## OATS.

Oats remain very firm at last week's high prices, but as the sellers are holding at prices which do not appeal to buyers, very little of this grain is changing hands. A normal movement in feed oats for consumption was the only buying. The feeling of the market is strong.

Choice Red, per ctl.....	\$1.52½ @ 1.55
Ordinary Red.....	1.47½ @ 1.52½
Gray.....	1.60 @ 1.70
White.....	1.55 @ 1.65

## CORN.

The corn market has remained fixed during the past week, with prices firm, but trading dull. Buyers consider the present prices too high, while those holding the grain are keeping prices firm. The amount of corn on hand is small and no arrivals of any importance are reported.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.80 @ —
White.....	Nominal
Western State sacked Yellow.....	1.80 @ —
White, in bulk.....	1.72 @ —
Mixed, in bulk.....	1.70 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

The rye market is unchanged, with hardly any interest taken in it. There have been no arrivals during the past week.

California.....	\$1.47½ @ 1.50
-----------------	----------------

## BEANS.

The bean market has showed marked activity of late, with an advance of 5 cents on the cental in bayos and whites. The Eastern demand remains strong and there has been a lively shipping business, which has been responsible for the advance. Advices from the New York market report beans very firm there and going briskly. The supply is becoming a little short.

Bayos, per ctl.....	\$3.00 @ 3.15
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.50 @ 3.00
Garvanzos.....	3.25 @ 3.65
Horse Beans.....	2.25 @ 2.75
Small White.....	4.00 @ 4.15
Large White.....	4.00 @ 4.15
Limas.....	4.60 @ 4.75
Pea.....	3.50 @ 4.00
Pink.....	3.00 @ 3.10
Red.....	3.25 @ 3.75
Red Kidneys.....	3.00 @ —

## SEEDS.

At present there is no life in the seed

market and prices remain exactly the same as last quoted. The offering of alfalfa remains light and the price is very firm.

Alfalfa per lb.....	20 @ 22 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

The lack of interest which prevailed last week in flour and foodstuffs still holds, and while there is no change in prices little buying is being done. There has come no further confirmation of the report that the prices on Seattle patent flours was to be advanced, and quotations remain the same as last reported.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.65 @ 5.00

## HAY.

Receipts of hay for the week have been rather heavy, reaching a total of 3410 tons. With the freer arrivals has come a weakening of the demand and this situation has been reflected in the quotations. Late reports seem to indicate that the yield for the season will be rather heavier than seemed probable some weeks ago. The late rains have done much to improve the situation in the hay districts. Some new volunteer hay is coming in from day to day, but the total is very small. Owing to the fact that dairymen are now feeding grass, there is little call for alfalfa hay.

Choice Wheat, per ton.....	\$16.00 @ 20.00
Other Grades Wheat.....	11.50 @ 15.00
Wheat and Oat.....	12.50 @ 17.50
Tame Oat.....	11.50 @ 16.00
Wild Oat.....	10.00 @ 15.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 95c

## MILLSTUFFS.

Feedstuffs still remain scarce and shipments small. The inadequate supply on the market keeps prices very firm at the high prices of last week. The falling of rain during the week will benefit the growing feed and reduce the demand for immediate consumption somewhat, but the small supply on hand will tend to keep prices firm.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	32.00 @ 33.00
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @ —
Jobbing.....	28.00 @ —
Corn Meal.....	36.00 @ 37.00
Cracked Corn.....	38.00 @ 39.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 38.50
Rollod Barley.....	31.00 @ 32.00
Shorts.....	33.00 @ 35.00

## VEGETABLES.

The vegetable market has been active in all lines and there have been some changes in quotations. Rhubarb, which has been weak for some time owing to an over-supply, is again firm with an advance in price. Asparagus remains firm and there has been only a light supply of garden peas, the choicest of which have gone at \$2.25 a sack. Cucumbers are somewhat lower, owing to the arrival in the market of shipments from Texas, which went at 50 cents a dozen, weakening the price of the local hothouse product. String beans are plentiful but the price remains firm. New garlic is going at 10 cents per pound, while the onion market is still weak, the large quantity of new reds arriving having brought down the price to \$1 per sack, while Bermudas have fallen 15 cents on the crate. The supply of summer squash is plentiful and tomatoes are easy. The first green corn of the season arrived Monday, consisting of seven dozen ears from the Coachella valley. It sold for \$1 per dozen. Demand for all lines has been good and there has been some activity in the shipping demand, orders being sent to Puget Sound ports.

Garlic, per lb.....	18 @ 20 c
Green Peas, sack.....	1.00 @ 2.25

String beans, lb.....	7 @ 9 c
Cabbage, per ctl.....	40 @ 50 c
Onions—	
Australian, per ctl.....	4.00 @ 4.25
Bermudas, per crate.....	1.50 @ 1.60
New Green, box.....	35 @ 60 c
New Red, sack.....	1.00 @ —
Summer Squash, box.....	90 @ 1.25
Tomatoes, crate.....	1.50 @ 1.75
Carrots, sack.....	75 @ —
Rhubarb, box.....	75 @ 1.00
Asparagus, extra, lb.....	7 @ 8 c
Asparagus, No. 1.....	5½ @ 6 c
Asparagus, No. 2, lb.....	3 @ 5 c
Green Peppers, lb.....	20 @ 25 c
Cucumbers, doz.....	60 @ 75 c

## POULTRY.

The poultry market is still marked by the weakness of last week, and is not very satisfactory for the sellers. The receipts from local points, which were rather small at the end of last week, are again liberal, and the Eastern supply is heavy. Four cars arrived Monday and two or three more are expected during the week, so that there is very little chance of the market being cleared. Hens continue weak and fryers are a shade easier. Small broilers, which were weak on Saturday, show some improvement, and young full grown roosters are steady and in demand.

Broilers.....	\$3.50 @ 4.50
Small Broilers.....	2.50 @ 3.50
Ducks.....	4.00 @ 7.00
Fryers.....	6.00 @ 7.00
Geese.....	2.00 @ —
Goslings, per pair.....	2.50 @ 3.00
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	5.00 @ 5.50
Small Hens.....	4.00 @ 4.50
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	7.50 @ 8.50
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50

## BUTTER.

The butter market is firm and receipts are moving readily. There is an advance of ½c. in creamery extras, otherwise the prices remain as last quoted. The buying for the pickling trade for Alaska has been a feature of the week's market, orders of considerable size having gone to this industry and served to take up surplus stocks. Very little butter is going into storage, as the present price is considered prohibitive by the speculators.

Cal. (extras) per lb.....	23½ c
Firsts.....	22½ c
Seconds.....	22 c
Thirds.....	—
Fresh Packing Stock, No. 1.....	20 c
Fresh Packing Stock, No. 2.....	19 c

## EGGS.

The egg market is somewhat overstocked with the heavy receipts of Eastern eggs, and the cheaper grades of California eggs are being rather neglected. Sales of these are being made on the street below Produce Exchange prices. Fancy eggs are firm with a slight advance over last week. The following quotations are given out on the San Francisco Wholesale Dairy Produce Exchange:

California (extra) per doz.....	22½ c
Firsts.....	20½ c
Seconds.....	16½ c
Thirds.....	16 c

## CHEESE.

The appearance of Oregon flats and Oregon Young Americas is the principal feature of the cheese market. Otherwise there is very little change in the market, all grades remaining easy. California flats are the most plentiful and are slightly weaker, although there is a brisk movement into storage.

Fancy California Flats, per lb.....	12 c
Firsts.....	11½ c
New Young Americas, Fancy.....	14 c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	16 c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c
Oregon Flats.....	14 c
Oregon Y. A.....	14½ c

## POTATOES.

Potatoes remain firm and Oregon Burbanks have advanced altogether 15 cents on the hundred over last week's quotation. The supply from Oregon has been quite large, but prices remain very firm. New potatoes are more plentiful and some have sold as low as 1 cent per pound.

Oregon Burbanks.....	1.10 @ 1.25
Burbanks, River, bag.....	75 @ 1.00
New Potatoes, lb.....	1 @ 2c

## FRESH FRUITS.

The arrivals of strawberries are very

LILLY'S BEST

MEANS

## Comfort for Stock



**ONLY FLY KILLER**  
applied with a small hand  
sprayer both morning  
and night gives cows and  
horses permanent relief  
from flies, gnats, mos-  
quitoes, etc. It is harmless  
to stock and will not taint  
milk. A coat of



**ONLY LICE KILLER**  
applied to roost or board  
beneath the roost will pos-  
itively kill lice. For some-  
thing in the powder form



**ONLY INSECT POWDER**  
is sure death to all vermin  
and is positively harmless  
to chicks.

**These remedies are  
Sold by Dealers**

Manufactured by

THE CHAS. H. LILLY CO.  
SEATTLE and PORTLAND

generous and lower prices prevail. The arrivals from Los Angeles continue liberal and have gone well. Cherries held up until the first of the week, owing to the demand for shipping, but the last few days have marked a falling off of this demand and the market has weakened. The arrival of small quantities of Pringle apricots continues, but there is no great demand for the fruit, as the offerings are small and green. They are going at \$1.75 to \$2 a crate. Blackberries are being offered in somewhat larger quantities and are quoted at \$2.75 per crate. The arrival of the first gooseberries and the first crate of nutmeg melons are the novelties of the week. The melons came from the Coachella valley and sold for \$9 a crate of 18 melons. Small quantities of red currants from Alameda county are being offered and bring \$2 and \$2.50 per crate of 20 pounds.

Cherries—	
Black Tartarian, drawer...	50 @ 75c
Purple Guigne.....	50 @ 65c
Bulk, lb.....	3 @ 7 c
Apples, fancy.....	1.25 @ 2.00
Apples, common to choice...	60 @ 1.00
Strawberries—	
Longworths, chest.....	8.00 @ 10.00
Cheneys, chest.....	6.00 @ 7.00
Malindas, chest.....	5.00 @ 7.00
Crates.....	75 @ 1.00
Bananas—	
Honolulu, bunch.....	1.00 @ 2.00
New Orleans.....	2.50 @ 3.50
Pineapples—	
Mexican, doz.....	2.00 @ 3.00
Honolulu.....	2.00 @ 4.00

## CITRUS FRUITS.

The citrus fruit market remains quiet, but prices are very firm. A slight decline in Mexican limes and firmer prices in navels were the only variations in prices. The increased cost of navels at the point of production is responsible for the firm orange market, but little of this fruit being sold. The dealers are mostly occupied with the offerings of deciduous fruits at present.

Choice Lemons.....	\$1.00 @ 1.50
Fancy Lemons.....	2.00 @ 2.50
Standard.....	75 @ 1.25
Limes.....	5.00 @ 5.50
Oranges—	
Navels.....	2.00 @ 3.00
Tangerines.....	1.25 @ 1.75
Grape Fruit.....	2.50 @ 3.50

## DRIED FRUITS.

The dried fruit market has experienced some slight changes in prices during the week, but there is no great activity. Prunes, which have been very firm, are quoted lower. The last estimate of the 1908 prune crop is for 50,000,000 to 65,000,000 lbs. of California prunes. There are indications that the world's crop will be very light, and those holding prunes are very firm in their idea, but buying is not very brisk.

Evaporated Apples.....	5 @ 6 c
Figs.....	2½ @ 3 c
Apricots, per lb.....	11 @ 13 c
Peaches.....	7 @ 8½ c
Prunes, 4-size basis, 1907 crop..	3 @ 3½ c
Pears.....	7½ @ 9½ c

## RAISINS.

2 Crown.....	3½ @ —
3 Crown.....	4 @ —



**MADE FOR SERVICE**  
IN THE ROUGHEST WEATHER  
AND GUARANTEED ABSOLUTELY  
**WATERPROOF**



**TOWER'S  
FISH BRAND  
POMMEL  
SLICKERS**  
\$3.50

This trade mark and the word TOWER on the buttons distinguish this high grade slicker from the just as good brands

A. J. TOWER CO. BOSTON, U.S.A.  
TOWER CANADIAN CO. LIMITED, TORONTO, CAN.

4 Crown .....	4 @ 4½c
Seeded, per lb. ....	6 @ 6½c
Seedless Sultanias .....	4½ @
London Layers, per box .....	90 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

The nut market is in the same condition as last week. Offerings are small and prices remain unchanged. The crop indications are still for a good harvest. Very little stock is changing hands.

Almonds, Nonpareils .....	13½ @ 14½c
IX L .....	13 @ 14 c
Ne Plus Ultra .....	12½ @ 13 c
Drakes .....	11 @ 11½c
Languedoc .....	10 @
Hardshell .....	7 @ 7½c
Walnuts, Softshell No. 1 .....	13 @
Softshell, No. 2 .....	10 @
Italian Chestnuts .....	10 @ 12½c

## HONEY.

There is practically no honey offered, except some inferior comb, and buyers are anxiously awaiting the arrival of the first offerings of the new crop. Prices remain as last quoted, and it is expected that the new crop will open at these figures. Beeswax is dull and offered at from 25 to 29 cents per pound.

Water White, Comb .....	16 @ 17 c
White .....	15 @
Water-white, extracted .....	8 @ 8½c
Light Amber, extracted .....	7 @ 7½c
Dark Amber and candied .....	5½ @ 5½c

## WOOL.

The wool market remains inactive, with prices at last week's figures.

Spring-clip, Humboldt, year's staple .....	20 @
Northern Humboldt and Mendocino .....	12 @ 14 c
San Joaquin .....	8 @ 11 c
Fall Clip, northern, free .....	7 @ 8 c
Southern Coast .....	7 @ 10 c
Nevada .....	9 @ 12 c

## HOPS.

There was a decline from 7 to 6 cents per pound in the top quotation of 1907 crop during the past week, and no new development in the sales. The clamor in England for a tariff against the American product has had no influence on the market.

1906 crop .....	1½ @ 2½c
1907 crop .....	4 @ 6 c
1908 (contracts) .....	9 @ 10 c
3 to 5 year contracts .....	10 @ 12 c

## MEAT.

There has been a decline in livestock during the past week, and all kinds are still far from firm. The arrival of hogs is large but no decline is reported. Meat is weak at quoted prices, but with no decline. Beef cattle continue to arrive in large numbers.

Beef: Steers, per lb. ....	6½ @ 7½c
Cows .....	5 @ 6 c
Heifers .....	5 @ 6 c
Veal: Large .....	5½ @ 8 c
Small .....	8 @ 9 c
Mutton: Wethers .....	8 @ 8½c
Ewes .....	7 @ 7½c
Spring lamb .....	10 @ 11½c
Hogs, dressed, heavy .....	7½ @ 8 c
Light .....	9 @ 10 c

## LIVESTOCK

Steers, No. 1 .....	8 @
No. 2 .....	7½ @
No. 3 .....	6½ @ 7 c
Cows and Heifers, No. 1 .....	6½ @ 7 c
No. 2 .....	6 @ 6½c
Bulls and Stags .....	3½ @ 4 c
Calves, Light .....	4½ @
Medium .....	4 @
Heavy .....	3½ @

Sheep, Wethers .....	4½ @
Ewes .....	4 @
Spring Lambs, lb. ....	5½ @
Hogs, 100 to 200 lbs .....	6 @ 6½c
200 to 300 lbs .....	5½ @ 6 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## BEAUTIFUL ROOF EFFECT OF OLD MOORISH TILES.

MADE POSSIBLE BY MODERN INVENTION.

A material which seems certain to entirely take the place of shingles is the latest product of American inventiveness. It is a sheet substance composed of long tough fibres which are matted together with heavy gums having the property of never drying out nor losing their weather resisting qualities. Both surfaces of the sheet are tempered or hardened into an impervious skin that gradually oxidizes on the roof, assuming a wearing surface similar to slate. The color is a warm Indian red.

Although laid in long strips, the effect of the finished roof is that of individual, diamond-shaped tiles. This result is accomplished by an ingenious method of lapping one saw-tooth edged sheet over another, the points of the upper sheet just touching the upper angles of the lower sheet. This produces a series of tiles.

An important quality of this new material, which is called Zolium, is that it will not catch fire from sparks, thus eliminating one of the greatest dangers resulting from closely built-up residential sections.

Full information regarding this important invention can be obtained of J. A. & W. Bird & Co., Boston, Mass., who are the patentees and makers.

## BOOKS FOR THE FARM

## For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseeded it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious crops known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1

**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth.....\$1.00

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth.....\$2

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## BREEDERS' DIRECTORY

## POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**SANTA TERESA POULTRY FARM** for White Leghorns. **Wm. HAUSAM, Eden Vale, Cal. Box 45.**

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## SWINE.

**GEO. C. RÖEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

**POULTRY SUPPLIES**  
of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 81, 320 McAllister St., S. F.

## HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE.**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The.....	327
Beckman, Geo. V.....	335
Bird & Co., J. A. & W.....	331
Blake, Moffitt & Towne.....	332
Breeders' Directory.....	335

Covina Nurseries.....	336
Croley, George H.....	335
Clark Wise & Co.....	329
Cutter Laboratory, The.....	330

De Laval Dairy Supply Co.....	333
Deming Co., The.....	331
Dewey, Strong & Co.....	336
Dietz Company, R. E.....	335
Disbrow, F. H.....	336
Doak Gas Engine Co.....	336
Driver, Aber & Co.....	332
Driver, E. S.....	335

Fleming & Sons Mfg. Co.....	332
Fresno Agricultural Works.....	—

Galloway, A. J.....	336
German Kali Works.....	—

Hamlin School, The .....	328
Hausam, Wm.....	335
Hart, Ed.....	335
Hess & Clark, Dr.....	331
Howard Cattle Co.....	335

International Harvester Co.....	—
---------------------------------	---

Jackson & Co., T. W.....	336
Junior Monarch Hay Press Co.....	336

Lawrence-Williams Co.....	330
Lilly Co., Chas. H.....	334
Lister, Henry B.....	332
Lynch, John.....	335

Meacham, Frank A.....	—
Mountain Copper Co.....	336

National Wood Pipe Co.....	336
Nitrate Agencies Co.....	331

Oakland Poultry Yards.....	335
----------------------------	-----

Pacific Coast Business College.....	329
Pasteur Vaccine Co.....	330
Pear Blight Remedy Co.....	336

Roeding, Geo. C.....	335
----------------------	-----

San Francisco Sulphur Co.....	332
Santa Teresa Poultry Farm.....	335

Shaw, Henry.....	336
Sharples Separator Co.....	332
Silva & Bergholdt Co.....	336

Simmons Hardware Co.....	—
Smith, Francis.....	—

Sorby Vaccine Co. (Inc.).....	330
Southern Pacific Railway.....	336

Standard Oil Co.....	327
Stowe, C. A.....	335
Sullivan, W.....	335

Teague, R. M.....	—
Temple Pump Co.....	—

Tower Co., A. J.....	334
Tuttle's Elixir Co.....	330

Van Der Naillen, A.....	332
Vermont Farm Machine Co.....	332

Wagner, J. B.....	336
Waite, Thos.....	335
Woodin & Little.....	—

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

**\$4.00** **593 pages Well Illustrated.** **\$4.00**

Sent postage prepaid on receipt of price. Address:

**Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.**

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

**DADD'S MODERN HORSE DOCTOR.**—By George H. Dadd, M. D., V. S., containing practical observations on the causes, nature and treatment of diseases and lameness of horses—embracing recent and improved methods, according to an enlightened system of veterinary practice, for preservation and restoration of health. Illustrated. 432 pages. 5 by 7 inches. Cloth.....\$1

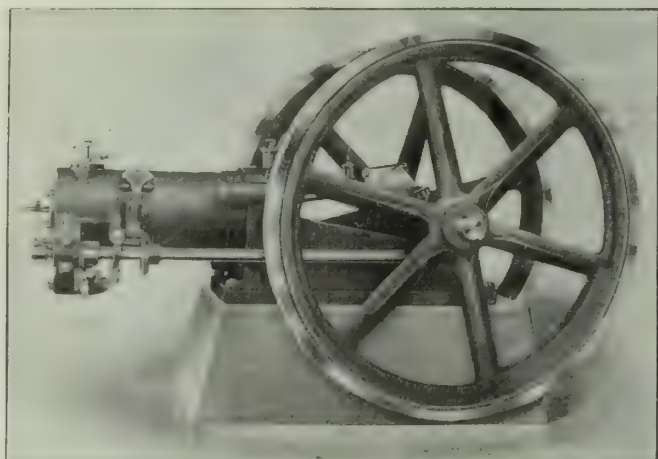
**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth.....\$1.50

**BROOM CORN AND BROOMS.**—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 59 pages. 5 by 7 inches. Cloth.....\$0.50



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.

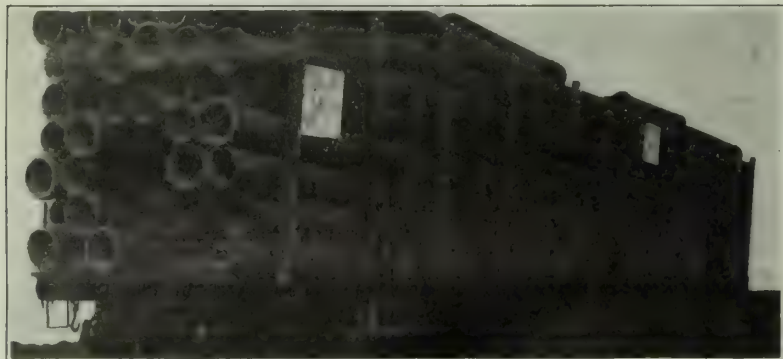


If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

### NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

May 28, 29, 30.

June 3, 9, 10, 11, 15, 16, 22 to 28, inc.

July 2, 3, 6, 7, 8, 28, 29.

August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	\$ 60.00
Council Bluffs	60.00
Kansas City	60.00
Chicago	72.50
St. Louis	67.50
New Orleans	67.50
Washington	107.50
Philadelphia	108.50
New York	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

The Mountain Copper Company, Ltd.

150 PINE STREET, SAN FRANCISCO.

## JUNIOR MONARCH HAY PRESS CO., SAN LEANDRO, CAL.

Make the Leading Hay Presses  
Guaranteed to excel all others

WRITE FOR CATALOGUE

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY Newcastle, Cal.

### Eureka Lemon Valencia and Navel Oranges Eucalyptus Trees

Globulus, Rostrata, Rudis, and Tereticoxis

### Phoenix Canariensis, Chamaerops Excelsa Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

### COVINA NURSERIES, Covina, Cal.

### Red Gum and Sugar Gum for April and May.

\$2.25 ..... per 100  
\$10 ..... per 500  
Taken from flats; roots dipped in mud; packed in moss, prepaid to you by express; good selected plants.

### HENRY SHAW, 320 River St. Santa Cruz, Cal.

### ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100 J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 22.

SAN FRANCISCO, SATURDAY, MAY 30, 1908.

Thirty-eighth Year.

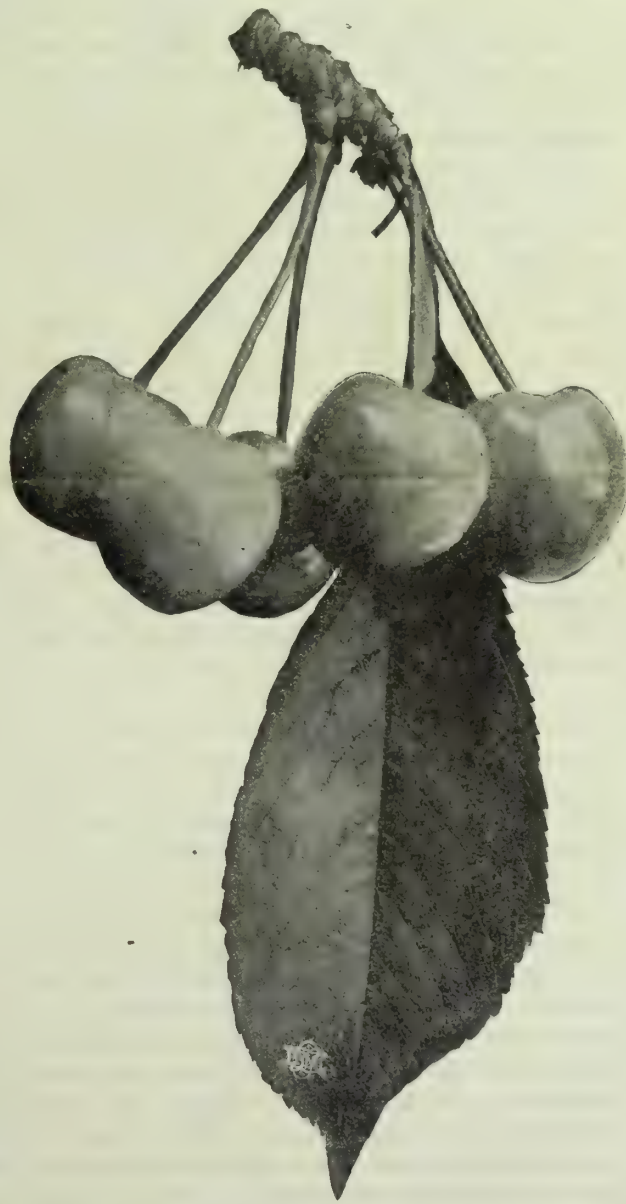
### CHERRY GROWING IN CALIFORNIA.

Cherries are ripe—in fact, have been for a month past in California, and will be for a month to come, according to variety and location, and it is therefore timely to talk of them. On this page is a portrait of the queen of commercial cherries of the Pacific Coast—the Royal Ann. She is not a legitimate queen, pomologically speaking; in fact, the name does not appear in the lists of cherry royalties except upon this Coast and in newer regions of the earth which have drawn names from our Coast. For this cherry, reversing the course of favors among men, fell into royalty, and not from it. It was in this way, as the story goes: The pioneer introducers of grafted fruit trees upon this Coast crossed the plains with a wagonload of little trees set in earth in a wagon-box, watering them as streams were crossed and keeping them alive and growing en route quite as well as they expected to. But when almost at their destination in western Oregon, and climbing a steep hill with their outfit, the tail-board of the wagon gave out and trees and earth slid to the ground in a great mix-up. The trees were put back as well as possible, but it was not possible to get all the trees in exactly the places they occupied before and opposite their names, which had been written upon the side of the wagon-box. Thus it came about that though the trees grew well and were successfully transplanted from their tourist berths to Oregon soil, their names were lost. One cherry showed peculiar value, but it had been disconnected from its name. Pioneer gallantry concluded that so good a thing must be a lady, and so they called it "Royal Ann." After a time, of course, the identity of the variety was determined by comparison with later introductions which had brought their proper names with them, and though for forty years it has been known that Royal Ann is Napoleon Bigarreau, the real Napoleon of cherry finance on this Coast is still masking in petticoats as Royal Ann, and probably always will, for she holds the throne on this Coast, than which there is no greater sweet cherry territory in the world.

Royal Ann reigns by virtue of commercial suitability. There are two great lines of cherry suitability: Cherries to eat as they grow, and cherries to eat from a cut-glass dish filled from a tin can. To eat as it grows Royal Ann is not delicious; it is too hard and cold a beauty; but, having been processed in the can, and lying afterward in cut-glass in a clear syrup, its pallid beauty is charming and its flavor adequate. Though there are other white cherries which are rivals for canners' favor, none has yet displaced Napoleon-Ann.

Favor is, however, rather a fickle thing in cher-

ries, as elsewhere. When the supply of red and black cherries is a little above the fresh eating and shipping demand, the price may fall below cost of picking and packing, because canners can use but few of them. When the canners are keen the prices of their favorites may go to twice the current values of the dark varieties; when the canners are shy, the situation may be exactly reversed



NAPOLÉON BIGARREAU OR ROYAL ANN.

and Royal Ann may drop to half the price of the best blacks; for though Royal Ann goes for shipment, it has such a small local eating demand that depression owing to canners' attitude cannot be cured. Last week this condition prevailed; the blacks were 50 per cent ahead of the whites. This may be reversed even before the present season ends, although there is of course a chance that the passion for planting Royal Ann during the last few years may have gone too far. This has been the way with cherries for the last thirty years, and until the canning demand became great and regu-

lar, a decade or so ago, grafting of old trees back and forth, from black to white, and white to black, was freely indulged in. Fortunately, the cherry takes very kindly to top-grafting.

The cherry grows very large in California, as compared with the Eastern product of the same varieties, but it is probable that even superior average size is attained in western Oregon, which is clearly a great cherry country. In California there are many districts in which the fruit does not do well, and situations for the fruit must therefore be selected with discrimination. The chief product is made in the coast valleys adjacent to the Bay of San Francisco, including its extension east of the Coast range, known as Suisun bay, for in all these regions there is a modification of climate due to the influence of ocean temperature and moisture. Away from these influences the cherry also thrives on the alluvial bottoms of large rivers and their tributary creeks, both on the low lands of the valleys and the foothills, while on the broad valley plains and foothill slopes it is not usually satisfactory. In the mountain valleys cherries also thrive on suitable soils. In southern California at elevations where moisture is adequate and temperatures favor suitable winter dormancy of the trees, good cherries are profitably grown, while on the mesas and valleys below, where citrus fruits flourish, the cherry is an aggravation.

If the general situation pleases the cherry, the variations of soil, which are wide, must be carefully looked into. The cherry is exacting in moisture supply; it suffers both from excess and from insufficiency, more than most fruits. The ideal for the cherry is a deep, well drained loam, into which the tree can send roots deeply without encountering standing water, and still retentive enough so it shall find the amount of moisture which it needs. In such situations the tree will grow grandly, and while this growing is likely to postpone bearing until the owner becomes almost weary, he will usually be delighted later by the amount of fruit and the profitable longevity of the tree. Of course, the cherry can be and is successfully grown on shallower soils, especially when the sub-

soil is retentive and will act as a reservoir of moisture, though the roots may not enter deeply into it. Over bed-rock or hardpan or over sand or gravel, a shallow soil cannot retain the necessary summer moisture, and the tree can only be carried by frequent irrigation in small amounts, never applying enough to result in water-logging. The life of the tree will, however, also depend upon the provision of drainage for the escape of surplus water from winter rains. This being the case, one can successfully grow cherries on suburban places

(Continued on Page 342.)



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO.	PUBLISHERS
E. J. WICKSON	Editor
FRANK HONEYWELL	Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., May 26, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	T	35.79	44.57
Red Bluff.....	...	20.06	24.42
Sacramento.....	...	12.17	19.85
Mt. Tamalpais.....	...	24.60	22.53
San Francisco.....	...	17.34	22.00
San Jose .....	...	11.64	21.93
Fresno .....	T	7.61	9.48
Independence.....	...	5.29	9.35
San Luis Obispo.....	...	18.06	20.26
Los Angeles.....	...	11.71	15.52
San Diego.....	...	8.54	9.93

The Week.

The late rains to which we alluded last week as constituting a mixed blessing, were indeed, from all points of view, a light affliction, when compared with the suffering of the Rocky Mountain-and-on-to-the-Gulf region. For the blizzards that threw unseasonable snows into the mountain States changed into floods of rain as they reached farther to the South and begot torrents which swept away railways and streets, and on the farms in some parts of Oklahoma and Texas seemed to have torn away even the face of the earth. Even human life was paid for the violence of the storms, and habitations in considerable number were laid waste. In one place 20 inches of rain in 24 hours were reported. From Texas this is telegraphed as a general statement: "A terrific wind and rain storm swept Texas from the Panhandle to the Gulf early today. The destruction to crops and vegetation, trees and shrubbery was the greatest reported in years. In numerous places houses were unroofed, and small villages and hamlets in many instances were inundated by the terrific rainfall, which, in the space of four hours reached seven inches in many sections. The agricultural sections of central and southern Texas have been immeasurably damaged."

From such a text anyone should be able to preach for himself a great sermon of content in California.

The winter is the time to suffer from bad roads in California, and the summer is the time to talk about good roads. Mr. MacDonald's essay in last week's PACIFIC RURAL PRESS must be taken as a sample of the good things which will be well said at the special convention which will be held in Santa Cruz on Saturday, June 6. "Good Roads in California" will be the theme discussed. It is expected that resolutions will be adopted demanding a more aggressive road policy in the State, and plans will be laid at that time for a campaign to carry out the suggestions of the meeting. The gathering has been called as the ninth semi-annual meeting of the counties committee of the California Promotion Committee.

Many of the bright horticultural minds of California are intent upon improvements in the art of propagating English walnuts, as our columns for months ago have freely borne witness—how to get a larger percentage of successful unions of selected varieties upon the common English walnut seedling and upon the black walnut seedling, in the nursery, the orchard or the roadside, as the case may be. Of late the chief talk has been about grafting, and budding has been largely laid aside as more difficult and less successful. Mr. A. W. Keith of Selma kindly called the other day to tell us of his success with a new way of handling the walnut bud which he has hit upon. In taking a fresh bud from the new growth of the walnut he found the large leaf stem a serious impediment in firmly placing a shield bud upon the cambium of the stock and binding it there. Shaving it away with a knife left too much exposed tissue. If the leaf stem would drop off as it does when mature and leave a healed-over scar, the result would be a flat surface with only the bud protruding, and this could be easily bound in place so as to exclude the air. He tried cutting off the compound leaf, leaving a stub of an inch or so, and was delighted to find that a stub thus left became dry and parted from the stem just as mature leaf does in the autumn. By cutting off the leaves in this way about August 15, the stubs part readily before September 1, and then he takes off clean, flat buds and uses them just as he does in budding the peach, except that he leaves no wood behind the bud. He takes rather a large shield and puts it under the bark of the stock through a "T" cut, then wraps well with a strip of cheese cloth and waxes over the cloth with ordinary grafting wax. The wrapping is applied so as to cover most of the bark slit, everything beyond being waxed over. The bud is then allowed to remain dormant until the following spring. Mr. Keith is now getting a remarkable percentage of successful growth from buds put in in this way last year, and he rightly thinks that others may like to try. He takes the buds from the current season's growth and chooses stock shoots of the same age.

It certainly looks as though the newer San Francisco would have a much more rational system of selling country produce than the old city. This is apparently due to two reasons: First, Mr. Edward F. Adams, who took up the effort for a free public sale of country produce several years ago, has remained with the undertaking, as he usually does with whatever he takes up, in spite of all discouragements; second, the city now has supervisors who are not occupied with finding out what there is in a thing for them, as their predecessors did. The combination of both these potent influences is working notable results. Mr. A. H. Brod, who was recently named by the board of supervisors to make an investigation for the purpose of ascertaining the feasibility of establishing a "free market" in the city, has made his report. He urges an appropriation of \$18,000 to defray the expense of constructing the necessary market building and to provide for maintenance. The plan contemplates the erection of a building eligibly situated, to contain about 75 stalls. Already applications have been made for 50 of these stalls. Mr. Brod has been visiting various producing districts tributary to the city and finds the growers enthusiastic over the subject of a "free market." In several of the districts he says associations of producers have been formed, the idea being for such associations to secure space in the market, with a representative in charge to look after the interests of each association. The whole subject is one in which there should be a community of interest between city and country, and we are glad

to see that it is now being so regarded. Even if the supervisors do not make interest on their investment, every city consumer will be benefited by the intrusion of a regulating device into the city's produce trade. At the present time probably neither growers nor consumers are giving or getting, in quality and price, what they should, for reasons too numerous to mention. The public sale of produce has possibilities of widely distributed benefits.

It is quite American to go into a thing up to the neck when the requisite fervor is reached, and that is probably the reason why Americans accomplish so much. This wise reflection seems to cover the present forestry situation, for Uncle Sam is inclined to think that in addition to reservations of forests where he still owns them, he ought to be buying waste lands in States where there are no forests and make the trees grow on such lands. We are not sure but Uncle Sam is right. At least we are open to conviction on that subject, and the argument seems to be forthcoming. The U. S. Senate has just passed a bill appropriating \$100,000 to enable the Secretary of Agriculture to co-operate with States for the conservation of forests. It also provides for a commission of five members of the Senate and five from the House to study the whole question of the necessity, desirability and legality of the purchase of forest lands by the United States and to report to the next Congress. A number of the cut-over States are apparently willing to get back into the shade. Only the other day New York received 1,000,000 trees from Germany for re-foresting the Adirondacks, but we do not see why it is necessary to buy a million trees abroad when we have so many American nurseries which could so easily furnish them. That will probably be corrected. Certainly either the States or the Nation, or both, should get busy planting trees. In the last two years it is said that France has spent \$50,000,000 for re-forestation, in view of the enormous damage to property and the homes of the people by floods. The figures look large, and if true probably include many private investments in timber cultures. That is the way things are going, however.

Speaking about France, there is another lesson for us in French practice. According to a new law, all dealers are forbidden to sell wines and spirits the labels on which bear the name of any brand or seat of production unless absolutely authentic. If blended with the production of any other region or vintage, they will come under the application of the law. If such a name is used, it must be accompanied with the word "fantasies" (artificial) in letters of the same size and in full, as Champagne fantasie, if grown outside of the districts specified as forming the former province of Champagne. If produced elsewhere, the place of origin must be indicated. Dealers, wholesale or retail, must have their casks ticketed with the name of the place of origin if any indication is given. Even the word Bordeaux or Burgundy cannot be used if the wine is blended with that of any other region. The whole force of the law seems to be thrown toward securing for each producing region whatever credit or blame there is in the product. This is eminently just. The local lesson is found in the present complaint that dealers in one part of the State are sending their branded boxes to another part of the State to be filled with the fruit there grown. The result is that this fruit will be sold at the East with credit to the district which holds the shipper's store, although the fruit was grown 600 miles away. No wonder the region producing the goods objects to being shorn of its credit. The package should



show where the contents are grown, in just as large letters as are used in locating the shipper's trading place.

After all, Oklahoma does not propose to be worse wrong on the sulphur question than the United States is, which is some comfort. When Mr. Briggs was on his way there the Governor of Oklahoma telegraphed to him that the proposed law would be amended so as to conform with the National regulations, and these are now tangled up for two years in the referee board, so there is no use worrying about Oklahoma for a while.

We are not sure where we are on the eucalyptus. The interesting note from Mr. N. W. Blanchard in another column rather intimates that we are eucalyptus boomers, while the real boomers charge us with being pessimists. It looks as though we might be right in the middle, and therefore just right. We hope so. We are certainly sure enough about the outlook if one is content to regard it reasonably. It is interesting to note that Mr. E. O. Faulkner, head of the tie and timber department of the Santa Fe railroad, has returned from his timber quest of Pacific countries. His investigations in Australia will result in extensive eucalypti-growing experiments by the Santa Fe on its large ranch north of San Diego. His general conclusion is that eucalyptus is the timber of the future for California. The red gum, forest red gum and the sugar gum are good for railroad purposes, and are grown here now, and there are several other good varieties which will be introduced on the Santa Fe ranch. It may require 20 years to determine the value of some.

The Riverside Fruit Growers' Convention started an enquiry into the improvement of our horticultural laws and ordinances, and approved the appointment of a legislative committee to re-frame and revise the horticultural laws of California and advocate their enactment by the next legislature. Commissioner J. W. Jeffrey, who was chairman of the convention, has appointed the following committee: G. G. Kendall, Los Angeles; James Mills, Riverside; D. G. Overall, Visalia; Arthur R. Briggs, San Francisco, and Judge Peter J. Shields, Sacramento. The committee will hold its first meeting on June 3 in Sacramento.

## Queries and Replies.

### A Walnut Proposition in the South.

To the Editor: I own a lot of walnut trees about 16 years old, planted about 40 feet apart, the land is inclined to be sandy but at the same time carries a strong, rich sediment; the trees are not irrigated, the ground is moist to within 6 feet of the surface; the blight struck the trees pretty strong recently but they now seem to be coming out again all right and there seems to be a fair chance for a crop this season. I have been advised to use a sub-soiler, going two feet deep making two cuts between the rows of trees for the purpose of cutting the roots which seem to be crossing each other. If you advise using the sub-soiler how far from the trees would you advise going? How deep and at what time of the year? Would you advise using fertilizer? If so, what kind? I was thinking of planting peas in the fall and turning them under in the spring. Is that a good plan?—Owner, Los Angeles.

We can see no advantage in using a sub-soiler between your walnut trees, as you propose, unless you desire to open the sub-soil for a deeper penetration of irrigation water; as you do not propose to irrigate this operation would be purposeless, because it is not necessary to sever the roots of the trees in order that each may not invade the

other's territory. That is a matter which the trees will have to settle for themselves, and there is no objection to the interlacing of the growth if the trees are disposed to make it.

The question of fertilizing walnut trees is an important one, and the materials most likely to be needed are nitrogen and phosphates. The former you can largely supply by resorting to the winter growth of legumes as a cover crop, as you propose. How soon you may need further recourse to fertilization will depend upon the strength of the soil, and will probably be manifested to you by lack of thrift in the trees. So long as they grow well and ripen up the new wood, and are free from die-back, and produce good nuts, the soil conditions may be held to be desirable.

According to all accounts the blight is less aggressive this year in the various districts in Southern California. That is probably due to some weather conditions this year which do not favor it. The same thing is true of pear blights in some districts which were badly attacked last year.

### California "Bay Brewing" Barley.

To the Editor: I desire to know more about a variety of barley which is known at the east as "California Bay brewing." What is the origin of this variety? When and from what kind of seed was it introduced into California? I would also like to have a few sample heads for exhibition.—Barley Expert, Chicago.

We cannot give you any definite information as to the origin of the barley which you describe as "Bay brewing." The term "Bay brewing" is commercial, and was undoubtedly adopted years ago when the barley growing on lands adjacent to the south extension of the Bay of San Francisco was believed to be exceptionally suited, on account of plumpness, for brewing purposes, as compared with barley grown in the interior valleys. There was introduced into that district at quite an early date, the Chevalier; that variety when grown in that district would be entitled to the name "Bay brewing." It is impossible, therefore, for us to determine whether what you have as "Bay brewing" is a two-rowed Chevalier or the ordinary six-rowed barley which was introduced into California at a much earlier date, the origin and the source of which is at present unknown. As you probably have heads of the barley which has been grown at the east under the name you could at once ascertain whether it is the Chevalier or this local six-rowed variety whose origin is altogether unknown, unless subsequent investigation should disclose it. As, therefore, the term "Bay brewing" is, from our point of view, altogether commercial and geographical, we cannot tell what particular variety you are growing and discussing under that name, and cannot furnish you specimens of it for that reason. The only way we know of to settle the matter is to grow specimens of what you have as "Bay brewing" and have its identification established by cereal experts.

### Walnuts on a Coast Hillside.

To the Editor: Is it reasonable to plant English walnuts in the Santa Cruz mountains (or other foothills), 4 miles north of Santa Cruz? It is on a hillside with a very gentle slope to the north and east; the soil is part decomposed granite and leaf mold; part sandy loam. A portion of it is rather moist, I should judge, as there are occasional clumps of tules, though the surface is dry and firm. This could be drained if necessary. If drained what method would you suggest? The elevation of the land is about 400 feet. The ocean lies to the west about 3 miles distant. A ridge some 200 feet higher lies between the ocean and the land in question and immediately behind the land, which would offer protection from ocean

winds. I have not determined the depth of soil. Do you think this a proper location for walnuts, and is the soil suitable? What variety of walnut would you suggest for this location and where could young trees be obtained?—Beginner, Santa Cruz.

The situation you describe might produce good walnuts, providing: first, that water does not stand too near the surface; second, that the soil is deep enough so that the trees will have sufficient soil to draw upon for plant food and moisture; third, that they will not suffer for lack of moisture during the latter part of the summer. Parts of the tract which are too wet can be drained by ordinary processes of under-draining with tiles laid at a depth of about three and a half feet, providing you have an outflow for the water at that depth. Four or five feet of free, good soil would be about the minimum requirement of the tree, and twice as great depth would be desirable. It is true, though, that walnut trees are growing fairly well on shallower soils, where irrigation and fertilization are practiced as the trees may need them. The variety which, according to our present knowledge, would be most likely to be satisfactory would be the Franquette, grafted on the California black walnut root. Trees can be had from nurserymen advertising in the PACIFIC RURAL PRESS.

### High Ridge Land in the Coast Range.

To the Editor: Would you advise me to plant vines on a high ridge in the Santa Cruz mountains which was planted with vines 25 or 30 years ago? At present the grape vines have nearly all been dug up, having been attacked by phylloxera. Would it be advisable for me to plant to vineyard or trees the coming season, or would you advise me to sub-soil and fertilize for say two to three years, planting it each year to hay? I have planted where vines have been taken out to hay this year, but it is a poor stand. Of course this year is an exceptionally dry one, so could not expect much of a yield. Would it be necessary to send a sample for analysis so that you could tell me what is lacking, and what would be best to plant it to? The above-described land is of a clay nature and each year vegetation is very scant. There is about 20 acres of orchard (full grown) which seems to be in the same condition. We purchased several hundred pounds of superphosphate to put on the orchard where it seemed so poor. Is this the right way to get the soil back to its normal condition?—Highlander, Santa Cruz county.

You will be wise to postpone the planting of grape vines until you have an opportunity to inform yourself more thoroughly as to the phylloxera and as to the general behavior of the grape vine in your district. We have had some opportunities for observation in your district and have the impression that there are many places where, in spite of the abundant rainfall, moisture enough is not retained and available for late summer growth of fruit trees and vines. No doubt much of the disappointment you suggest has resulted from lack of sufficient cultivation and to some extent, probably, from soil exhaustion, and you cannot use time to better advantage than in studying this summer the condition of fruit plants on different elevations and exposures, and endeavor to ascertain how much can really be accomplished by thoroughly good cultivation and how much failure must be attributed to the unsuitability of the situation for fruits. Superphosphate is usually required in California soils, but there is also generally a sharp need for increase of the humus content, which can be accomplished by growth of leguminous plants to be plowed under before maturing. Without this provision it is not likely that you will get full benefit from superphosphate. It is not necessary to make analysis on land which has been cultivated for some time; the plants themselves can tell you what is required if you make small scale applications of different kinds and watch the results.



## Horticulture.

### HEALTH AND DISEASE IN THE CITRUS TREE.

By Prof. R. E. Smith, Superintendent of the Southern California Plant Disease Laboratory of the University of California at the Riverside Fruit Growers' Convention.

To define health and disease, particularly as applied to cultivated plants, is by no means easy. While we all have a general idea of the conditions indicated by these terms and conceive of the two as opposed to one another, one being that which the other is not, yet a definition of each and a sharp drawing of the line between them is difficult. In the case of commercial crops, and even more especially with citrus fruits, it is often true that the condition of the plant or the nature of its product most desired for commercial ends may not be synonymous at all with the normal, natural development which we ordinarily regard as health. On the other hand, an unproductive condition or the development of undesirable qualities may be most disastrous commercially, and yet not indicate a condition of disease or anything abnormal in the natural development of the plant. In other words, the perfection of desirable commercial qualities is by no means the same as perfect, normal, natural development or natural health. The fact is that the work of the plant pathologist in California, particularly in the case of citrus fruits, is not limited to the study of actual disease and the means of avoiding it. He is rather called upon to advance commercial perfection and learn how to overcome conditions which are undesirable from this standpoint, whether they be ones of actual disease or not.

Disease in the ordinary sense is the effect of some cause or condition which interferes seriously with the normal functions of organic life. We commonly understand such a condition as one of a somewhat more complicated nature than that resulting from a simple injury.

**Parasitic Organisms.**—The causes of plant diseases are many. Most important ordinarily, or at any rate most easily accounted for, are those which are caused by the action of what we call parasites. Parasites are living organisms, either of an animal or vegetable nature, which live at the expense of other individuals, usually growing closely associated with their tissues and drawing nourishment from them. The plant pathologist does not ordinarily undertake to investigate cases of parasitic injury caused by insects, as the subject of entomology has become a large and important one. Plant pathology is, in the usual sense, the study of all diseases or troubles with plants other than those caused by insects. The parasites with which the plant pathologist has to deal are mostly of a vegetable nature and are largely of the class known as fungi. The fungi are real plants of a low order of development, many of which are parasites to a greater or less extent upon other plants. A great majority of our best known plant diseases are caused by fungi, such as the rusts, smuts, mildews and many blights, rots, etc., from which very few of our commercial crops are free. A number of other plant diseases are caused by bacteria, organisms of a still lower class, forms of which are responsible for most of the serious animal diseases, but of which only a comparative few affect plants. Some of the most distinct bacterial plant diseases are the pear blight and walnut blight, both well known in California.

**Unfavorable Growing Conditions.**—Aside from the troubles caused by parasites it is well known that plants are affected in most various manners by influences resulting from the conditions under which they grow. Vegetable life is dependent upon certain indispensable factors which, acting in the proper degree, contribute to the normal development of plants. These factors may also vary to a considerable extent, without seriously

affecting the life or condition of the plant, but beyond certain limits their influence results in injury, or may go still farther and bring about a condition which may be classed as a disease. The factors to which we refer are those upon which all plant life depends, namely, moisture, temperature, light, chemical food elements and freedom from other influences which might cause injury. In regard to these different factors, their general influence upon plant life is well known. We are all aware, for instance, that water is indispensable, but that either too much or too little is injurious. Also that the same is true in regard to sunlight, heat, cold and chemical food elements. While an excess of any of these factors may produce a very evident injurious effect on the plant, scarcely different from a mechanical injury, yet, when relative conditions in regard to these essential factors become complicated, we may and often do get results upon plants which are strictly of the nature of diseases with definite symptoms, in which it is very difficult to establish definitely a simple succession of cause and effect.

**Feeding the Trees.**—We must further consider the fact brought out at the beginning of this paper, that simply a condition of natural health is not sufficient to satisfy commercial requirements, but that certain definite standards are set up of quality and quantity of the product, some of which may be radically different from those which nature, so to speak, intended. From this standpoint the control of the effect of natural conditions upon cultivated plants may be of even greater importance in relation to these more or less artificial qualities than as simply affecting ordinary health. Horticultural conditions in California are of such a nature as to make this phase of the subject of particular importance. Our crops are grown largely under conditions which are entirely artificial, the plants themselves being natives of other portions of the world, and grown here in places where the conditions which nature ordinarily supplies are largely under the control of man. Two factors particularly, those of irrigation and fertilization, are of the greatest importance in this connection. In the citrus industry we plant a tree in a place where it would perish almost immediately without constant attention and have at our disposal to withhold or supply in any desired amount two of the most important factors in plant life, water and soil food. The amount to be supplied, the time of application, frequency, and many other most important considerations are very largely in the hands of the grower, and the growth of the tree, its health, life and development, as well as the quality and quantity of its fruit, depend almost entirely upon the manner in which the grower handles these controllable factors. It is further to be said that there is no tree more sensitive or easily affected by conditions of this sort than the orange or lemon.

**Citrus Troubles Not Parasitic.**—To come directly to the subject which we are expected to discuss, we may say in general that in our investigations of the diseases of citrus trees in California we have found almost nothing which may be ascribed to the effects of any parasite; that is to say, we know of no important citrus disease which is caused by any fungus or bacterial organism, or anything of that nature. If we except decay of the fruit and a very few exceptional cases of disease of the tree, the above statement may be made an absolute one. It is true beyond all question that our most serious troubles with citrus trees in California are the effects upon the tree of unfavorable natural conditions, and not those of active parasites. Some of these effects, it must be confessed, are at present most obscure and difficult or impossible to account for in any satisfactory manner. Yet the study of the various diseases and of the nature of the tree itself has been sufficient to show that this is true.

**How Trees Grow.**—In connection with the effect of natural conditions, such as temperature, moisture, food elements, etc., upon the growth of plants, two peculiarities of the citrus tree may be mentioned here. The first relates to its manner of growth. Most of our ordinary fruit trees are deciduous. Their life each year is marked by a period of growth during the summer and a period of rest during the winter. In their woody stems and branches the substance formed each year takes the form of an annual ring, the number of

which corresponds very closely to the age of the tree. These rings are visible on account of a difference in the structure of wood formed in spring and during the summer. At the beginning of each growing season large amounts of sap circulate in the tree and the first wood which forms at this time has a very coarse, porous structure, being composed of comparatively large open vessels which are mechanically adapted to conducting the large amounts of sap which are flowing at this time. As the season advances the woody growth in thickness becomes less, the amount of sap diminishes and the wood now formed has a closer, denser structure with much smaller vessels, until finally, toward the end of the summer, growth ceases altogether. The next spring another porous coarse layer is formed outside the fine grained wood of the previous fall, and from this difference in structure the annual rings are visible to the eye. The difference is also of importance, as just pointed out, from physiological reasons, the coarse-grained spring wood allowing the passage of the large amounts of sap which are flowing in the tree at that season.

In the citrus tree a number of growths take place each year. Each of these is marked by a definite ring of wood in the stem and branches, so that if the tree makes five growths during the season, five rings will be found in the wood for that year. The fact pointed out above that the structure of the wood is of great importance as permitting or obstructing the flow of sap is the vital one in this connection. Citrus growth, while having a certain normal regularity under uniform conditions, responds in a very marked degree to the treatment which is given the tree, particularly that in respect to moisture. Growth naturally follows an abundant water supply and vice versa. If then the water supply should be extremely irregular disastrous results may follow from this peculiarity in the growth of the tree. During a period of dryness the woody tissue which serves as a channel for conducting the sap becomes dense, fine grained, and of poor conducting quality. If the tree is then suddenly supplied with a large amount of water its trunk and branches are not able to conduct that which is sent up from the roots and complications may result. Further than this the citrus tree is one in which the flow of sap from the roots is extremely free and abundant. One needs but to cut off the top of a vigorous orange or lemon tree and then supply the root abundantly with water to discover the remarkable freedom and promptness with which the excessive amount of water is sent up by the root into the trunk.

**Gumming.**—The second peculiarity of the citrus tree alluded to above is one which it shares with the cherry, peach, apricot and other stone fruits and a few other plants. This is a tendency to form and exude masses of a gummy substance as the result of injury or even from unfavorable natural conditions. The gumming is due to complicated physiological processes in the tree and occurs in the trees mentioned, often very profusely, from a great variety of causes. It may be due to mechanical injury, to the effects of fungi, as seen, for instance, in the peach blight, or simply to physiological derangements in the tree. The gumming disease may be likened to a form of indigestion, or in some degree to the abnormal activity of the mucous membranes seen in a person suffering from a cold.

In taking up now in detail some of the more prominent diseases to which citrus trees are subject in California, we would not be understood as maintaining that they may be all easily explained as due to easily seen effects or evident causes, or that they may be easily remedied by simple rules of irrigation, cultivation or fertilization. We mean rather to simply express a belief that these troubles are of the nature described, even though complicated and obscure and difficult of treatment in many cases.

**Gum Disease.**—Under this general term are included several troubles of a more or less distinct nature. Of these may be mentioned particularly the Gum Disease of the Lemon, the Sealy Bark of the Orange, and the true Gummosis, or Mal di Goma of Europe and Florida. The last mentioned disease is quite distinct from the common forms of gum disease which occur in California. It is characteristically a disease of the root rather than of the trunk and may be described as a root



rot, more than a simple gumming. We have seen this trouble only in a very few instances in California. It affects the tree mostly from the surface of the ground downward and shows itself as a softening and decay of the bark, finally affecting the whole root. So far as seen here it appears to be due to an excessive amount of moisture about the trunk, particularly when accompanied by banking of the earth closely around the tree above the normal height.

The Gum Disease of the Lemon manifests itself as a breaking out of gum on the trunk, usually between the point of budding and the main forks of the tree. This disease has been much discussed of late in the horticultural press and elsewhere and the conditions which produce it are quite generally understood. It is without question entirely physiological and not brought about or concerned in any manner with any fungi, bacteria or other parasites. It occurs almost always in heavy ground in places where moisture is too abundant, and particularly where the soil has become compact about the trunk above the point of budding. Instances are practically unknown of lemon trees being affected, save under conditions of this sort.

The lemon gum disease may be avoided in no other manner than by avoiding these conditions which bring it about, or when once started may be remedied in no other manner than by improving said conditions. This may be done very largely by cultural means, consisting of loosening the soil thoroughly about the trees, uncovering roots which are too deeply buried, avoiding saturation of the soil close about the tree, and, if feasible, replacing the heavy soil with sand or gravel in a circle about the tree. If planting in soil which is manifestly liable to the disease, two things are strongly advisable. First the use of the bitter orange or so-called Florida sour stock for a root, the second the practice of high budding, working the tree about fifteen inches from the ground. In the case of trees already affected it is often advisable to remove the bark which has become separated from the wood and killed by the exudation of gum, in order to give an opportunity for new bark to form and the wound to heal over. This treatment is in no sense a remedy for the disease, but simply a method of wound treatment as might be applied in the case of any injury. All bark which is badly affected should be stripped cleanly from the tree, trimming neatly about the edges of the sound bark, and the exposed wood should then be covered with some material for which a wax composed of four parts resin, one part bees-wax and one part raw linseed oil, boiled together and applied as a liquid with a brush, is as good as anything. It is also advised to slit the bark of affected trees up and down the trunk in several places. Orange trees are sometimes affected in very wet ground.

**Scaly Bark.**—The Scaly Bark of the Orange is of a nature much less easily explained. The manner of its occurrence, affecting the trees here and there about the orchard, makes it difficult to understand how it can result from conditions which seem practically alike all over the orchard. The disease is limited to the sweet orange, not affecting the lemon, grape fruit or other species, and is much more common on seedlings and Navels than on the Valencia. It manifests itself as a scabby, gummy breaking out at any point on the trunk or branches, and usually keeps spreading about the trunk or along the branch from year to year. We can only say in regard to the nature of this disease that the condition of the affected tissues when studied with the microscope is similar to that in the lemon gum disease. There is the same breaking out of gum through the bark, with the difference that in this case it is less abundant and active and takes the form of a mild irritation which keeps the affected area continually spreading at a limited rate. In our opinion the disease is connected with an irregularity in the flow of sap up into the tree, starting primarily in an irregular water supply to the roots, the trouble resulting from interference with the flow of sap on account of the structure of the wood, as has been previously mentioned. We feel quite well satisfied that the disease starts as a result of an abnormal relation between the flow of sap and the structure of the wood which should conduct it, however obscure may be the cause which first brings this about. We have seen cases of successful treatment of scaly bark areas on

orange trees, when not too large, by cutting out all the affected part and covering the wound with the wax described above. In doing this it is necessary to cut away all bark which shows discoloration between it and the wood, beyond the portion where the surface shows the scaly condition. This is found particularly just above the visibly affected portions. The practice of covering portions of trees affected with scaly bark with a thick paste composed of lime and sulphur is sometimes resorted to. We have not been able to observe any decided or permanent benefit from this treatment.

**Florida Die Back.**—Florida Die Back, or Exanthema, is another disease which may be included in this class and occurs to some extent in southern California. This is a disease of very pronounced symptoms both on the fruit and twigs. It affects particularly the orange. The affected oranges show dark brown discolored patches on the side, and from these places the fruit often splits. The oranges have a characteristic pale yellowish-green color and are quite sweet when not more than half grown. The branches die back from the tips, send out clusters of small shoots from the twigs, and the bark of the latter breaks out in corky protuberances or pustules. More or less gumming is associated with the latter. This disease is described in Florida as being due to an excess of organic nitrogen in the soil. That this is not entirely the case, but rather that its cause is more complicated than this is shown by the appearance of the trouble in this State, where it is limited almost entirely to a certain type of soil. This is the coarse, granitic, very porous soil which is found particularly along the base of the mountains in various places between Highlands and Pasadena. On such soils the Florida Die Back is of quite frequent occurrence. There have been a very few cases of the disease on heavier soils where the Florida experience seems to hold true, all the instances on such soils of which we are aware having been associated with very heavy applications of fertilizers rich in organic nitrogen. In the case of the type of soil mentioned, however, the disease occurs very severely in many instances where only moderate amounts of fertilizers have been applied. The most pronounced quality of this soil is the free passage which it affords to water. It becomes very wet during irrigation, but unless water is applied very thoroughly and carefully and quite frequently the upper soil becomes absolutely dry between irrigations. This soil also takes up water very poorly in a lateral direction, so that the space between the trees and much of the whole body of soil becomes extremely dry in many orchards. The disease appears to be brought about in some manner through an irregular food supply, resulting from the irregular water supply which trees get in this soil unless irrigation is particularly well carried out. With trees which are not well fertilized the effect is simply one of ordinary die back. True Exanthema seems to result where the soil is of the type described and a fair amount of fertilizing material has been applied. It is apparently a sort of indigestion in the tree, more food being taken up during irrigation than the tree can take care of after it gets into the condition of dryness which follows. On heavier soils the same thing occurs only where very excessive amounts of nitrogen have been applied.

Cases of ordinary die back, failure to grow, poor development, mottled leaf, poor production, barrenness, etc., are of very frequent occurrence, but cannot be ascribed to any one cause or considered as representing any special form of disease. These conditions result in a great majority of cases from failure of good cultural methods or unfavorable conditions in the location of the orchard.

**Puffing and Splitting.**—With the orange the fruit itself is affected by two very characteristic troubles, both apparently due to irregularities or abnormal conditions in the development of the fruit, from causes which cannot be fully explained. We refer to the puffing and splitting of the fruit. We can give no information of definite value as to the exact nature or means of control of these troubles.

In regard to the treatment or means of avoiding the various diseases which have thus far been mentioned we can give no absolute rule to fit all cases, but in this connection the following re-

marks by Mr. C. C. Chapman, at the Citrus convention held in Riverside in January, 1907, are very suggestive. "There are certain general conditions which I believe are applicable to all of southern California. First I think it is an essential requirement that you should keep your grove absolutely in an even condition, never have it call for anything, never have it need irrigation, never have it need fertilization, never have it need anything, so far as indications are concerned. That is, you don't want a grove to show you that it needs anything. You don't want it to arrive at that condition where it will show this."

We can give no better advice than to emphasize what Mr. Chapman has said as to the importance of maintaining a uniform, even condition and growth of the citrus tree, avoiding all extremes and sudden changes which would tend to produce irregular development. Whatever may be the exact nature and cause of these obscure troubles, it is certain that they all have their origin in irregularities of growth or functions as influenced by natural conditions or the treatment which the tree receives. The peculiar sensitiveness of citrus trees to the effects of such conditions makes it particularly important that their vital processes be kept in a uniform condition, free from violent shocks. So far as climatic influences are concerned this cannot be entirely accomplished, but in his manner of soil treatment as related to irrigation, cultivation and fertilization the grower should study each peculiar type of soil most carefully, endeavoring to maintain the most uniform possible condition as to water and food supply.

These troubles being of a physiological or auto-genous nature, rather than the effects of parasitic organisms, any application to the tree of the nature of a fungicide or insecticide is ordinarily out of the question. In the case of the Florida die back beneficial results have been claimed from spraying with the Bordeaux mixture, in which case it is possible that the application of this substance to the foliage has had some physiological effect.

"Brown Spot," which has been so much in evidence during the past season, is another trouble affecting the orange fruit. In regard to this we can only say that it consists in a dying of the rind of the orange in certain spots, drying out and turning brown. What causes the rind to die in this manner cannot at present be explained. Troubles of a somewhat similar sort are found in the lemon, though fortunately they are not of extensive occurrence.

Of the fungous and parasitic troubles which affect our citrus fruits we have, as has already been stated, very few, except those which cause the decay of the fruit. Apparently the one fungous disease affecting the citrus tree at all in California is a root rot, which occasionally occurs in citrus orchards, though more commonly in those of deciduous fruits. This disease is commonly found on land which has been cleared from a growth of oak trees, a situation which is not common in the citrus districts. The trouble consists in a rotting of the roots of the tree caused by toad stool fungi which propagate on the decaying oak roots in the soil. We have known of one instance of this trouble occurring on orange trees.

**Rot Fungi.**—Of fungi causing decay of the fruit we have a number.

The Blue Mould Fungus causes the ordinary form of citrus decay. There are two different species of this mould quite common in California, the more usual of which, the olive green form, is *Penicillium olivaceum*, while the bright blue form, which is less common, is *Penicillium italicum*.

The Brown Rot of the Lemon, one of the most active forms of citrus decay, is caused by a fungus which has been named *Pythiaecystis citrophthora*.

Another virulent form of lemon decay, which fortunately is not of very common occurrence, is that caused by a species of *Sclerotinia*. This fungus produces an abundant growth of white mould resembling a mass of cotton, which grows over the lemons in storage very rapidly.

During the past season a large amount of decay of Navel oranges has been caused by the so-called "Black Rot" or "Navel End Rot." This is not a new occurrence but was more abundant than usual early in the past season. It is caused by a black mould fungus (*Alternaria*) which is not an active parasite, but infects Navel oranges to some extent when moisture is abundant.



## The Vineyard.

### AN AUTOMOBILE VINEYARD WORKER.

Mr. John H. Wheeler of St. Helena graduated from the College of Agriculture of the university nearly thirty years ago and has ever since that time devoted his efforts to agricultural progress, both upon his own property and by general work for the industry. Within a year after graduation he established the manufacture of Wheeler's Carbon Bisulphide, upon beginnings which he undertook while still a student, and this work still stands as evidence that a diligent student can connect up at once with the affairs of real life, which some people claim to doubt. We do not undertake to prepare a biography of Mr. Wheeler, but merely state that his subsequent career has been what one would anticipate from his beginning, and proceed to give an account of his latest achievement, drawing from the columns of the St. Helena Star such details as seem most important.

A great deal of interest has been manifested by local vineyardists in the experiments of J. H. Wheeler of Zinfandel with a vineyard tractor by which he can plow, harrow and cultivate his extensive vineyards near St. Helena. About two years ago Mr. Wheeler began planning to have constructed a traction plow, having for its motive power a gasoline engine. After studying over the subject carefully he became convinced that a machine such as he had in mind could be built that would be successful for vineyard work. Mr. Wheeler entered into correspondence with eighty-two builders of traction engines, but nothing suitable for vineyard work could be found nor constructed. A Stockton firm finally undertook the work of building this special machine to order. Great care was taken to get the best engine and the many parts were assembled at Stockton from the East, and wherever they could be procured, and the machine was finally constructed and during this spring has been placed in operation.

Some bearing vineyards in Europe have been for many years worked by steam donkey engines, by means of which windlasses at the two ends of the vineyard haul the plows and cultivators back and forth with a wire cable. Other vineyards in Germany have been wired at the ends to employ electricity for the same purpose. But it remained for California to produce the first traction engine which should, self-propelled, invade the vineyard directly and by means of explosive engines accomplish the work that has heretofore been exclusively performed by horses, mules or hand labor.

To perform the work of twenty mules calls for an equal weight. To secure the proper traction or grip on the loose ground required from twelve to fourteen tons. This weight would be too great to place on the limited clearance of the usual seven feet of space between vines; therefore the bearing reaches two adjoining rows, thus raising the frame or bed four feet off the ground to let one row of vines pass untouched under the machine. Herein lies, in part, the invention or patent claimed by Mr. Wheeler—the "straddle the row" principle.

**The Outfit.**—The highest type of slow-speed, water-cooled gasoline engine is used—400 revolutions per minute—with four upright cylinders to provide uniform draft. For emergencies its normal forty horse power may be increased very much by raising the speed. The engine was specially constructed for the purpose by the Buffalo Gas Engine Co., of Buffalo, N. Y. A small generator, propelled by the fly wheel, furnishes the spark and the distillate which is employed flows directly from a raised supply tank to the float-feed carbureter. This tank carries one hundred and fifty gallons—enough for about four days' run. A small air compressor, also operated by the engine, supplies, through a small storage tank, the power to raise and lower the vineyard tools at time of turning the engine or to clear them of weeds or other obstructions. The simple turning of a valve at any moment serves to raise the heavy plows or cultivators out of the ground, lifting them several feet or restoring them to their proper working level at the will of the operator.

**Its Operation.**—Two operators are required; one to attend the motor and one to direct or steer.

It can be run entirely by one person, but two are needed to attend to all its requirements most efficiently. The length of the tractor is 14 feet; width 11½ feet, thus requiring about 20 feet in which to turn. Vines are cleared easily and safely—much more completely than with team work where doubletrees are employed. At a cost of \$8 to \$10 per day it will perform the work of twenty mules, which, with drivers, cost twice this amount. The machine may be employed twenty-four hours per day if work is rushing and is no expense when out of use. The greatest trouble has been to provide and adapt the vineyard tools available for this work. This calls for much attention and experiment. Disc plows and cultivators work best, but other forms have proved efficient. Turning at the end of rows is troublesome, but the tractor reverses and backs just as easily as it moves forward. Its initial cost rules it out of small vineyards and it would not be practical for hilly land.

Mr. Wheeler did much of his plowing and practically all of his cultivating with the tractor and is much pleased with results. The cultivator blades are worked at a greater depth than had they been moved by teams, thus loosening the soil much better than by the latter method. This should increase the yield of grapes, thus adding to the yearly profit of the vineyardist.

Now that Mr. Wheeler has demonstrated the success of his invention so that it merits investigation, doubtless the owners of large vineyards throughout the State will become greatly interested, and will find in this vineyard tractor a machine that will expedite work and at the same time curtail the expense of plowing and cultivating the vineyard.

## Agricultural Science.

### EXPERIMENT STATION WORK IN SOUTHERN CALIFORNIA.

The regents of the University of California have adopted the following general schedule of work for the Southern California Plant Disease Laboratory at Whittier and the Citrus Experiment Station at Riverside for the year 1908-09:

To continue at the Plant Disease Laboratory at Whittier (which has been satisfactorily completed and equipped during the past year) studies of the walnut blight bacterium in connection with orchard observation of varieties which are disclosing effective resistance to the disease. The work of the last year clearly indicates that grafting from seedling trees, which have persisted in bearing profitable crops in the midst of orchards seriously reduced in their total product by the blight, affords an immediately available means to increase production. The search for such trees, critical pomological and commercial study of their product and experiments with different methods of grafting will be diligently pursued both upon our own grounds and in the orchards of co-operating private owners.

The work with tomato blight, which yielded strikingly valuable demonstration of the value of preventive spraying on the laboratory grounds during the last year, will be continued, especially in relation to the control of the disease on a large scale by co-operation with local growers.

A new line of investigation and control experiments will be taken up with a fungous blight of the celery which occasioned large losses just before the crop was harvested last year. A large acreage will be handled in co-operation with growers.

A study of the so-called "brown spot" of the orange, which injured much fruit during overland shipment the past season, will be undertaken; the investigation of the keeping quality of lemons during shipment, of the various forms of gum disease, and of other obscure troubles of citrus trees will be continued.

The entomological rooms at the Whittier Laboratory will be equipped and a qualified resident entomologist will be assigned thereto. Systematic reconnaissance of injurious insects in Southern California, with collections and studies of life histories of relatively most important species, will be begun. Special attention will be given at first to the orange thrips and to plant lice seriously

attacking the cantaloupe, cabbage and other truck crops of great commercial importance.

At the Citrus Experiment Station at Riverside the pomological research collection of citrus fruit varieties planted last year will be brought forward under good growing conditions and some additional planting of fruit and forest trees will be undertaken.

Experiments looking toward securing specially fine varieties of the present most popular types of citrus fruits will proceed by wide selection and propagation of promising variations, and observations upon relative value of different stocks for citrus fruits will be continued.

Experiments in irrigation and fertilization of citrus trees, for which the station grounds have been carefully prepared and planted, will be carried on, and soil studies with relation to fertilization, irrigation, and tillage will be pursued. A qualified expert will be provided to have particular charge of the work and he will be furnished with laboratory facilities in the station buildings.

The treatment of bearing trees secured by co-operation with southern California owners, to demonstrate new and important facts in fertilization and culture practice, will be continued by the same expert.

### CHERRY GROWING IN CALIFORNIA.

(Continued From Page 337.)

where there is not just the soil which one should resolutely insist upon if he is to invest time and money in a commercial cherry-growing proposition. Cherries should have 24 to 28 feet of distance in planting—perhaps a little more in very deep rich soils. They should be headed low and pruned to three or four main branches balanced around the short trunk. Upright growers like the Black Tartarian should be spread by cutting to outside buds, while more irregular growers, like Royal Ann, may need an inside bud now and then to send a branch upward. Cherries need not be cut back after secondary and tertiary branching has been reached, although high branches beyond reach of economical picking may be cut out without injury to the tree. The cherry seems to stand severe cutting early in the growing season, and heals wounds rapidly.

In California, on deep, well drained soils especially, the mazzard root makes a large and healthy tree, while the mahaleb is to be used on shallow soils where both water excess and deficiency are likely to be encountered. Double working is resorted to in the case of varieties which do not take well on the mahaleb. It is an interesting fact that at the East it is difficult to buy sweet cherry trees on the mazzard root; on this Coast it is difficult to buy them on the mahaleb. This fact is an exponent of the superior growing conditions on the Pacific Coast.

Choice of varieties depends upon whether the grower wishes to strike the early market or the eating and canning trade in the middle or late season. As already stated, the question of color is full of oscillations. For early cherries the Purple Guigne and California Advance are the main reliance. For blacks, later in ripening, the Black Tartarian, Llewelling (Black Republican), and Bing; for whites, Royal Ann, Rockport, Centennial, and Governor Wood are chiefly grown.

Recently the market for white cherries has been greatly helped by the maraschino manufacture for eastern shipment. In this process the fruit is bleached in sulphurous acid-water, then dyed red with aniline, and preserved in spirits. Whether this production is to be affected by pure-food regulations and prohibition waves, we have not yet heard.

Cherry growing on the Pacific Coast has now its particular festal occasion. It is the Oregon Cherry Fair. Although the exact date has not yet been fixed, great progress is being made.



## AGRICULTURAL REVIEW.

### BUTTE.

Cannery plants at Chico, Marysville, Yuba City and other points are being made ready for the season's pack of fruit, which is expected to be unusually large this year.

A San Francisco firm has made an offer to contract for 5000 acres of flax if the land owners of Gridley will take up the industry. Flax has been grown successfully in small quantities.

At a meeting in Chico of the hay-balers of Butte and surrounding counties a price of \$2.25 per ton for baling was unanimously agreed upon. This applies to hay baled from the stack or raked to the baler. The baler is to furnish the wire and board the crew. This rate is the same as agreed upon at a recent meeting of balers in Yolo and adjoining counties, as reported in the Bee.

C. W. Simpson of Honcut has completed arrangements for dipping the last band of sheep in this section. A total of over 11,000 sheep has been dipped under his supervision, each sheep being dipped twice. He reports that while scabies was found infecting the flocks, yet the sheep here were the cleanest in the country. The work of dipping the sheep is almost concluded and all the flocks will have been driven to the mountains in a comparatively short time. Sheepmen report that the pasturage in the mountains is fairly good. Despite valley conditions as to rainfall, there has been sufficient snow and rain in the mountains to make the feed average that of normal years.

### FRESNO.

Notwithstanding the recent frosts, apricots will make about 60 per cent of a full crop, and peaches will go fully 75 per cent. The grain hay crop will go about half, and alfalfa is yielding well. Some last year's hay on hand. Grapes promise a big yield. A considerable part of last year's raisins are still unsold.

### IMPERIAL.

The 8000 acres of cantaloupes in the Imperial valley have been reduced to about half, from the effects of a two weeks' wind that prevailed in the valley recently. The first shipments of melons are now on the market.

A grower in Imperial Valley had arranged to plant his tract with dates of the approved varieties; but has become so thoroughly convinced of its excellence as asparagus land that he will divide it, placing half in dates and the other half in asparagus.

### LOS ANGELES.

The Lankershim Deciduous Fruit Association have decided to dry their peaches and apricots and hold for good prices. Their output is expected to be about 1100 tons.

R. M. Teague of the San Dimas nurseries has sold his entire output of over 100,000 citrus trees already this season. The prices averaged a little better than \$1 each.

Harry Rose has contracted his hay crop of 300 acres, near San Gabriel, to the Baldwin racetrack at \$30 per ton. His crop is estimated from a ton and a half to two tons per acre.

An effort is being made to carry from Santa Rosa island to the mainland 20,000 head of beef cattle re-

cently purchased by a Chicago syndicate for delivery in that city. The deal is one of the largest in this part of the State in many years.

### MENDOCINO.

Sebastopol Times: On account of the poor outlook for hops, and the lack of rain necessary to plow hops for pruning, it is reported that there will be about 300 acres of hops not worked in Mendocino county this year. Many of the growers fear that they will again lose this year and rather than take any chances decided not to work the crop. Some went so far as to plow up the hops entirely. Others are going to plant beans, corn, potatoes, beets, etc., between the rows and try to get a little something from the ground that can be utilized for feeding stock.

### MERCED.

The Crocker-Huffman Co. has decided to place on sale, in small tracts, 10,000 acres of good land with plenty of water. The land lies between Merced and Atwater.

### MONTEREY.

Pajaronian: Work in the experiments for the control and eventual extermination of the destructive tussock moth or horned caterpillar continues in the laboratory of W. H. Volek. The results that are being obtained are most satisfactory. The formula which kills the insect does its work effectively and almost instantly. In a few weeks further developments in the experiments are expected.

Salinas Index: Apricot thinning is almost over around Aromas and Dunbarton. In some orchards apricots have cracked very badly, particularly on young trees. Newton Pippin and Belleflower apples are falling badly in many orchards. Some orchards will have a very light crop of those varieties. Orchardists sprayed very generally with the lime-sulphur solution this season, with a marked beneficial effect on their trees. Traces of apple scab are exceedingly hard to find so far, but wise orchardists are using the Bordeaux mixture with their first spraying for codlin moth. No one can foresee what a foggy spell may bring up in the scab line. Sappy bark disease, or sour sap, has injured a very large number of apple trees. Corrosive sublimate is a positive cure for it. It is a fungus disease and is not caused by the growth of poison oak on the land previous to the planting of apple trees, as some suppose.

### SACRAMENTO.

The great tract of 44,000 acres of land along American river, known as the old Norris grant, has been sold to a Milwaukee syndicate for \$2,000,000 and is to be cut up into small holdings. This, with the 45,000 acres in the bottoms near Sacramento already arranged for reclamation, ought to help increase the population of that section of the State.

### SAN BENITO.

Advance: It is an ill wind that blows nobody good. The warm weather of the early spring, followed by a cold snap, had the effect of destroying all the grasshopper eggs in the San Joaquin valley. The vast alfalfa fields will be free from the ravages of the pests this season.

### SHASTA.

Shasta county citizens are petitioning the supervisors to offer a \$5 bounty on coyote scalps.



This Trade-Mark is  
on Every Roll of

**REX** FLINTKOTE  
**ROOFING**

There are just two ways to tell REX Roofing—one is by the service it gives, and the other is by the Boy trade-mark on every roll. Imitations are made that have an outward resemblance to REX Flintkote, but you can't tell anything about the service until after the roofing is laid; so it will pay you to fix the Boy trade-mark in your mind before you start out to buy. It means advance assurance of satisfaction.

**Write for Book and Samples—Free**

The book will tell you all about REX Flintkote ROOFING and give photographs of buildings on which it is used, with letters of recommendation from users. The samples will show you what REX Flintkote ROOFING really is and enable you to test its properties.

**J. A. & W. BIRD & CO., 91 India Street, Boston, Mass.**

Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

### SONOMA.

Healdsburg Tribune: A trip through the country at this time shows that there is likely to be a good crop of fruit; also, that some people are not thinning their peaches enough to insure first-class fruit. The tendency of all kinds of fruit trees in California is to overbear. Even when the tree has been well pruned, thinning is necessary. This is especially true of those varieties which naturally grow in clusters. Where two peaches touch each other each will have a bad side; the same is true of a peach which hangs over and rests on a branch. The only perfect peaches are those which hang from the lower side of a twig or branch. If there is plenty of bearing wood, never have your peaches nearer to each other than four inches. If they are thinned to six inches you will have better fruit and it will be easier sold. When it is possible to do so, leave none but those which will hang by the stem without touching anything.

### STANISLAUS.

The new cannery at Modesto is now waiting for machinery. It is expected that everything will be ready to start up by July 4.

The melon acreage has been cut down owing to the cool weather prevailing until recently. The grain and hay crops have been greatly benefited by the cool spring.

The creamery at Turlock has suspended, the cream formerly worked up by this concern now going to San Francisco. The creamery at Modesto is turning out over a ton of butter daily. Last month this concern paid 26½ cents for butter-fat.

### SUTTER.

The assistant manager of the Earl Fruit Co. expressed himself as being

well pleased with the outlook for the fruit crop in Sutter county.

Sutter Farmer: Captain J. R. Foster purchased 1500 slips of pineapple plants from Florida and had them sent to him at Marysville but unintentionally violated the quarantine regulations by importing plants from Florida. E. K. Carnes, the Deputy State Horticultural Inspector, inspected the lot and had them burned as they were infested with some kind of bugs.

Sacramento Bee: The high price of alfalfa and the increasing demand has stimulated the efforts to plant a large acreage. The crop of peaches will be unusually large; almonds better than last year; prunes not more than one-half the yield of last year; pears are good where the blight has not injured trees. Poultry is not as much in evidence as in the past—more turkeys and less chickens than usual. Usually about 1,000 sacks of wheat are taken from the warehouse for chicken feed, but it will be much less this year.

### YOLO.

The Hay Balers' Association has fixed the following prices: Pressing from the shock, \$2.50 per ton; from stack, \$2.25, nothing furnished. If board is furnished, \$1.80; board and wire furnished, \$1.50.

A shipment of three boxes of apricots was sent to the Eastern markets May 15 by the Winters Fruit Growers' Association. The apricots were grown on the foothills southwest of Winters, and were fine large samples of the fruit. These consignments are the first to be sent out of here this season. Contracts are being made for the sale of dried apricots at a price of 7 cents per pound, which is a little better price than some growers expected.



## The Home Circle.

### Getting Acquainted with Dad.

I use' to think my papa was a nawful solemn man, An' when he was at home I never sung, or yelled, or ran, Buhcause I didn't dast to an' buhcause when he'd come in He's tired from talkin' business to the folks where he is been. I use' to call him "father," I don't half to any more, Buhcause we've got acquainted like we never was buhfore, An' him an' me, we understand each other an' are glad, An' he don't care a little bit if I should call him "Dad!"

He stayed at home one day las' week, an' took me for a walk, An' for a little while, why, I was 'most afraid to talk. But pretty soon he ast me if I knowed what kind o' bird Was singin' 'way up yonder, when its song was all we heard— An' I told him it was a lark, an' then he told me why It likes to sing, an' sing, an' sing away up in th' sky. I was surprised, buhcause I never thought my papa knew Th' leastest thing about th' birds, like other people do.

An' nen, why, purty soon he found a willow tree, an' made A whistle for me, an' showed me how it could be played By just a cuttin' little holes, till it was like a life— I never been surprised so much before in all my life. An' he told me lots of things an' showed me how to see Which way is north, by lookin' for th' moss upon a tree, An' how a daddy long legs finds your cows 'at's running loose, An' how grasshoppers will set up an' spit tobacco juice.

An' lots o' other things! Why, say, you never could have guessed My papa's ever been a boy like me an' all th' rest. He re'ly was, though, for I ast him if he'd been a boy, An' he said somepin' 'bout th' days o' sunshine and o' joy, An' he said he was a boy one time an' now was one again; 'At boys could still be boys, although they growed up to be men. So him and me, we understand each other, an' I'm glad, An' he don't care a little bit, if I should call him "Dad!"

—Chicago Evening Post.

### The Old-Fashioned Way.

The automobile had broken down at least five miles from the nearest place at which it was possible to get help.

Trenton and Miss Bassett sat inside, sheltered from the storm and wrapped in comfortable robes, while the chauffeur hunted for the trouble and slapped his arms around himself to keep from freezing. It had not been very cold when they started. The blizzard had come up suddenly, and the snow was falling so rapidly and drifting so badly that their chances of getting through would have been very poor even if the car had not gone to the bad.

"What are we to do?" Miss Bassett asked.

"Well, we might get out and tramp through the snow either to Woodsville or to Midvale," Trenton replied.

"You do not seem to be taking this matter very seriously."

"Yes, I am. You don't know how serious it is to me. I happen to own this car, and standing out here in a snowdrift all night isn't likely to do it a bit of good."

"I'm so sorry that I am likely to be the cause of a financial loss to you.

If I had refused to come it would not have happened."

"Yes, it would."

"I don't understand how it could."

"Do not flatter yourself; Miss Bassett, that I should have sat down and moped if you had declined to come. There were other girls who would have been glad to be invited."

"Then I suppose you had already thought it out when you came to me."

"Thought what out, please?"

"You had gone over it all in your mind—had decided that if I declined to come you would come with one of the others, since you had satisfied yourself that you had only to ask any of them in order to receive an acceptance."

"No, to be candid, I hadn't thought much about it. There was no occasion for that. You see, I knew you were coming."

Miss Bassett turned and looked out at the blinding snow that was whirling past, driven by a wind which increased in velocity every minute. The chauffeur was standing with his back turned to the storm, apparently at the end of his resources. He seemed to be half frozen, in spite of his big fur coat and the cap that was drawn down over his head.

"Why don't you send him off in search of help?" Miss Bassett asked, turning to Trenton.

"I have been thinking of doing that. I am glad you have suggested it."

"I can't see why you should wait for suggestions from me in a case of this kind."

"It occurred to me that you might think I was conceited if I sent him away."

"Why should I think that?"

"You shouldn't, but I was afraid you might. You see, I didn't want to have you sit here and wonder, after I had sent him off, what reason I had for supposing that you preferred me to him as a companion."

"I have no doubt that many chauffeurs are estimable men—much more so than are the men whom they serve; but I have never been in the habit of turning to them for social diversion or companionship."

Trenton felt that it would be well for him to turn his attention for a brief moment to the chauffeur. He got out and held a brief but earnest conference with his man, after which the driver started down the road through the storm and in a few minutes disappeared.

"How long do you think it will take him?" Miss Bassett asked after Trenton, shivering and looking worried got back inside.

"I haven't any idea," he replied. "If he gets through at all it will be extremely lucky for all of us. The storm is getting worse and worse."

Miss Bassett drew back as far as she could in her own corner, pulled the heavy robes around her, and looked out at the world, which was rapidly disappearing under an avalanche of snow. It was beginning to get dark, although they had hardly been on the road an hour, and it was barely two o'clock when they had left home.

Trenton watched her out of the tail of his eye, and made himself comfortable in his own corner. Thus they sat for half an hour in absolute silence. It had grown quite dark, and Trenton began, at last, to wonder how long the lady was likely to

be able to keep from breaking down. Just then she spoke:

"There must, at least, be a farmhouse somewhere near here," she said.

"Very likely there is," he replied.

"Of course I would not ask you to put yourself to any trouble or inconvenience on my account, but if you think it would be dangerous for you to remain here alone all night you might accompany me in an endeavor to find some better place than this in which to wait for the rescuing party."

"If you care at all for my advice, I would suggest that we remain here. You can make yourself entirely comfortable. We are much more safe where we are than we would be wandering around in this storm. I know people who sleep outdoors every night in the year. The doctors say it is a good thing to do. Do you feel at all cold? If you do, there is another robe here that you can have."

"I am not cold, thank you, but I do not care to remain here any longer, however comfortable or beneficial it might be to wait."

"Very well. I will accompany you if you feel compelled to take your chances in the storm."

As they were getting out of the automobile they heard the jingle of sleigh bells, and a moment later a team attached to a bob-sled approached them. The chauffeur had found a farmer who was willing to go to the rescue.

After Miss Bassett had seated herself in the sled and been well wrapped up Trenton lifted his fur cap and bowing very politely, said:

"Good-by. I hope you may find pleasant lodging for the night, and I offer you my sincerest apologies for any discomfort you may have suffered or may have to face. I will make arrangements in the morning for your safe return to the city."

"Aren't you coming with us?" she asked.

"No. It would be better, would it not, if I remained here?"

"Oh, very well, if you think so," she replied. "You may go ahead, driver, if you are ready."

"On second thought," Trenton said, "I believe I will go."

Without waiting for an invitation he got into the sled and the farmer urged his team forward.

The chauffeur sat on the seat with the driver. Trenton gradually worked his way through the clean, sweet-smelling straw until he was very close to Miss Bassett. The biting snow blew into their faces and the wind howled through the trees by the roadside. The sled tipped dangerously every little while as they went over drifts or got off the road, and almost before she was aware of it one of Miss Bassett's hands lay in Trenton's grasp. They were very near together, and the storm was blinding. Besides, the backs of the driver and the chauffeur were turned upon them. Slipping one of his arms around her, at last, Trenton, with his face close to hers, whispered:

"After all, the good old fashioned bob sled has some excellent advantages, hasn't it?"

She did not say anything. It was not necessary for her to do so, for both of his arms were around her and she could not have spoken if she had tried to. But she did not try.

She had no desire to put her answer into the form of words.—S. E. Kiser, in Record-Herald.

### How Wife Can Help Husband.

The wife who helps her husband by economic handling of the money he gives her and cheers him by her love and sympathy is a helpmate of the highest order.

No man can do his work well unless he has a comfortable home and nourishing food.

Housekeeping, even for two, takes up a great deal of the day, if it is properly done. Looking after a husband's clothes and making her own will fill in a good deal of the remaining time, and if the young housekeeper does it all as it should be done she will have but little spare time on her hands.

"Any woman can keep a house," says the discontented wife. That's a large statement, and we won't go into it here, but what I would like to ask her is, would she be contented for any other woman to keep house for her husband?

I think not. She is the one woman to him, the woman he loves, and is willing to work for; the woman he has sworn to love, honor and cherish as long as they both shall live.

She is in partnership with her husband, and her part of the business is to manage the house and the household expenses wisely.

Young married people should always keep house, no matter how economically they are obliged to begin. If they board, the wife has more time on her hands than is good for her.

A married woman, if the opportunity comes her way, can make a little "pin money" by doing some sort of work at home in her spare moments. But it is almost impossible for her to do any outside work and attend to her home duties properly.

Don't be unhappy. Do your work well and make a happy home for your husband.

He is the most important person in your life. Greet him at night with a cheerful face, not one all snarled up by discontent and the effort to find another mission in life than that of being a good wife.

Do some good reading in your spare time. In the years to come, when you have a family to look after you will look back with envy on the days when you could read and didn't.

### Curious Facts.

Only 5½% of the globe's land surface is fit for cultivation.

In 1634 the town of St. Mary's, in Maryland, was founded by 200 colonists under Leonard Calvert.

Australia now contains more unexplored territory in proportion to its size than any other continent.

The sea anemone is one of the longest lived of humble organisms. One has flourished in captivity for fifty years.

The earth is gradually losing speed owing to the friction of the tides. The days are now half a second longer than they were in 1802.

Some trees are much more unfavorable to the growth of plants beneath them than are others. The worst are the yew and the ash.

A bat was found torpid, but alive, in a vault at Yatesbury church, in Caine, England, recently, which had been closed and sealed 106 years previously.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### Costly Dinners.

Dinners at \$300 a plate, while they are not common occurrences, even in New York may become so if the present fad for giving feasts beyond the dreams of Lucullus himself continues. Dinners at \$1000 a plate may indeed be expected, although at present \$300 is the high record, since this was the cost of a dinner recently given by a young millionaire to fifteen of his friends. The bill, including tips, was an even \$5000. Since one of New York's famous caterers has gone on record to the effect that as regards food alone no person can consume more than \$10 worth, even in the most expensive cafe, the manner of spending \$300 a plate arouses some curiosity. Only a small fraction of this sum of course was expended for food in this most gorgeous feast of the year, although a special chef was hired for the preparation of each of the twenty-two courses. The remainder went for the decorations and wines, all of the latter being specially imported for the occasion. The table was in the form of a hollow square, inside of which and level with it was a large burnished copper tank filled with water. In it swam many aquatic birds, ranging from swans to ducklings, while below lurked rare fish imported for the occasion. The edges of the miniature lake were banked with roses and in the center a fountain spouted wine which, falling into a special receptacle, was carried by an ingenious arrangement of pipes to the place of each guest. Of course the particular kind of wine changed with each course, but all through the dinner it literally ran like water. The coffee served after dinner cost \$22 a pound and the cigars \$5 apiece. Strangely enough, the young millionaire rival of Lucullus who gave the dinner is known as a shrewd and conservative business man who may always be found at his office by 8:30 in the morning.

### Oil and Vinegar Diet.

How many million pounds of meat have been shipped to Panama since the digging began? The Andalusian knows not the hunger for meat. He is never ill. The doctors at the Isthmus have their hands full all the time trying to cure diseases directly due to meat.

Here is a common Spaniard, who could pull a bull down by the horns, drive his knife through a three-inch plank, nourishing his "robur" and stamina on a slice of melon.

Yesterday I witnessed in one of four semi-fashionable resorts a New Yorker double up and pack on his fork for one calm mouthful about four cubic inches of red roast beef. It was not a pleasant sight. I compared the man's food capacity with that of people who had achieved.

The Arab on his rice diet scoured the shrinking world. The Roman soldier on his sour wine and vinegar bread mapped out Europe with his roads. One of our great generals, Francis Marion, the Swamp Fox, kept his forces in perfect physical condition by a daily sip of vinegar. Oil stands for the most ethereal fat you can feed the stomach flame with, and vinegar for the destroyer of thirst and purifier of the blood. — New York Press.

"The Hon. Thomas Rott dropped in on us at the Sit and Argue club last night," grimly vouchsafed the Old Codger; "but as he was not in good voice he cut short his remarks after speaking only about two hours and a half."

"H'm!" returned Si Spry. "What was he talking about?"

"He didn't say."

### Sport in America.

Before the Civil War we Americans had few outdoor pastimes. There was some fox hunting in the South, some shooting in the North. There was considerable fishing, very little angling. Tennis and golf were unknown to us. Croquet was decorously played. Driving and riding were restricted to the few who could afford the time and expense. One or two cricket elevens struggled for existence. There were no bicycles, no motors, of course, only an absurd velocipede or two. Extreme youth "flew kites," played marbles and whiped tops. Among their elders, however, there was a mincing, artificial attitude toward all outdoor sport which found its fullest expression in a quadrille, at croquet or a sentimental sailing expedition under the calmest of skies.

However, even then we had yachtsmen—naturally corollary of our superb commercial navy—and we had good horses and were breeding better ones, and we by inheritance were a nation of men who handle a rifle properly.

War came and left us with its immense accumulation of good and evil, and it seemed then that out of sheer weariness of sadness and trouble the germ of the old play spirit, so long dormant, awoke among us to save us from ourselves.—Collier's Weekly.

### How Indians Tan Deerskin.

The skin dressing of the Indians, both buffalo and deer skins, is generally very beautiful and soft. They stretch the skin either on a frame or on the ground, and after it has remained there for three or four days, with the brains spread over the fleshy side, they grain it with a sort of adz or chisel. After the process of graining, though the skin is apparently beautifully finished, it passes through another process—that of the smoking. For this they hang the skin on a frame in a smoke proof house or tent. The fire is made at the bottom out of rotten wood which produces a strong and peculiar smell. The fire must be smothered to make the smoke. The grained skins must be kept in the smoke for three or four days, and after this the skins will always remain the same, even after being wet, which does not belong to the dressed skins in civilized countries. — "Life Among the Indians."

### The Freaks of Disease.

No medical man needs to be told that even disease has its freaks, and that recovery has occasionally been brought about by means inexplicably trivial. One of the most remarkable of these unaccountable eccentricities of disease took place at Halver, in Westphalia. The case was that of a boy who, as the result of a very heavy fall backward on his head while skating, had for a year and a half been deaf and dumb. One morning his brother went to awake him, and finding him sleeping heavily tapped him lightly on the forehead. To his amazement the deaf and dumb boy awoke with a loud cry. Both speech and hearing had been restored. — Kansas City Journal.

### Her Opinion.

A father, whose looks are not such as to warrant the breaking up of all existing statues of Apollo, tells this on himself, according to Everybody's Magazine.

"My little girl was sitting on my lap facing a mirror. After gazing intently at her reflection for some minutes she said:

"Papa, did God make you?"

"Certainly, my dear," I told her.

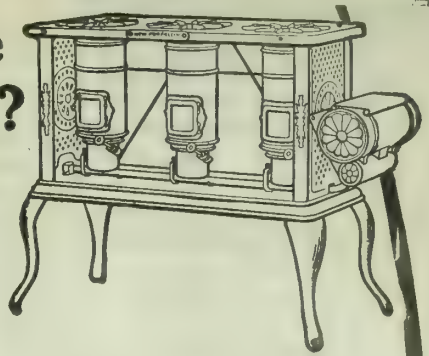
"And did he make me, too?"—taking another look in the mirror.

"Certainly dear. What makes you ask?"

"Oh, I don't know. Seems to me He's doin' better work lately."

## What Stove for Summer?

Nothing adds to kitchen convenience in summer weather like a New Perfection Wick Blue Flame Oil Cook-Stove. Anything that any stove can do the "New Perfection" will do, and *do it better*. Bakes, roasts, boils, toasts; heats the wash water and the sad irons, and does it without dissipating its heat through the room to *your* discomfort. The



## NEW PERFECTION Wick Blue Flame Oil Cook-Stove

actually keeps the kitchen cool—actually makes it comfortable for you while doing the family cooking, because, unlike the coal range, its heat is directed to one point *only*—right under the kettle. Made in three sizes, fully warranted. If not with your dealer, write our nearest agency.



The **Rayo LAMP** affords a mellow light that is very grateful to tired eyes—a perfect student or family lamp. Brass, nickel plated, hence more durable than other lamps.

If not with your dealer, write our nearest agency.

**STANDARD OIL COMPANY**  
(Incorporated)

### Hints to Housekeepers.

Do not put soda in candy, it makes it tough.

Bread will rise more quickly in a jar than in a tin pan.

Never break eggs on the edge of a crock or pan. Use a knife instead; it is much easier.

Try moulding the cranberry jelly in egg cups for a change. It will come out in egg shapes.

Soap well applied to drawer sides will keep the drawers in furniture and closets from sticking.

Hold the point of a new pen over a lighted match to remove the lacquer before using; rub the other end with a drop of oil or grease to prevent its rusting in the holder.

The bowl of the spoon should be tipped toward the outer edge of the soup dish, not toward the center, and soup should be eaten only from the side of the spoon. Use the fork with the right hand by all means. The hollow of the fork must necessarily be when the food is passed on it to the mouth.

Celery should be broken apart before eating. Only the small inner stalk should be placed on the table. If the larger stalks are served they should be cut or broken before they are placed on the table. The person eating the celery should break it into short lengths, but not into such small pieces that it is not necessary to bite it.

For rik-tum-diddy in the chafing dish, turn in a cupful of tomatoes, a piece of butter, a saltspoonful of soda, a little salt and paprika and a tablespoon of Worcestershire sauce. Heat these together and add two cupfuls of grated cheese, three-quarters of a cupful of milk and two well-beaten eggs. Cook until the cheese is smooth and turn over crackers or toast.

"Now," said the teacher, who had been giving an elementary talk upon architecture, "can any little boy tell me what a 'buttress' is?"

"I know," shouted Tommy Smart. "A nanny goat."

### Chaff.

A five-year-old girl was very ill, and, noticing the anxiety of her parent, she said, "Mamma, do you think I'm going to die?"

"No, my dear," replied the mother, "we think you will soon be better."

"Well," said the little one, "I'd like to die and go to heaven on a visit if I was sure I could come back if I didn't like the place."—Chicago News.

He—Isn't alimony apt to be the sequel of matrimony?

She—I think it is more apt to be parsimony.

"They seem to live happily together."  
"Yes, he lets his wife select his neckties and his stenographers."

Bridegroom — It's no use, Clara; we can't hide the fact that we are bride and groom.

The Bride — Why, George?  
Bridegroom (dejectedly)—Because the waiter has brought us rice pudding.

Mrs. Ferguson—George, what do you have to do when you want to draw some money out of a bank?

Mr. Ferguson—You have to put some money in the bank beforehand. That's always been my experience.

### Inventor of Envelopes.

It is somewhat curious that such a simple contrivance as the envelope should be a comparatively modern invention.

As a matter of fact it is just 100 years since a paper manufacturer of Brighton named Brewes invented envelopes for letters in their present form. Even then it was some considerable time before their use became at all general, not, in fact, until somewhere about the year 1850.

Before this date (as many who are living now will remember) a letter, written only on one side, was folded in two, then in three, sealed with a wafer or sealing wax, and addressed on one of the blank sides.



**INSURE YOUR HEALTH AND COMFORT**  
on stormy days  
by wearing a



**TOWERS' FISH BRAND SLICKER**  
Clean - Light  
Durable  
Guaranteed  
Waterproof  
\$3.00 Everywhere

## Forestry.

### Pacific Coast Dogwood in Demand.

The supply of dogwood and persimmon shuttles in the Southern States is nearly exhausted. This statement will not appear significant to the average man when he first hears it. But when he is told that the entire supply of shuttles, bobbins, and spindles used in the cotton and woolen mills in all parts of the country is furnished by the dogwood and persimmon growing in the Southern States, the seriousness of the situation is apparent. The textile mills of the country represent a capitalization of nearly a billion dollars, and bobbins, shuttles, and spindles are just as necessary parts of these mills as the throttle is to the locomotive.

Fortunately the shuttle manufacturers have found another source of supply in the dogwood stands in the far north-western part of the country. Two large companies which manufacture spindles, shuttles, and bobbins have erected plants in the Cascades in Oregon, whose dogwood forests are the greatest in the world, the tree often attaining a height of 75 feet and a diameter of one to two feet. The southern dogwood is rarely more than six inches in diameter. Extensive stands of dogwood are also found in California and Washington. Up to the present time lumber users in the Pacific Northwest have found dogwood valueless except for fuel, and its utilization for the manufacture of shuttles will bring about a considerable increase in stumpage values of this tree.

These companies, at their Oregon plants, will not only manufacture the articles named, but will utilize every part of the tree turning to account the waste wood and producing such by-products as pyroligneous acid, acetic acid, protacetate of iron, acetate of lime, methylated spirits, solvent naphtha, wood tar, wood pitch, and various forms of charcoal. Dogwood is indispensable in the manufacture of shuttles, bobbins, and spindles because it is the only wood which takes a high polish and wears perfectly smooth by friction under water.

The discovery of the adaptability of the Pacific dogwood, however, has not aided the Eastern manufacturers, and they have been obliged to look for substitutes nearer home. The most promising of these are mesquite and tupelo gum. The wood of the mesquite is heavy and very hard, close grained, and has a compact structure. It is probable that it would be eminently adapted for the manufacture of shuttle blocks, as it appears to have all the requisite qualities of weight, hardness, and susceptibility to a high smooth polish. Already it has proven well fitted for the manufacture of spools and bobbins for which white birch is now so largely used. The tupelo gum is medium hard and heavy, and has a compact fibrous structure. It has not yet been utilized to much extent in the textile industries, though it is quite probable that it will play an important part in the future, since it combines with several necessary qualities the exacting property of wearing smooth by friction.

## The Dairy.

### A Notable Study of Cows.

The greatest systematic cow study ever made was that conducted at the St. Louis Exposition and the conclusions are now available. Bulletin No. 106, of the Minnesota Experiment Station, by Prof. T. L. Haecker, is the result of an exhaustive investigation in milk production, and the relation of nutriment to product. The field of his research was at the late World's Fair, St. Louis, and with the groups of cows which competed in the four-month dairy test there, conducted under the auspices of such eminent dairymen and feeders as H. E. Alvord, chief of the dairy division of Department of Agriculture; C. F. Curtis, Dean of the Iowa College of Agriculture, and Prof. Farrington of the University of Wisconsin.

The opportunity for investigation was a rare one. Engaged in the contest were five Brown Swiss, 15 Holstein, 25 Jersey and 25 Shorthorn cows. Each group was composed of the best individuals, in the estimation of the friends of each, that could be found, constituting the best attainable material for Prof. Haecker to investigate, analyze and report upon. His method of work can be understood only by a reading of the entire bulletin, which cannot, of course, be reproduced in these columns. But that the work was done thoroughly, conscientiously, impartially and correctly will not be doubted by those who know him and are familiar with his other work in his line. The conclusions follow:

The records of the cows participating show that the Holsteins produced daily 53.43 lbs. of milk, testing 3.42% fat, giving 1.83 lbs. of butter fat and 4.24 lbs. of solids not fat. The Swiss cows gave daily 44.18 lbs. of milk testing 3.62% fat, yielding 1.6 lbs. butter fat and 3.92 lbs. of solids not fat. The Jerseys gave 41.51 lbs. of milk testing 4.67% fat, yielding 1.937 lbs. butter fat and 3.65 lbs. of solids not fat; and the Shorthorn cows gave 35.19 lbs. of milk testing 3.68% fat, yielding 1.297 lbs. butter fat and 3.03 lbs. of solids not fat.

The largest yield was by the Holstein, Shadybrook Gerben, that gave on an average 2.35 lbs. of butter fat daily and 5.17 lbs. of solids not fat; and the second largest yield was by the Jersey cow, Loretta D., that gave 2.335 lbs. of butter fat daily and 4.357 lbs. of solids not fat. Of the Swiss cows, Nellie H. produced the largest yield, being 1.75 lbs. of butter fat and 4.363 lbs. of solids not fat; and the Shorthorn cow, 16th Belle of Trowbridge, led that breed by a daily yield of 1.74 lbs. of butter fat and 3.72 lbs. of solids not fat.

The milk solids yielded by Shadybrook Gerben during the 120 days were equivalent to the food value of two steers weighing 1000 lbs. each; and the total milk solids yielded by the 70 cows was equivalent to the food value of 70 fat steers weighing 1405 lbs. each.

In economy of production, the Jerseys returned a pound of butter fat to 12.051 lbs. of nutriment consumed; the Holsteins used 14.839 lbs.; the Shorthorns 15.52, and the Swiss 16.919 lbs. to one pound of butter fat. There are physiological reasons for the difference in nutriment required by these breeds for the production of a unit of butter fat. Primarily the discrepancy is caused by the fact that the relation between fat and solids not fat differs in the various grades of milk.

As a general proposition, milks carrying a low per cent of butter fat carry relatively more solids not fat than milk containing a higher per cent of fat. Taking, for example, the average daily yield of butter fat and solids not fat by the four groups of cows under review—the Swiss cows yielded daily 1.6 lb. of butter fat and 3.92 lbs. of solids not fat—that is, to one pound of butter fat they yielded 2.45 lbs. of solids not fat; the Shorthorns yielded 2.33 lbs., the Holsteins 2.31 lbs., and the Jerseys 1.87. It stands to reason that cows cannot

## Tubular

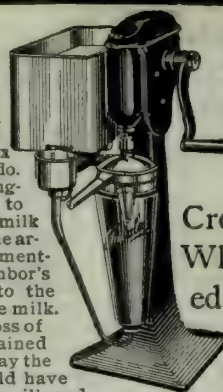
In February a certain man wished to try an experiment with a Tubular separator. He wanted to know by actual test exactly what the Tubular would do.

He had no cows so he arranged with a dairyman neighbor to make the experiment with the milk from the dairy of the latter. The arrangement was for the experimenter to skim the milk at the neighbor's dairy, and the cream to go to the creamery instead of the whole milk.

The dairy owner feared a loss of cream in this way, and so bargained that the experimenter was to pay the difference between what would have been obtained for the whole milk and the money actually received for the cream.

At the end of the month Mr. Dairyman was surprised to find that the cream had returned him \$30 more money than the factory would have allowed him for the whole milk.

Sequel—Next day the dairyman and two neighbor dairymen each bought a Tubular separator, and then hired a man out of employment to kick them



## Gained

**\$30 More**

in a Month, for  
Cream Alone, than  
Whole Milk Yielded.  
Hauling and  
Time Losses  
Also Saved.

because for years they had been throwing away \$30 per month in ignorance of what a Tubular would do for them, though the opportunity to try a Tubular in their own dairies was always open to them.

If you haven't a Tubular you can gain profitable knowledge by a test similar to above; and money profits twice a day after you put the Tubular in your dairy. Write for Catalog No. 131.

**THE SHARPLES SEPARATOR COMPANY,**

**West Chester, Penna.**

Toronto, Ont.

San Francisco, Calif.

Chicago, Ill.



## S U S U DON'T THROW MONEY TO THE PIGS

The mine owner gets his gold mixed with rock and combined with other metals. He gets out all the gold and then makes in addition what he can from the lead and silver, the "by-products."

The dairyman's gold is cream; the skim-milk his principal "by-product." To get all the profit he must use an

## IMPROVED 1908 U.S. CREAM Separator

With this Separator he gets out all the cream, and then uses to best advantage the skim-milk. He can't afford to feed cream to pigs.

Our Catalogue No. 148 tells why. Let us send you one.

**VERMONT FARM MACHINE CO., Bellows Falls, Vt.**

Distributing warehouses at: Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N.Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

### PROMPT DELIVERY ASSURED

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE. No Delays. Address all Letters to Bellows Falls, Vermont.

produce one pound of butter fat and 2.45 lbs. of solids not fat with as little nutriment as one pound of butter fat and 1.87 lb. of solids not fat can be produced.

It appears also that the great bulk and weight of green forage fed to the Swiss and Holstein cows called for the expenditure of an abnormal amount of energy in its mastication and passage through the digestive tract. After making due allowance for the nutriment required for maintenance, for milk production, and for gain in weight, the daily average of nutriment not accounted for was by the Swiss cows, 5.889 lbs. per cow; by the Holsteins, 3.688 lbs.; by the Jerseys, 2.121 lbs., and by the Shorthorns, .725 lb.

The larger waste by the first two is probably partially due to the weight and bulky character of the feed, and with all, except possibly the Shorthorns, because of a daily nutriment supply in excess of their powers of assimilation. It is quite probable that the amount of nutriment allowed daily for maintenance was in excess of the amount actually used, and that the daily loss or waste of nutriment may have been even greater than the amount calculated.

The Swiss cows had to support bodies weighing on an average 1329 lbs., the Holsteins 1289 lbs., the Shorthorns 1257 lbs., and the Jerseys 948 lbs. Other things being equal, the larger the body,

the more nutriment is diverted to maintenance, and proportionally less is available for dairy products.

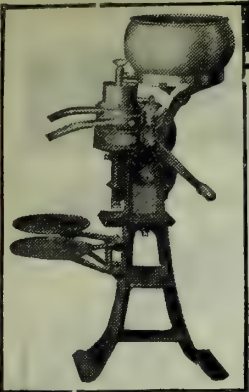
Small cows consume relatively more feed and produce more dairy products than large ones. The Jerseys, per 1000 lbs. live weight, consumed daily on an average 17% more nutriment than the Holsteins, 20% more than the Swiss, and over 50% more than the Shorthorns; but they returned 48% more butter fat than the Holsteins, 70% more than the Swiss, and 100% more than the Shorthorns.

### Repellent for Flies.

When the flies become thick the milk flow rapidly goes downward. The thoughtful dairymen try to avoid this condition, and use one of the different preparations on the market for this purpose. A good spray that can be made up at home is as follows: Fish oil, 100 parts; oil of tar, 50 parts; crude carbolic acid, 1 part.

This formula, devised by Dr. E. L. Moore of the South Dakota Experiment Station has been found to be quite effective. It is sprayed on to the animals by means of a small hand spray pump, one application being sufficient for two days. The longer between sprayings the more thoroughly the animals must be gone





## THE Cream Separator CREAMERYMEN USE

Today over 98% of the world's creameries use DE LAVAL separators. This fact means much to every cow owner. Without the separator creamery operation would be almost impossible. No matter whether the creamery is buying whole milk or cream its success rests upon the centrifugal cream separator. Those who are buying whole milk skim it at the factory with DE LAVAL Power machines—those who are buying cream advise their patrons to purchase DE LAVAL Hand machines. The biggest and most successful creamery company in the world is buying cream from nearly 50,000 patrons to whom it has sold or recommended DE LAVAL Hand machines, after many years of experience with all kinds of separators. Had the DE LAVAL not been the best and by far the most profitable separator for anyone owning two or more cows, this great creamery would never have taken the responsibility of placing them with its patrons. And this is true in hundreds of other instances, for creameries can be found in every part of the world having from a few hundred to many thousand DE LAVAL patrons. Wouldn't it pay you to find out WHY experienced creamerymen prefer the DE LAVAL to other separators? You may learn the reason by asking for a DE LAVAL catalog, or better still a DE LAVAL machine—to examine and try out at your own home free of all expense. Don't wait, but write us today.

### DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

#### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

over. The odor of the preparation does not taint the milk, according to the above veterinarian, but the milk must be removed from the barn at once after milking, which should be done whether a spray is used or not. — Pacific Dairy Review.

### Alfalfa for Roughage Saves \$10 Per Cow.

Prof. D. H. Otis, Wisconsin Experiment Station, writes: Last year a Wisconsin farmer who was successful in raising alfalfa for the first time commenced feeding it in place of other roughage as corn stover, timothy, etc., but continued to feed the usual amount of grain. He submitted his ration to the Experiment Station for approval. It was suggested that since alfalfa contained a larger amount of digestible nutrients than ordinary roughage, that he could reduce the amount of grain fed. He adopted the suggestion on a herd of fifty cows and watched the results. He gradually decreased the grain allowance until his cows were receiving five pounds per day per head less grain than formerly without causing any decrease in the yield of milk. Five pounds of grain per cow for fifty cows for seven months' feeding amounted to twenty-six tons, which at \$20 per ton is worth \$520, or over \$10 per cow.

#### NOTICE TO STOCKHOLDERS.

Notice is hereby given that the Annual Meeting of the Stockholders of the Grangers' Business Association, (a corporation) for the election of Officers to serve for the ensuing year and for the transaction of such business as may come before it, will be held at its principal place of business at the Merchants Exchange Building, No. 431 California Street, San Francisco, State of California, at 10 o'clock A. M., on Tuesday, June 9, 1908.

A. D. LOGAN, President,  
R. H. CHILDS, Secretary.

Dated, May 28, 1908.

### Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

### Orange Honey.

Chico Enterprise: Orange honey, which is pure white, only slightly inferior to sage, will be a full crop, perhaps the largest in the history of the industry. The orange groves probably will produce 25 carloads. Except for the fact that it crystallizes quicker, orange honey is equal to sage. The other honey-producing sections have been badly affected by drouth. In about 25 per cent of the hives the production will be very small. The other half will produce fairly well, but not a full crop. Last year the State produced 275 carloads. The holdings of honey are not large, but apparently many holders are not aware of the situation, and are still selling at below the actual value based on the prospective short crop. Whatever honey is carried over will be good property, as it does not deteriorate materially in a year. It crystallizes, but when melted it comes out all right and will remain in a liquid state for another year.

### "Alfalfa Tree."

W. J. Ford of Lomo reports that he is experimenting with what is called an "alfalfa tree," or "lucerne tree," a plant similar to alfalfa of common use, but which, if allowed to grow to maturity will develop into a tree of large dimensions. The seed came from Australia and was sent by a friend. He has several plants of it now growing and will allow it to go to seed, so he may plant it for forage. It is claimed that the "alfalfa tree" makes as good feed for stock as ordinary alfalfa, but that it must be pastured before the plants begin to get size; that while it is young it is tender and stock relish it.

### Ramie Fibre.

Imperial Press: That ramie fibre can be successfully stripped by machinery was demonstrated recently in Los Angeles by G. W. Schlichten with a decorticating machine, in the presence of representatives of the Department of Agriculture, as well as of a number of men experienced in the handling of textile fabrics. "Under favorable circumstances ramie linen can be manufactured for less than flax," said Mr. Schlichten. "It is far superior in every way, and the only thing which has prevented its general use has been the cost of production. Climatic conditions are ideal and, in the Imperial valley for instance, a man should get as many as eight crops a year." Ramie requires about the same amount of water as does alfalfa. Once started it will care for itself, and cultivation is unnecessary.

### Black Mice.

Recent investigations under the direction of the Biological Survey of the United States Department of Agriculture have resulted in showing Carson valley to be seriously menaced by a scourge of black meadow mice such as occurred in Humboldt valley during the past winter—a scourge which resulted in the destruction of thousands of acres of alfalfa, in the loss of two-thirds of the potato crop, and in the destruction of great numbers of shade trees, aggregating, at a careful estimate, a loss of no less than \$250,000. The condition existing in Carson valley is alarming in the extreme. The mice are present over the valley in abundance, and many alfalfa fields are from 20 to 50 per cent destroyed already.

### Cantaloupes in Imperial Valley.

Citrograph: Somewhere around 7000 acres in the Imperial valley is being planted to cantaloupes this season. Brawley leads, but El Centro, Imperial, Holtville, and Calexico are all in the swim. There are a good many patches already planted and the seeds are sprouting. The crop will go forward by the trainload in June. The Imperial valley, and the Coachella valley as well, produce the very earliest cantaloupes in the country, and there is no danger of overstocking the markets in June and July. The value of the crop will reach around a million dollars.

## Tuttle's Elixir

Greatest maker of sound horses in the world. Tested many years, never fails if cure be possible. \$100 reward if it does. For lameness, curb, splint, spavin, ringbone, swellings, etc.

### Tuttle's Family Elixir

Liniment for household use. Ask for Tuttle's American Worm and Condition Powders and Hoof Ointment. "Veterinary Expertence," perfect horseman's guide free. Symptoms and treatment for all common ailments. Write for it. Postage 2c. TUTTLE'S ELIXIR CO., 33 Beverly St., Boston, Mass. Los Angeles, W. A. Shaw, Mgr., 1921 New England Av. Beware of all blisters; only temporary relief, if any.

Coffin, Redington Co., 625 Third St., San Francisco, Cal.

### THE BOSS LADDER

We have been making the Boss Fruit Ladder since 1895, and thousands of them are now in use. They are lighter, stronger, and stiffer than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one to you to try. S. P. R. R. Station in California, no receipt of price—30 cents per foot and prepaid freight.

Driver, Abel & Co., San Leandro, Cal.

## The Ornithologist.

### Good Words for the Tanager.

Mr. G. W. Wright gives the San Bernardino Index a lot of good words for the tanager—a bird which sometimes gets a bad name. Is it deserved? Mr. Wright says "No." This is his account of the bird:

The beautiful bright canary-yellow birds, some of them with carmine-red heads, and with black wings and tails, which are quite common in the orchards and about our gardens and shade trees just now, are Louisiana tanagers, sometimes called "crimson tanager" or "western tanager." It is the male that sports the exquisitely colored head; those with but little red on the heads are young males, less than a year old, while others with very deep colored crimson-carmine heads are older males, two or three years old. The females are all of a yellowish dun, or oliveaceous coloring, without any red upon the head. These birds are somewhat like orioles, and are frequently mistaken for orioles, but they are handsomer in color, and are about the same size.

These tanagers are the handsomest birds that inhabit California. They have now just arrived, having migrated from Mexico and Central America, where they spent the winter, and they are now just stopping here in the valley, paying us a passing visit, and waiting till the mountains get warmer and free from snow, with insects enough to give them their bread and dinner. In a week or more, according to the weather, they will all be gone on into the middle heights of the mountains, where they will build their nests, and bring up their young broods.

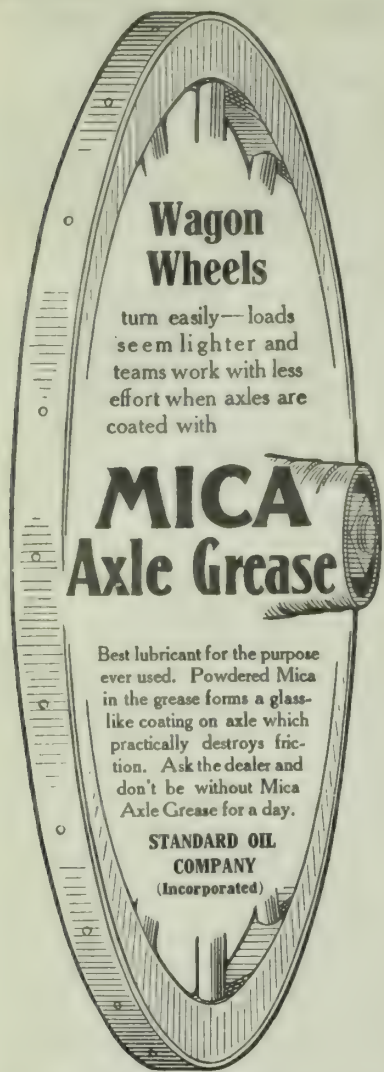
One year, about four years ago, the spring was very cold and backward, and the tanagers remained in the valley, built their nests in the shade and fruit trees, and raised their first brood of chicks, and then they went on into the mountains and raised another brood. But ordinarily they remain in the valley only a few days.

In the fall they make their southern migration in flocks of about two dozen birds, evidently those which have nested in the same vicinity and are, as we may say, somewhat acquainted with each other. They fly gently along, stopping every little distance, but the flight is always southward, and they never stop here in the valley for a week, as they do in spring when going northward to the mountains.

LOVABLE BIRDS.—These tanagers are lovable little birds. While remaining about our gardens and orchards they are charmingly tame and domestic in their flight and habits, flying gently about and hunting for insects; and we can admire them and love them without any mental reservation, for they never do us any harm by pecking into and spoiling our finest apricots or other fruits, as do the linnets, the orioles, and the grosbeaks. Their stops here are like angels' visits, few and far between, but they leave no sting behind them when they go, and they are remembered with love and a wish for their return.

Up in the mountains where they spend the most of the summer we do not often see them, and they are apparently more shy than while they are here in the valley. But perhaps that is because there are so many trees up there, and so are not readily noticed, even with their bright colors. At any rate, we scarcely ever see one of them there. They build their nests mostly on the horizontal limbs of various trees, not high up in the tree, but on the lower limbs. The nest is a lacy open-work of shreds of bark and grass leaves, and the nest is so thin that when you are under it you can see right through it plainly enough to count the eggs that may be in it. The eggs are three, four or five, of a clear, light bluish-green color, and scantily flecked on the larger end with light brown specks.





## The Poultry Yard.

### Squab-Raising as an Industry.

No doubt California squab growers will be interested to read a detailed account of squab-raising for the Chicago market. Although the conditions may not be just the same as ours, the operations will be found suggestive and can be modified for our environment. The account is prepared for the Breeders' Gazette by Lulu Belle Wooldridge of Missouri:

**Accessories.**—Before installing the birds the inside of the house, the nest boxes, including false bottoms, and the woodwork of the flying pen, should be whitewashed, and the small fittings provided. These consist of a galvanized bath pan 16 inches in diameter and less than 6 inches deep, which stands in the flying pen, a protected drinking fountain, such as poultry supply houses retail at about 20 cents, three cigar boxes with lids propped half open, and a covered feed trough of home manufacture, all of which are placed inside the house. The trough is a box 4 feet long, 8 inches wide and 2 inches deep, over which is set a cover of the same dimensions on legs 4 inches high and resembling a small table. The 2-inch space between the trough edge and the top of the cover gives the birds room to reach the grain without the opportunity of soiling it. In the cigar boxes are placed and renewed each week three essentials to pigeon health, namely, grit to grind the food in the gizzard, oyster shell for eggshell making, and charcoal. A bag of table salt with several punctures in it is placed in the house. Some dealers prefer rock salt, which may be formed of table salt by immersing the full bag in

water and allowing the salt to dry and crystallize. If new birds seem salt-starved limit the supply for a while.

**Feeds and Feeding.**—All dealers insist on a variety of grains of the highest grade, fed generously and with no spasmodic stinting in any ingredient due to fluctuation in prices. The foods used are as follows: Cracked corn, red wheat, Canada peas, Kaffir-corn, hemp seed and millet. All grains must be old, dry and sweet. Cracked corn should be supplied fresh each week, as it sours easily, and should be sifted before feeding so that the flour will not accumulate in the trough and sour there.

The birds should be fed twice a day, at 6 a. m. and 3 p. m. or at 7 a. m. and 4 p. m. For twelve pairs place in the trough for the morning meal  $1\frac{1}{2}$  pints made up of equal parts of sifted cracked corn, wheat, Kaffir-corn and Canada peas. In the afternoon mix the feed in the same proportion, adding millet. Twice a week substitute hemp for millet in the afternoon feed. Fresh water for drinking and bathing should be supplied daily. The bath pan should be overturned after an hour's use and left bottom upwards.

**Care.**—Once a week the house should be thoroughly cleaned. The false bottoms of the nest boxes, except those containing eggs or squabs, are pulled out and scraped clean. The floor is also cleaned and scraped thoroughly. Powdered carbolated lime is sprinkled in the nest boxes and on the floor, which is freshly sanded to the depth of a quarter of an inch. In case the manure is to be marketed the scrapings are exposed to dry and then stored in bags until a quantity sufficient to ship accumulates.

With good food, pure water, fresh air, and cleanliness, the pigeons will thrive and keep up the routine of squab raising with an industry sometimes amazing. Occasionally a pair will raise ten families a year. The average, however, is six or seven. Mated birds should go to housekeeping in their new quarters within a week or so after arriving. The female builds the nest but alternates with the male in hovering the eggs. The two eggs are laid 48 hours apart and hatch in seventeen days, producing usually a male and a female bird. Both parents feed the young birds, but when the squabs are from two to three weeks old the hen leaves them to the male, builds a new nest, lays two more eggs and has a new family under way by time the first squabs are ready for market.

If the young birds are to be reared for breeding purposes they should be left in the nest until they are six or seven weeks old, when they will usually be able to find the water fountain and food troughs for themselves. At this time they should be marked, banding the leg, and recorded as brother and sister. Mating between close relatives is thus discovered and prevented, as it is a source of weakness in the offspring. When they begin to bother the mated birds they should be housed in a separate room. Squabs for market are removed at four weeks old, before they leave the nest, else they lose flesh by running about. It is very important to keep them fat, as buyers, who estimate the quality by the number of pounds to the dozen, will pay from 25 to 75 cents more for an extra pound to the dozen birds.



# POTASH

in the fertilizer in generous quantities makes heavy yields of clean and sound vegetables and fruits.

Strong and lusty plants resist the attacks of insects and germ pests.

Plenty of Potash in the fertilizer assures the best crops.

Our Book, "Potash in Agriculture," is free to farmers. May we send it to you? Address

**GERMAN KALI WORKS, 93 Nassau Street, New York**  
Atlanta: 1224 Candler Building Chicago: Monadnock Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.



## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**

150 PINE STREET, SAN FRANCISCO.

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4336.

**Marketing.**—When birds are ready for the market, the feed of the previous afternoon having been diminished, they are killed early in the morning with empty crops. The instrument used is a sharp knife which is inserted in the mouth, thrust upwards through the brain and brought forward. They are bled by hanging head downward from the drying rack. The rack may be of home manufacture. Across two supported uprights is fastened a horizontal bar. Four inches apart in this bar are driven nails in pairs, between which the feet of the birds are slipped. The rack stands in the cellar or any cool place. In summer an hour is allowed for the animal heat to leave the birds. A shorter time will suffice in winter.

If your market demands the birds dressed, pluck dry, harden in cold water, and pack with layers of rice paper between. Unplucked birds are packed without the paper. In summer cracked ice is used plentifully in packing both dressed and unplucked squabs, the ice and birds making alternate layers. The heads of the birds should be towards the center, the feet outward.

**Cost and Price.**—The prices of squabs vary with the market and with the season. New York quotations for October 15 last give \$3.75 as top price, while Chicago on the same day offered \$3.

The cost of feeding a pair of birds for a year is estimated at \$1.04, when food supplies can be bought at the

## Nitrate of Soda

Nitrate Sold in Original Bags

**NITRATE AGENCIES CO.**

64 Stone Street, New York

Keyser Building, Baltimore, Md.

36 Bay Street, East, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street,  
San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly  
Filled—Write for Quotations

following prices: Sifted cracked corn \$1 per cwt., wheat 80 cents per bushel, Kaffir-corn 90 cents per bushel, millet 90 cents per bushel, hemp \$1.30 per bushel, and peas \$1.10 per bushel. The mated birds of the Homer variety cost \$2 a pair.

Knowing now the outlay for the home, the food, and the birds, one can "count the cost" in actual money of his undertaking. The expenditure of time necessary varies with the size of plant. Twenty minutes morning and evening for feeding and watering and an hour once a week for cleaning the house will cover the time required for a plant of from 12 to 25 birds.

As one enters extensively into the industry the time required is lengthened but the profits are greater and interest and pleasure in the work also increase. Frequently one becomes fascinated with the production of superior breeding birds and the



Warranted to Give Satisfaction.

**Gombault's  
Caustic Balsam****Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

sale of squabs gets to be a mere inci-  
dent in the large enterprise of selling  
mated pairs.

The industry is by no means  
crowded, as steadiness in market  
quotations for the past several years  
gives evidence. But those who go  
into it should remember that like all  
successful ventures it must be con-  
ducted not haphazard and with  
vague intermittent attention, but sys-  
tematically, and with intelligent care  
—in short, with brains.

**The Stable.****Educating the Colt.**

Mr. C. T. Colt of Union county,  
Oregon, has a name that would just-  
ify him in claiming to know some-  
thing about handling a young horse.  
In the Pacific Homestead he writes  
about breaking vs. educating the  
colt, drawing close analogies with  
educating the horse as though he  
were human:

How often do we hear the remark,  
"We are breaking a young horse."  
When I hear this oft-repeated phrase  
I question: How many men, who  
have entrusted to their care and  
guidance this most noble animal God  
has placed in our keeping, ever real-  
ize the importance of properly edu-  
cating or training their faithful ser-  
vant instead of breaking?

My friend, what do you mean  
when you say breaking the colt? Are  
you really and truly going to break  
his will, his ambition, his energy, his  
nature to be so cowed and silenced  
that he will be afraid to use his  
strength to exert to the utmost the  
immense power that lies stored in  
those sinews and muscles, to intel-  
ligently and quickly obey your  
slightest or most urgent command?

We start our boys and girls in the  
public school. They complete the  
course there taught and we then  
pack the trunk; a ticket for some  
college or university city is pur-  
chased where they may spend an-  
other four years obtaining knowledge.  
Our boys and girls are intelligent,  
thinking, reasoning beings—the  
highest type of God's creatures, the  
highest type of the animal creation.  
On an average we will say twelve  
years spent in the course of educat-

ing or training them for life's duty.  
This is right and proper.

Did any one ever say break the  
boys to work? Break the girls to  
sew? Break the young men and wo-  
men to become mathematicians, doc-  
tors, lawyers, ministers, or to gain  
knowledge in any certain calling?

Some will remark: "Such non-  
sense, to compare a horse to a per-  
son." Are you sure we are not  
speaking very good sense? A horse  
is an intelligent, thinking, and rea-  
soning being. I will admit that he  
cannot speak the English language  
but if his master will use just a mite  
of good common horse sense when  
handling this same dumb brute, it  
will not require much time to ascer-  
tain that a horse can understand  
most any human language.

Suppose we try changing our tac-  
tics and try educating our friend.  
Train him to pull, to trot, to gallop,  
to come to us when his service is  
required, to gently take to his task  
of the load, the saddle, the plow, the  
cart, or whatever the task, and do it  
with a gentle, obedient, kindly ex-  
pression of the eye that so plainly  
speaks when he cannot convey by  
speech.

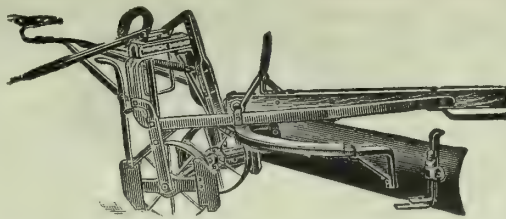
You begin with the boy early, "be-  
gin with the colt early." Educate  
him by starting when you can easily  
accomplish so much. By education  
teach him that you are his friend,  
though ever impress upon him that  
you are his master. Kindness will  
conquer the most vicious animal  
where fighting and rough brute force  
will only make him fear, hate, and  
be ever ready to fight back.

But some will say: "There are  
exceptions." I say: Never. You  
are willing to train your son in his  
public school and college course for  
twelve years and he can talk and  
reason and as you say is pretty smart  
without this training, and with this  
colt, who can not talk and reason in  
your language, you lose all patience  
if he fails to catch on to your ideas  
in something like fifteen minutes. If  
you hitch him to a wagon twice and  
he refuses to pull a big load the next  
time you thrash him, and for what?  
Perhaps his collar does not fit; in-  
stead, pinches his throat. Perhaps  
the back and belly band girt too  
close and when pulling on a hard  
strain, not being accustomed to mov-  
ing in such a condition, his wind is  
affected temporarily and he comes  
back. The reason of all summed up:  
He has not been educated to pull and,  
like any artisan, must first learn his  
trade. It is your duty to educate  
him and teach him the rudiments  
and science of his profession—to  
haul heavy loads, to plow a straight  
furrow, to walk quickly and smooth-  
ly, trot swiftly and quickly and will-  
ingly obey your every wish and com-  
mand.

Fellow horsemen, let us look upon  
our friend the horse as a creature  
God has entrusted to our care, and  
though our servant yet our benefac-  
tor, for where would we turn to re-  
place so faithful a friend as the  
horse?

Feed him quality, though he may  
not have the pure food act to cham-  
pion his cause. Give him sufficient  
quality to nourish and stimulate that  
powerful body to perform the task  
you may demand. Because he can-  
not say the water is muddy or stag-  
nant, do not fail to lead him to the  
spring or if need be carry from the  
well nature's thirst-quenching and  
refreshing beverage—pure water.

"But some horses are fools; you

**MAKE ROADS EASIER WITH ONE MAN GRADER**

most every job with no fuss or trouble. Machine weighs only 600 pounds. It is the

**20th CENTURY GRADER**

Made of Steel and Malleable Iron; strong, stiff and adjustable to every need  
in road-building, land-leveling, ditch-digging, railroad-grading, etc.

Our handsome new booklet is free and tells all about the machine, with large  
illustrations. Send now for it and learn how to make good roads cheap. Address

**THE BAKER MANUFACTURING CO.**

DEPT. I.

706 FISHER BLDG.

CHICAGO.

**Pasteur's  
Anthrax (Charbon) Vaccine**

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double  
tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark  
yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify  
"Sorby."

**SORBY VACCINE CO. (Inc.)**

(General Agents U. S. A.)

161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.

PARIS  
THE PASTEUR  
INSTITUT  
ALEXANDRIA  
PELUSIUS  
BUENOS AIRES  
CALCUTTA  
HONG KONG  
Kobe  
LONDON  
MADRID  
MANILA  
MONTREAL  
NEW YORK  
Peking  
Rangoon  
San Francisco  
Shanghai  
Singapore  
Tientsin  
Yokohama

**PASTEUR**

IN ORDERING  
SERO-VACCINES  
SPECIFY  
"PASTEUR"  
AND GET THE GENUINE

**VACCINE CO. LD.**

CONCESSIONARIES OF THE INSTITUT PASTEUR BIOLOGICAL PRODUCTS PARIS

LONDON  
25, Abchurch Lane  
J. H. & J. W. L. & Co.  
Agents  
for  
WINDMILL  
BRAND  
SUGAR  
SALT  
SODA  
LIME  
SULPHUR  
ACID  
GLASS  
PAINTS  
OILS  
ETC.

**Pasteur Vaccine Co., Ltd.**  
**Anthrax & Blackleg Vaccines**

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by  
the discoverers, Profs. Arloing, Cornevin and Thomas. Furnished in powder, cord  
and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore.  
It is furnished only in our established blue tube and always bears our name,  
trade mark and expiration date for your protection. Do not accept any other.

**PASTEUR VACCINE CO., Ltd., 7 Rue Meyerbeer, Paris**  
NEW YORK 866-868 W. 11th Street CHICAGO 328-825 Dearborn Street

When your animals are  
vaccinated be sure that it  
is with

cannot teach them." Yes, I know  
some would-be horsemen are fools  
and it seems to be a somewhat con-  
tagious disease from man to beast.  
For example, a very balky driver  
will most always infect the animals  
under his care with the bacilli that  
his hide is impregnated with.

"But how am I going to do all  
this training, this educating? I have  
broke horses all my life and this new  
idea may be all right but how do you  
go about it, what rules and course  
of instruction do you follow?

Here you are: Throw away all  
such weapons as whips and lariat or  
lasso, and all boisterous, loud and  
rough treatment. Supplement kind-  
ness, quietness, gentleness, and get  
on the good side of the colt. Then,  
step by step, give him his lesson lit-  
tle by little. Never make a false  
move or do anything that must be  
undone.

Some horsemen use a drug that is  
said to attract the animal to the mas-  
ter and cause him to do his bidding.  
I have such a preparation and use it  
on all animals that I wish to con-  
quer. I am willing to give away the  
recipe to those who will make sin-  
cere use of it. It is:

Kindness (full measure); thought-  
fulness for the comfort of the pa-  
tient (full measure); sufficient pure  
food and drink and comfortable  
quarters (full measure); never in-  
jure, never worry, regularly feed  
and proper curry.

To the above add all the human  
brains you can muster into service;  
mix well and administer continu-  
ously.

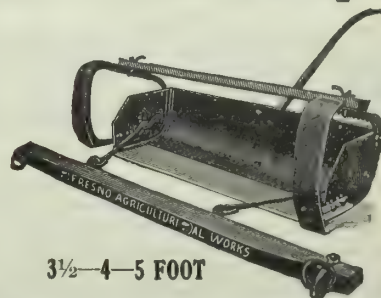
**Cutter's Anthrax and  
Blackleg Vaccines**

are given the preference by 80 per cent of  
California stockmen because they give  
better results than others do.

Write for Prices, Testimonials and our  
New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.**The Fresno Scraper**

3 1/2 - 4 - 5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.**School of Practical, Civil, Mechanical  
Electrical and Mining Engineering**

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination  
Assay, \$25; Blowpipe Assay, \$10. Full Course of  
Assaying. Established in 1864. Send for circular.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds  
for New York.  
937 Pacific Bldg., Fourth and Market Sts.,  
San Francisco.



## THE MARKETS.

San Francisco, May 27, 1908.

## WHEAT.

The wheat market remains inactive in both spot wheat and futures, with no change in quotations. California millers are still buying wheat in the north. The supply of cash wheat is not large and there is no chance of prices dropping soon. Estimates of the California wheat crop of this year range from 125,000 to 150,000 tons, the former figure being that of the conservative grain men. This means that it will be necessary for California to import heavily during the next year for her own needs. Foreign reports are pessimistic as to crops. Recent reports from India, compiled by officers of the Government, estimate the crop there at 38,000,000 bushels less than last year. Little buying is being done on the Coast, as the Chicago wheat pit is a little unsettled and wheat was quoted 1c. lower on the bushel Monday.

California White Australian..	1.70 @ 1.72½
California Club.....	1.65 @ 1.67½
California Milling.....	1.67½ @ 1.70
California lower grades.....	1.40 @ 1.60
Northern Club.....	1.65 @ 1.67½
Northern Bluestem.....	1.70 @ 1.75
Northern Red.....	1.65 @ 1.67½
Turkey Red.....	1.67½ @ 1.75

## BARLEY.

Barley remains unchanged with light stocks and a firm market for feed. Shipments of considerable size are arriving from the northern part of the State and from Oregon, but are all needed for immediate demands. The price of future barley is lower and weak. Estimates of the coming crop vary widely.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.42½ @ 1.45
Common to Fair.....	1.40 @ 1.41½
Shipping.....	Nominal

## OATS.

The firm market in oats still holds. The stocks are light and are being closely held. There is not the least change in prices and little buying is being done.

Choice Red, per ctl.....	\$1.52½ @ 1.55
Ordinary Red.....	1.45 @ 1.47½
Gray.....	1.60 @ —
White.....	1.47½ @ 1.57½

## CORN.

During the past week there has sprung up a lively demand for spot corn for milling purposes. This came on a market which was practically bare, and a jump in prices resulted. The demand for sacked goods is the most marked, but bulk corn on the track is very firm. There is little Eastern stock arriving.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.80 @ —
White.....	Nominal
Western State sacked Yellow.....	1.85 @ —
White, in bulk.....	1.74 @ —
Mixed, in bulk.....	1.72 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

There is no change in this market. Stocks are light and the quotation is merely nominal.

California.....	\$1.47½ @ 1.50
-----------------	----------------

## BEANS.

The remainder of last year's crop of beans is very small and the demand for it is brisk. The past week has seen another marked advance in price on the principal commercial varieties. The shipping demand remains good and the new crop will come in on a market which is practically empty. All reports so far received from the growing crop indicate that it will be about as large as usual. Further advances are expected before the new crop is put on the market.

Bayos, per ctl.....	\$3.15 @ 3.30
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.50 @ 3.00
Garbanzos.....	3.25 @ 3.65
Horse Beans.....	2.25 @ 2.75
Small White.....	4.25 @ 4.35
Large White.....	4.15 @ 4.50
Limas.....	4.60 @ 4.75
Pea.....	3.50 @ 4.00
Pink.....	3.20 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	3.00 @ —

## SEEDS.

No change has occurred in the seed market and prices are the same as last week. There is no life in this line at present.

Alfalfa per lb.....	20 @ 22 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

Little interest is being taken in flour by buyers, but the price is being firmly maintained by the millers. With the scarcity of wheat, they seem confident that there will be no early lowering of prices. Little buying is being done either for holding or for the export trade. Many of the San Francisco millers issued a new price schedule on May 25 with prices on corn meal, rolled oats and other mill products quoted higher. Corn meal advanced from \$2.75 per 100 lb. to from \$3.05 to \$3.25. Flour quotations remain unchanged.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

The weakening in prices during the past week has had the effect of decreasing shipments of hay to the market, the total arrivals amounting to 3160 tons, in comparison with 3410 last week. Last year it was a matter of transportation, for although stocks were rather light in the country, yet everyone was rushing his holdings to market to take advantage of the high prices, that were ranging at from \$2 to \$3 per ton above the present market. This year cars are plentiful and stocks much heavier than last season, but trade is much lighter and the general outlook weaker. The recent cool weather has had a tendency to delay shipments of new hay, for in many districts the crop has not yet ripened. Very little new hay has been marketed as yet, the few cars that have arrived showing a very good grade, however. It will probably be a month from now before consumers will take to new crop hay at all readily, and meanwhile there is more than an ample supply of old hay to satisfy the rather moderate demand. Nothing is yet seen to change the idea that the hay crop will be ample for all needs, and that prices will decline to a moderate range, several dollars a ton below the present quotations.

Choice Wheat, per ton.....	\$16.00 @ 18.00
Other Grades Wheat.....	11.50 @ 15.00
Wheat and Oat.....	12.00 @ 16.50
Tame Oat.....	11.50 @ 16.00
Wild Oat.....	10.00 @ 15.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 95c

## MILLSTUFFS.

The situation in millstuffs shows but little change. Several lines began this week a little stronger, but the receipt of liberal shipments from the North served to offset this, and now everything is quiet at practically unchanged prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	32.00 @ 33.00
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.00 @ —
Jobbing.....	28.00 @ —
Corn Meal.....	36.00 @ 37.00
Cracked Corn.....	35.00 @ 39.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 39.00
Rollad Barley.....	31.00 @ 32.00
Shorts.....	33.00 @ 35.00

## VEGETABLES.

The vegetable market has held up well, with brisk trading most of the days of the past week. The advance of the season has caused a slight drop in the prices of imported vegetables, and this week saw the first arrivals of California tomatoes. Onions suffered another decline, the supply from the southern part of the State being very heavy. Some of the arrivals have shown the effect of the warm weather and had to be sold below quotations. Green peas have varied greatly in the amount

of stocks coming in from day to day and quotations have changed accordingly; the general tendency, however, has been in an upward direction.

Garlic, per lb.....	18 @ 20 c
Green Peas, sack.....	1.25 @ 2.25
String beans, lb.....	3 @ 6 c
Cabbage, per ctl.....	35 @ 50 c
Onions—	
Australian, per ctl.....	3.50 @ 3.75
Bermudas, per crate.....	1.25 @ 1.50
New Red, sack.....	1.00 @ 1.15
Summer Squash, box.....	75 @ 1.00
Tomatoes, crate.....	1.50 @ 1.75
Carrots, sack.....	75 @ —
Rhubarb, box.....	60 @ 1.00
Asparagus, extra, lb.....	6½ @ 7½ c
Asparagus, No. 1.....	5½ @ 6 c
Asparagus, No. 2, lb.....	3 @ 5 c
Green Peppers, lb.....	15 @ 25 c
Cucumbers, doz.....	40 @ 65 c

## POULTRY.

There have been practically no changes in the poultry market during the past week, its only feature being the demand for "full grown" young roosters. The finest lots of these have brought \$10 per dozen, with only a small stock on hand. The supply of native poultry in other lines remains large and there is a continuing liberal shipment of Eastern stock. The market is weak in all lines excepting young roosters, fryers and large broilers, and only the finest offerings sell near the top quotation. Many poultry raisers are putting their stock on the market on account of the high price of feed, which, they claim, makes the industry unprofitable.

Broilers.....	\$3.50 @ 4.50
Small Broilers.....	2.50 @ 3.50
Fryers.....	6.00 @ 7.00
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	5.00 @ 5.50
Small Hens.....	4.00 @ 4.50
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	7.50 @ 8.50
Young Roosters, full grown.....	9.00 @ 10.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50
Ducks.....	4.00 @ 7.00
Geese.....	1.75 @ 2.00
Goslings, per pair.....	2.00 @ 2.50

## BUTTER.

Butter remains very firm, with a slight advance in price. Extra California stock advanced 1 cent on the pound at the opening of the market Monday, and has continued firm since. While there is practically no buying being done for storing purposes, business on the exchange is lively and there are buyers ready to take all surplus stock that is offered. On the street prices remain unchanged from last week's quotations, but the market is firm and there is no surplus stock.

Cal. (extras) per lb.....	24 c
Firsts.....	23 c
Seconds.....	22 c
Thirds.....	—
Fresh Packing Stock, No. 1.....	21 c
Fresh Packing Stock, No. 2.....	19 c

## EGGS.

From Petaluma and other points which are heavy egg shippers comes the report that there has been a continued falling off in the egg supply. The entire supply of the Santa Cruz district is needed for the local demands. The market remains firm with no important changes in prices. The condition of the poorer grades is better than last week. On the street some firms report that the demand is not as brisk as it should be.

California (extra) per doz.....	22 c
Firsts.....	20½ c
Seconds.....	17½ c
Thirds.....	16½ c

## CHEESE.

Cheese has shown a slight decline and at times there has threatened to be an over-supply of California flats. Only a brisk movement into storage prevented a serious break in prices.

Fancy California Flats, per lb...	11½ c
Firsts.....	11 c
New Young Americas, Fancy....	14 c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	16 c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c
Oregon Flats.....	13 c
Oregon Y. A.....	14½ c

## POTATOES.

Old crop potatoes remain firm, with an other advance in Oregon Burbanks. The supply of new potatoes is abundant and the price is very weak. Several days

**LILLY'S BEST**  
MEANS

## Comfort for Stock

**FLY KILLER**  
applied with a small hand sprayer both morning and night gives cows a horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A cost of

**LICE KILLER**  
applied to roost or board beneath the roost will positively kill lice. For something in the powder for

**INSECT POWDER**  
is sure death to all vermin and is positively harmless to chicks.  
These remedies are Sold by Dealers

Manufactured by  
**THE CHAS. H. LILLY CO.**  
SEATTLE and PORTLAND

there has been a large carry-over stock and at no time has the market been cleared.

Oregon Burbanks.....	1.20 @ 1.3
Burbanks, River, bag.....	75 @ 1.0
New Potatoes, lb.....	1 @ 1

## FRESH FRUITS.

Apricots have been arriving in large quantities, and as they are of a better quality they have gone readily at \$1.25 to \$1.50 per crate. Strawberries are not coming in as generously as they did at the first of the week. They are firm, with no change from last week's quotation. Longworths, while the larger berries have improved. During the early part of the week there was an over-supply of cherries, and large quantities were disposed of to the canneries at from 1½c. to 3c. per pound. The supply at present is limited however, and all good stock is bringing quotation prices. The offerings of currants and berries are larger and going well. The first shipment of cherry plum of the season arrived from Vacaville Monday and sold at 75c. to \$1 for 10-pound crates.

Cherries—	
Black Tartarian, drawer...	60 @ 85c
Purple Guigne.....	50 @ 60c
Bulk, lb.....	3½ @ 7 c
Apples, fancy.....	1.75 @ 2.2
Apples, common to choice...	60 @ 1.00
Strawberries—	
Longworths, chest.....	8.00 @ 10.00
Cheneys, chest.....	6.00 @ 8.00
Malindas, chest.....	5.00 @ 7.00
Crates.....	75 @ 1.00
Blackberries, small crate....	1.25 @ 1.50
Bananas—	
Honolulu, bunch.....	1.00 @ 1.75
New Orleans.....	2.50 @ 3.50
Pineapples—	
Mexican, doz.....	3.00 @ 4.00
Honolulu.....	4.00 @ 7.00

## CITRUS FRUITS.

The citrus fruit market remains very firm, with advances all along the line. The supply of lower grade lemons is at present larger than is needed, and this grade is hard to dispose of, even under quotations.

Choice Lemons.....	\$1.50 @ 1.75
Fancy Lemons.....	2.25 @ 2.75
Standard.....	1.00 @ 1.25
Limes.....	5.00 @ 5.50
Oranges—	
Navels.....	2.25 @ 3.50
Grape Fruit.....	3.50 @ 4.00

## DRIED FRUITS.

There have been no developments in the dried fruit market, and prices remain unchanged. Present indications point to good crops, and the following prices are being offered for 1908 fruit: Peaches, 6c. to 10½c.; apricots, 7c. to 8½c.; prunes, 3½c. on basis of four sizes, with 4c. for Santa Clara. Figs are normal. Prunes are the strongest feature of the market. There is almost no movement in raisins among the San Francisco houses, but reports come from Fresno districts that several small sales have been made to local packers there, prices going as low as 2½c. It is estimated that the raisin holdover has been reduced to 10,000 to 12,000 tons



d the 1908 crop will not be over two-thirds as large as that of last year.

vaporated Apples	5 @ 6 c
igs	2 1/2 @ 3 c
priots, per lb.	11 @ 13 c
saches	7 @ 8 1/2 c
runes, 4-size basis, 1907 crop.	3 @ 3 1/2 c
ears	7 1/2 @ 9 1/2 c

#### RAISINS.

Crown	3 1/2 @
Crown	4 @
Crown	4 @ 4 1/2 c
eeded, per lb.	6 @ 6 1/2 c
eedless Sultanas	4 1/2 @
ondon Layers, per box	9 @ 1.00
ondon Layers, cluster.	\$1.25 @ 1.50

#### NUTS.

There has been no change in the nut market. Prices are firm and stocks light. Prospects for good crops continue.

Almonds, Nonpareils	13 1/2 @ 14 1/2 c
IX L	13 @ 14 c
Ne Plus Ultra	12 1/2 @ 13 c
Drakes	11 @ 11 1/2 c
Languedoc	10 @
Hardshell	7 @ 7 1/2 c
Walnuts, Softshell No. 1	13 @
Softshell, No. 2	9 1/2 @
Italian Chestnuts	10 @ 12 1/2 c

#### HONEY.

There is but very little of old crop honey on the market, and most quotations at present are merely nominal. Prices are very firm.

Water White, Comb	16 @ 17 c
White	15 @
Water-white, extracted	8 @ 8 1/2 c
Light Amber, extracted	7 @ 7 1/2 c
Dark Amber and candied	5 1/2 @ 5 1/2 c

#### WOOL.

The dullness of the wool market continues, buyers showing very little interest. No change in prices is noted. Advances from Red Bluff are to the effect that, in general, buyers and sellers are unable to agree.

Spring-clip, Humboldt, year's staple	20 @
Northern Humboldt and Mendocino	12 @ 14 c
San Joaquin	8 @ 11 c
Fall Clip, northern, free	7 @ 8 c
Southern Coast	7 @ 10 c
Nevada	9 @ 12 c

#### HOPS.

A decline in the offered price for 1908 contracts has been the only change in a featureless week in the hop business. Cash hops remain unchanged.

1906 crop	1 1/2 @ 2 1/2 c
1907 crop	4 @ 6 c
1908 (contracts)	8 @ 9 c
3 to 5 year contracts	10 @ 12 c

#### MEAT.

A decline in hogs has taken place owing to the over-supply and to the dullness of the packing market. Mutton is firm, with an over-supply of the first of the week cleared up. Beef generally ranges a little higher and the market is fairly strong.

Beef: Steers, per lb.	6 1/2 @ 7 1/2 c
Cows	5 @ 6 c
Heifers	5 @ 6 c
Veal: Large	6 @ 8 c
Small	8 @ 9 c
Mutton: Wethers	8 1/2 @ 9 c
Ewes	7 1/2 @ 8 1/2 c
Spring lamb	10 @ 11 c
Hogs, dressed, heavy	7 1/2 @ 8 c
Light	9 @ 10 c

#### LIVESTOCK

Steers, No. 1	8 @
No. 2	7 1/2 @
No. 3	6 1/2 @ 7 c
Cows and Heifers, No. 1	6 1/2 @ 7 c
No. 2	6 @ 6 1/2 c
Bulls and Stags	3 1/2 @ 4 c
Calves, Light	4 1/2 @
Medium	4 @
Heavy	3 1/2 @
Sheep, Wethers	4 1/2 @
Ewes	4 @
Spring Lambs, lb.	5 1/2 @
Hogs, 100 to 200 lbs	6 @
200 to 300 lbs.	5 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## A GREAT BARGAIN

The Popular Barren Hill Nursery  
at Nevada City, Cal.

Formerly conducted by the late Felix Gillet, is offered for sale at a very low figure. Contains 16 acres, fine House of nine rooms, Greenhouse, Office Building, Packing and Dry House.

An attractive feature being a quartz ledge running through a portion of the property. Write for particulars.

**BARREN HILL NURSERY,**  
Nevada City, Cal.

## Correspondence.

### From Another Veteran of 1872.

TO THE EDITOR: In your issue of May 9th I note your mention of James Boyd of Riverside as a subscriber since 1872, also your desire to know if there are others.

Thinking I might antedate Mr. Boyd as a patron of the PRESS, I overhauled my copies for early dates and the oldest found was July 6, 1872.

If I was late in the start I will try to win out on a slow homestretch. I hope to read the RURAL for years and years to come, as I am young at 78.

Vandalism of employees has reduced files so that, placed flat full size in the corner of my bachelor's den, the clean PACIFIC RURAL PRESS only makes a stack three feet eleven inches high.

I also planted a big tree in 1882 which now has a girth eight feet nine inches. For girth Mr. Boyd takes the cake. HORACE WHITAKER.

Orosi, Tulare Co., Cal.

[We are glad to hear from so old and so good a friend. You have probably saved about two-thirds of the papers, as the pile ought to be nearly six feet high. We hope it will reach the ceiling before you get weary of reading the RURAL PRESS.—ED.]

### The Season in Mendocino.

TO THE EDITOR: Since April 22nd, when it commenced to rain after a long drouth, we have had, according to my home-made rain gauge, 2 1/2 inches of rain. Three-quarters of an inch of this amount fell last night, and the prospect is at this writing that we may get more. Fine crops are now assured for this beautiful and highly favored valley.

Potter Valley. IRA W. ADAMS.

## BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseeded it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 4 1/2 original illustrations. Cloth.....\$1

"THE OLD RELIABLE"

**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## BREEDERS' DIRECTORY

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN,** Agnew, Santa Clara Co., Cal.

**SANTA TERESA POULTRY FARM** for White Leghorns. **Wm. HAUSAM, Eden Vale, Cal. Box 45.**

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### SWINE.

**GEO. C. ROEDING,** Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS.** C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN,** Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

### HORSES AND CATTLE.

**JOHN LYNCH,** breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 821. Petaluma, Cal.

**BULLS AND COWS FOR SALE.**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

### HOWARD CATTLE COMPANY.

### BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

## FRANCIS SMITH & CO., Manufacturers of

**SHEET IRON & STEEL PIPE**

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

**DADD'S MODERN HORSE DOCTOR.**—By George H. Dadd, M. D., V. S., containing practical observations on the causes, nature and treatment of diseases and lameness of horses—embracing recent and improved methods, according to an enlightened system of veterinary practice, for preservation and restoration of health. Illustrated. 432 pages. 5 by 7 inches. Cloth.....\$1

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth.....\$2

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Baker Mfg. Co., The	349
Barren Hill Nursery	351
Beckman, Geo. V.	351
Bird & Co., J. A. & W.	343
Blake, Moffitt & Towne	346
Breeders' Directory	351

Covina Nurseries	352
Croley, George H.	351
Clark Wise & Co.	—
Cutter Laboratory, The	349

De Laval Dairy Supply Co.	347
Deming Co., The	—
Dewey, Strong & Co.	352
Dietz Company, R. E.	351
Disbrow, F. H.	352
Doak Gas Engine Co.	352
Driver, Aber & Co.	347
Driver, E. S.	351

Fleming & Sons Mfg. Co.	—
Fresno Agricultural Works	349

Galloway, A. J.	352
German Kall Works	348
Grangers' Business Association	347

Hausam, Wm.	351
Hart, Ed.	351
Howard Cattle Co.	351

International Harvester Co.	—
-----------------------------	---

Jackson & Co., T. W.	352
Junior Monarch Hay Press Co.	352

Lawrence-Williams Co.	349
Lilly Co., Chas. H.	350
Lister, Henry B.	349
Lynch, John	351

Meacham, Frank A.	—
Mountain Copper Co.	348

National Wood Pipe Co.	352
Nitrate Agencies Co.	348

Oakland Poultry Yards	351
-----------------------	-----

Pacific Coast Business College	345
Pasteur Vaccine Co.	349

Pear Blight Remedy Co.	352
------------------------	-----

Roeding, Geo. C.	351
------------------	-----

San Francisco Sulphur Co.	348
---------------------------	-----

Santa Teresa Poultry Farm	351
---------------------------	-----

Shaw, Henry	352
-------------	-----

Sharples Separator Co.	347
------------------------	-----

Silva & Bergtholdt Co.	352
------------------------	-----

Simmons Hardware Co.	—
----------------------	---

Smith, Francis	351
----------------	-----

Sorby Vaccine Co. (Inc.)	349
--------------------------	-----

Southern Pacific Railway	352
--------------------------	-----

Standard Oil Co.	345, 348
------------------	----------

Stowe, C. A.	351
--------------	-----

Sullivan, W.	351
--------------	-----

Teague, R. M.	352
---------------	-----

Temple Pump Co.	—
-----------------	---

Tower Co., A. J.	346
------------------	-----

Tuttle's Elixir Co.	347
---------------------	-----

Van Der Naillen, A.	349
---------------------	-----

Vermont Farm Machine Co.	346
--------------------------	-----

Wagner, J. B.	352
---------------	-----

Waite, Thos.	351
--------------	-----

Woodin & Little	—
-----------------	---

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth.....\$1.50

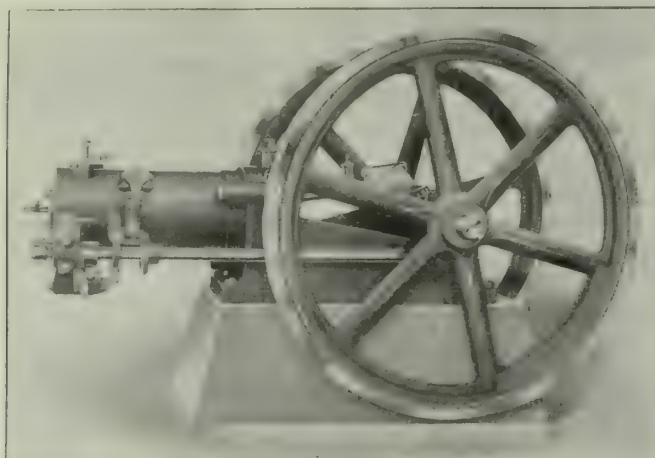
**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth.....\$1.00

**BROOM CORN AND BROOMS.**—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 59 pages. 5 by 7 inches. Cloth.....\$0.50



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.

Sales Office and Factory: 4th and Madison Streets, Oakland.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

May 30.

June 3, 9, 10, 11, 15, 16, 22 to 28, inc.

July 2, 3, 6, 7, 8, 28, 29.

August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	. . .	\$ 60.00
Council Bluffs	. . .	60.00
Kansas City	. . .	60.00
Chicago	. . .	72.50
St. Louis	. . .	67.50
New Orleans	. . .	67.50
Washington	. . .	107.50
Philadelphia	. . .	108.50
New York	. . .	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

### SOUTHERN PACIFIC.

## JUNIOR MONARCH HAY PRESS CO., SAN LEANDRO, CAL.

Make the Leading Hay Presses  
Guaranteed to excel all others

WRITE FOR CATALOGUE

### NATIONAL WOOD PIPE CO.

Patent Machine Banded

Patent Continuous

#### WOOD PIPE

Made from California Redwood

or Selected Puget Sound Yellow Fir.

404 Equitable Savings Bnk. Bldg.  
Los Angeles

318 Market St., San Francisco

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.



### GOOD TREES AND BIG PROFITS

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

The San Dimas Citrus Nurseries  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

### ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address  
A. J. GALLAWAY, Healdsburg, Cal.

### Eureka Lemon Valencia and Navel Oranges Eucalyptus Trees

Globulus, Rostrata,  
Rudis, and Tereticoornis

### Phoenix Canariensis, Chamaerops Excelsa Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

COVINA NURSERIES,  
Covina, Cal.

### Red Gum and Sugar Gum

for April and May.

\$2.25 .....per 100  
\$10 .....per 500  
Taken from flats; roots dipped in mud, packed in moss, prepaid to you by express; good selected plants.

HENRY SHAW,  
320 River St. Santa Cruz, Cal.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000.

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,  
1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00

593 pages Well Illustrated.

\$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 23.

SAN FRANCISCO, SATURDAY, JUNE 6, 1908.

Thirty-eighth Year.

## The Apricot In California.

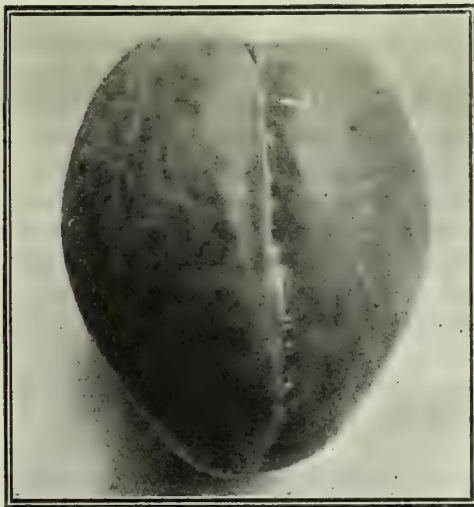
Apricots are grown in California as standard orchard trees. If left to themselves they run up rapidly to considerable height and assume the aspect of forest trees, with new wood growth foliage and fruit aloft, sustained by a strong framework of rough-barked limbs, and are long-lived, for such trees half a century old can be seen here and there adjacent to the building sites on the first located American ranches. Such trees are not, however, exponents of either the type of tree nor of the local climate which is best from the point of view of commercial apricot growing, because such trees do not bear the fruit which sells for the best prices and which can be gathered in good condition at the least cost. In fact, the thrifty tree-growth of these apricots is not a guarantee that they will bear fruit regularly and well. The occurrence of even light frosts during the blooming and setting, or soon after, may strip the tree of its burden of fruit without injury to even the softest tissues of twig and leaf; consequently regular bearing of the apricot cannot be expected where the temperature is apt to fall four or five degrees below freezing point during the months of March and April, even though the duration of such temperature may be very brief. For this reason the area of California which is well suited to apricot growing is limited when compared with the great area of the State, though when counted by acres it is ample enough to supply all the fresh, canned and dried apricots which the markets of the world can be expected to take at profitable figures.

Speaking broadly, the quarter of the State lying northward of the Bay of San Francisco and westward of the high ridge of the Coast Range is not suited for commercial apricot growing, though here and there there are places where bearing may be regular and abundant enough to make trees satisfactory for home gardens. The mountain regions everywhere in the State above an elevation of about 1200 feet are also to be excluded. The lowest of the great interior valleys, except here and there, where frosts are prevented by proximity of broad streams or by favoring air currents, are unsuited for apricots, and the bottoms of small valleys, where cold air cannot find drainage outlet, are also treacherous. It is evident, then, that even in regions of general adaptation to the fruit, local discrimination must be exercised in selecting lands for apricots, and the occurrence of spring frosts, which are usually governed by topography, must be guarded against. This is not the same problem which arises in the selection of land for citrus fruits, because apricots are not open to injury during December, January and February, and consequently they may be successfully grown in places where winter tempera-

tures might injure the evergreen trees of the citrus family. Still, next to the almond, the apricot is most liable to frost injury of all our deciduous tree fruits, and commercial success depends largely upon the selection of a proper place for them.

The character of the soil is of less account because we grow apricots on three roots—its own seedlings, the peach and the myrobalan plum. The first two succeed best on rather light, deep and well-drained loams, while the plum root endures the heavier loams and some surplus water during the dormant season, which the other roots resent strongly.

The apricot is the handsomest of our deciduous fruit trees. Its broad leaves have something of the poplar outline, but a deeper green color, which contrasts beautifully with the reddish hues of the new growth above or beyond them and the rich purple-brown of the bark on the younger branches. It is a most vigorous grower all during the sea-



A GOOD TYPE OF CALIFORNIA COMMERCIAL APRICOT.

son, and even when the fruit shows its orange-yellow tints the greens and reds of the progressive foliage-growth continue on hosts of new laterals which break out on the new wood. But this vigorous growth-habit renders it necessary to adopt a repressive policy in pruning to keep the tree within the limits of low-cost fruit picking, also to prevent the tree from carrying an excessive amount of bearing wood and from exhausting itself and its owner by overbearing small unprofitable fruit. The apricot is then a tree which requires most constant and rational pruning. First, the tree must be started with low, short-jointed and strong branches by vigorous cutting back at planting and for the following two years. It is planted as a yearling—that is, with one summer's growth on the bud in the nursery. After transplanting this growth is cut back to a single stem 20 inches in height. The branches which broke from this stem are permitted to grow all they please during the ensuing summer, and then when the leaves fall, shoots not needed for permanent branches are cleanly cut away and three or four

shoots selected for branches are cut back to about half and that is known as "brown-apricot scale," ten inches from their attachments to the stem. From these stubs another strong start of branches is made the following summer, and the following winter some of these are removed and about ten retained and somewhat shortened. Upon this framework comes the third summer's growth. Such a tree will be allowed to bear considerable fruit during its next year, and this will be low down and central in the tree, where fruit-bearing shoots will be retained at the preceding winter pruning.

Up to the bearing age the pruning, being done in the dormant season, has been productive of wood growth; after this the chief pruning is usually done in the summer, just after the fruit is gathered, to secure the repressive effect above mentioned. This consists in quite severe shortening of the new growth and not a little cutting into older wood also, if good new wood has come lower down, because the tree must be kept down to bearing its highest fruit where it can be readily reached with a step-ladder, while much of it can be reached from the ground. Surplus shoots are also removed at this time and the tree kept from getting too dense or brushy. It is not desired that new shoots shall break after this summer pruning, though some will come usually. The following winter pruning will be easily done, and consists chiefly in removing surplus shoots or "thinning shoots," as it is called, and doing such shortening as may then be seen to be of advantage in shaping the tree.

Thus it may be said that much of our apricot orchard, in places where growth is greatest, is pruned twice a year. There are, of course, other districts in which the growing season is shorter or there is less forcing heat, where orchards are still carried, as they all were some years ago, with simply a good winter pruning each year. Recently, however, there has been a great advance in the policy of summer pruning as better calculated to check growth, to promote regular bearing and to regulate the burden of the tree. Pruning is, however, only a help in the latter respect. Where conditions are favorable, the tree will set more fruit than it can bring to full size, and for this reason thinning or spacing the fruit on the twigs by hand-picking, while the fruit is about the size of a pigeon's egg, is almost a universal practice among the best commercial growers. This is necessary to bring the individual fruits to the diameters required by canners or overland shippers, and which they scale in price according to size: Extras, 2¼ inches; No. 1, 2 inches; No. 2, 1½ inches. Fruit of less size is hard of sale unless the crop happens to be very small. It has also been found that thinning to regulate size is quite as important when the fruit is to be dried by the grower as when sold as fresh fruit.

Thus it appears that the growing of apricots with fullest success requires much attention to details. The natural enemies of the tree are fortunately few in number and yield readily to

(Continued on Page 355.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS  
E. J. WICKSON - - - Editor  
FRANK HONEYWELL - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., June 3, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka.....	...	35.79	45.10
Red Bluff.....	...	20.46	24.61
Sacramento.....	...	12.17	19.96
Mt. Tamalpais.....	...	24.60	22.67
San Francisco.....	...	17.34	22.12
San Jose.....	...	11.64	22.05
Fresno.....	...	7.61	9.61
Independence.....	...	5.29	9.47
San Luis Obispo.....	...	18.06	20.44
Los Angeles.....	...	11.71	15.57
San Diego.....	...	8.54	10.00

## The Week.

The early fruit harvest is proceeding. Plenty of cherries are being gathered and eastern shipments are free. The local market yields rather a low range of prices and there is too much small fruit and too much that is blemished by cracks. The ripening season has encountered much unfavorable weather and the fruit shows it. Royal Ann has re-asserted her supremacy, as we anticipated, and now brings top prices, although the top is too low. As for other fruits, reports continue that there will be a fair amount of everything, on the whole, except prunes. We have seen some prune orchards, chiefly on mesa lands, which are carrying just about as many as they can bring to good size, but the larger area of valley trees is very scant of fruit. The money value of the coming crop may be some consolation for the less amount of fruit, but it will not be distributed very evenly.

The State Board of Health is apparently disposed to take a hand against fraudulent fruit packing, and its action will be approved by all growers who have either honesty or business sense—and one who has the latter has the former also. In their last monthly circular, the Board says: "Examples of mislabeling and misbranding of fruit have been brought to the notice of the State Laboratory. For instance, a box is labeled 'Extra Fancy Black Tartarian Cherries.' The contents of the box so labeled should consist entirely of Black Tartarian cherries, as far as possible, but a box so labeled and containing but one layer of Black Tartarian cherries, the rest of the contents consisting of extremely small red cherries, is in direct violation of the California pure foods and drug law."

We happened to see that particular box of cherries, and it certainly deserved the denunciation it received. It was as clear a case of fraud as we ever saw in fruit packing, and if the Board of Health does not make it hot enough for the packer the Fruit Growers' Convention ought to burn him up. Such practices will ruin the fruit business.

It may be as well to explain how the State Board of Health is empowered to proceed in such a matter. Their authority is quite clear. Section 6, subdivision 2, of the California Pure Food and Drug Law says:

Food and liquor shall be deemed mislabeled or misbranded within the meaning of this Act in any of the following cases: If it is labeled or branded or colored so as to deceive or mislead, or tend to deceive or mislead the purchaser, or if it be falsely labeled in any respect, or if it purport to be a foreign product when not so, or if the contents of the package as originally put up shall have been removed and other contents shall have been placed in such package.

This package of cherries was certainly put up with intent to deceive. It was not faced with extra fine specimens and the filling made with the ordinary run from the tree. The filling was made with a very poor, small cherry of another color, too poor to pick; in fact, no self-respecting grower would allow such a tree to live ungrafted in his orchard. Placing such fruit under a layer of fair-sized Tartarians is a fraud, and we are not surprised that the pure food officials gave this notice to fruit packers: "The package must be honestly labeled. This warning is published for the guidance of those interested, because any violations in this respect will have to be dealt with according to the law."

It ought to be generally understood that anyone who brings in plants of any kind from Florida is guilty of horticultural smuggling. The State has a strict quarantine against Florida, and it is for the protection of California horticulture. It was probably due to the unintentional smuggling in of a plant by mail that we now have the white fly, and there is no telling what other abominations we may get if our people will listen to the conscienceless propositions of Florida plant sellers who encourage evil by announcing that they know how to get in plants in defiance of the State ordinance. Recently a Sacramento valley man brought in 1500 pineapple plants, which were found pest-infested and were all burned by the horticultural commissioner. The man who proposed to start the plantation is probably ahead on the whole, for he has saved the time and money he would have wasted in the undertaking.

The oak-lovers of the bay district are quite busy trying to save the trees from defoliation by that sweetly named caterpillar, *Phryganidea California*. The oaks have probably been bitten by this worm ever since Noah came down from Tamalpais and the apprehensive may therefore be assured that the trees are not likely to be killed. And yet one naturally does not enjoy having his park trees look like the morning after the fire. The way to hit the pest is just the same way that the apple grower hits the codlin worm. The trees should be sprayed with arsenate of lead because this poison can be put upon the leaves without burning them much stronger than paris green can; also because the solution can be easily secured, no lime being necessary to make the wash safe. This makes it less likely that the nozzles will clog, and the tree does not look like a whitewashed warehouse either. The University oaks at Berkeley are being sprayed this week with arsenate of lead donated by Mr. E. E. Luther, of the Watsonville Spray Chemical. Mr. Luther was recently a University student, and he wishes either to show his love for the oaks or to keep the classic shades darker for the pranks of his successors, we are not sure which. This California-made arsenate is now the main reliance of the codlin moth warfare, and it is good for anything that eats leaves—that is, it is bad for them.

We have frequently warned our producers that they must keep their weather eye on tariff revision, for it may be stormy with our industries if they "don't watch out." We have already stated that the Committee on Ways and Means has been authorized to sit during the recess of Congress and to gather such information through Government agents or otherwise as it may seem fit, looking toward the preparation of a bill for the revision of the tariff. California producers should see to it that the committee does not suffer from lack of information. Bradstreet's says that immediately after the November election it is proposed to call the whole committee together and invite people to come before it who have knowledge upon the subject, to impart such information as they are able to give. Bradstreet's also says: "After the hearings are closed the majority members will be called together and the minority members will be excused from attendance while a tariff bill is being framed. When the bill has been prepared the minority members will again be called in and the bill will be submitted to them and to the House. The bill will embody a revision of the tariff, which will be a protective tariff—a maximum and minimum tariff which will put the country on an equality with France, Germany, and Russia in that respect." What we have to look out for is that the maximum shall come our way, and that will be dependent upon information and persistence. There are many influential interests at the East which are likely to forget all about our specialties, which are doing so much to keep industries alive on this side of the continent and to supply the country with things which could be had only beyond the seas if California were not able to produce them. We do not intend to preach upon this theme. We simply warn all individuals and associations whose interests are involved, lest they forget.

As it is a presidential election year it is to be expected that the landscape would be filled with platforms, and it may be difficult for the voter to see in what respects these platforms differ from each other. It may be possible to save much waste of cerebration to have a universal platform with which all political parties can be supplied in printed form, so that the energy usually expended in saying the same thing in a dozen different ways could be directly expended upon distribution of patronage, which is the chief purpose of winning an election. President Roosevelt has done all that he can to supply such a universal platform, for he called a meeting of all Governors and a few others last month, and after talking three days they made a platform, of which this is the leading slab:

We declare our firm conviction that this conservation of our natural resources is a subject of transcendent importance, which should engage unremittingly the attention of the nation, the States and the people in earnest co-operation. These natural resources include the land on which we live, and which yields our food; the living waters which fertilize the soil, supply power and form great avenues of commerce; the forests which yield the materials for our homes, prevent erosion of the soil and conserve the navigation and other uses of our streams, and the minerals which form the basis of our industrial life, and supply us with heat, light and power.

We agree that the land should be so used that erosion and soil wash shall cease, that there should be reclamation of arid and semi-arid regions by means of irrigation, and of swamp and overflowed regions by means of drainage; that the waters should be so conserved and used as to promote navigation, to enable the arid regions to be reclaimed by irrigation, and to develop power in the interests of the people; that the forests, which regulate our rivers, support our industries and promote the fertility and productiveness of the soil, should be preserved and perpetuated; that



the minerals found so abundantly beneath the surface should be so used as to prolong their utility; that the beauty, healthfulness and habitability of our country should be preserved and increased; that the sources of national wealth exist for the benefit of all the people, and that the monopoly thereof should not be tolerated.

If the people of the present day can not only frame such a declaration but make a real start toward national development along such lines, the country will certainly be better because this generation lived in it. The trouble with such great purposes is that though there is no difficulty about covering them with a grand generalization, there is just as much room as ever to disagree as to how such ends can best be attained. The next generation will have plenty to do, no matter what great formulas we devise.

## Queries and Replies.

### Green Growth in Water Tanks.

To the Editor: What is the cause of, and is there a remedy for, water turning green in a tank? We have lately moved on to this ranch and have already cleaned the tank (which is a wooden one and rather old, I fancy) 3 times; but after the lapse of a month, it begins turning green again. The water from the well is clear and bright.—Farmer, Sonoma county.

The greening of the water in your tank is probably due to the growth of algae, a very minute form of vegetation which is persistent in standing water. The only treatment we know of for preventing algal growth in stored water is the use of minute quantities of copper sulphate. If you will write to the Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C., and ask them for a copy of their bulletin No. 76 on "Copper as an Algicide and Disinfectant in Water Supplies," you will find the whole matter carefully discussed. Although this publication has more particular reference to large reservoirs, the information is available for tanks, providing the quantities are correctly adjusted. The amount of copper sulphate is infinitesimal and is not discerned by the taste nor injurious to the system. The method has been successfully used in connection with some town water supply reservoirs in California.

### Soil and Sweetness in Grapes.

To the Editor: Could not the grape be made sweeter in the San Joaquin valley by means of soil management? Has any experimentation been carried on along this line, similar to that of the sugar beet?—Reader, New Jersey.

Our correspondent has doubtless struck some grapes which were either of the showy kind or were picked too green. Commenting upon his suggestion, we can only say that adding sweetness would not be desirable from all points of view under interior valley heat. Too much sugar is sometimes developed, causing an excessive amount of alcohol by fermentation. It might be, on the whole, better if we could devise some plan for securing less sugar in the interior, rather than more. On the other hand, certain shipping grapes, which have been selected because of their beauty, are not disposed to form high sugar content under any conditions; it is not their nature to do so. This is particularly true of the Tokay. It is probable the requirement of picking before full maturity in order to carry well, and the natural habit of the variety (which is not to attain high quality), which are to be blamed for any deficiency in sugar which may seem to you objectionable. An example of an opposite habit of a variety is found in the Muscat of Alexandria, which when allowed to become ripe is exceedingly

rich in sugar, and it is due to this fact that the hot districts around Fresno are so well adapted for raisin production. The fact seems to be that the natural habit of the variety, plus the effect of high summer temperature, secures ample sugar content over a wide range of different soils and situations, and the ruling factor does not seem to be in soil composition, nor in culture policy, although in low, wet lands grapes are apt to be sour, if you get any.

### California Grain Handling.

To the Editor: On what date does the threshing of the spring wheat crop in your State usually commence, and how long does it continue after that date? What is the method in handling grain from the threshing machine to the elevator, by wagon, cotton bags or other means? State, if possible, to what extent cotton bags are used, and whether or not they are owned by the farmers. If not used, do you think their use could be introduced? Can you say as to whether or not there is a failure or any inadequacy in facilities for handling grain at the threshing machine and in carrying to the elevator?—Enquirer, St. Louis.

We have no sharp division between winter and spring wheat, as prevails in the Middle West. Our wheat harvest begins in June and continues to August, according to the earliness or lateness of the different districts. In California we have no elevators; the grain is all handled in jute sacks, which are sold with the grain and shipped with the grain to English markets. Hauling is done by team or by traction engine, and there seem to be no difficulties in getting grain from the threshing machines to the shipping point. There is liable to be more trouble before and after. It is sometimes, as this year, difficult to get grain to haul, and sometimes, as two years ago, to get cars enough to carry it to the ships. If you have any kind of a patent to correct these troubles it might fit here.

### Shot-hole Fungus on the Peach.

To the Editor: Kindly inform me what causes the spots on the specimen I send you. It is a prevailing ailment up here.—Subscriber, Placer County.

The pustules on the small peach which you send are the work of a shot-hole fungus. Whether it is exactly the same species which causes the spotting of the apricot or not has not been definitely determined, but it is the same kind of a fungus and works the same way. This fungus also, when it attacks the bark of the young twigs early in the winter, causes what is known as the "peach blight." This fungus is always worse, both upon fruit and young bark, when the spring air is rendered damp by late rains.

### The Horn-Fly.

To the Editor: I would very much like to ascertain the origin of the horn-fly. From what country did it come, and what was the time of its introduction into California? I do not remember its being here earlier than 1896. Also, did it come with stock imported from foreign countries? This question has been asked by many ranchers and is of great interest to them. I have noticed that cattle and mules suffer more from this fly than do horses.—Subscriber, Sacramento County.

Eastern entomologists agree that this pest was introduced into the United States on the Atlantic side in 1886 or 1887, but they do not specifically state where it came from or how it was brought. Within a decade it had covered all the country east of the Rocky Mountains, and it probably came through to California during the same period. It certainly can travel far with the stock, and it is altogether likely that it came here upon some of the breeding animals selected from eastern herds. Your recollection of the date of its appearance in California agrees with our own observation.

### Manure and Alkali.

To the Editor: I have a piece of land which begins to show lots of alkali. Kindly let me know if it would be advisable to cover the same with horse manure before plowing.—Farmer, Kings County.

The free use of horse or other coarse manure has been found valuable in the treatment of alkali because it renders the surface layer of soil loose, prevents evaporation and the consequent concentration of alkali near the surface of the soil. Anything which checks evaporation from the surface keeps the alkali distributed through a considerable mass of soil, and there may thus be too little at any particular point to render the soil sterile. It is not, therefore, that the manure has any curative effect upon the alkali, but simply prevents it from attaining anywhere sufficient strength to destroy the roots of the plants which are growing upon it.

### Eucalyptus Poles.

To the Editor: Will the tall slim varieties of eucalyptus trees grow well for poles on rich land, planted three or four feet apart. If not, how far apart should they be planted?—Reader, San Joaquin County.

They will certainly grow straight if closely planted. The way is to plant at about four feet and then thin out, so that the trees have about twice that distance, if you want larger poles.

## THE APRICOT IN CALIFORNIA.

(Continued from Page 353.)

proper treatment. Only one scale has done much which can be controlled by spraying with the resin wash. This pest is sometimes held in check by an internal parasite (*Comys fusca*), which is propagated and colonized by our State Horticultural Commissioner, so that spraying apricot trees for scale is no longer undertaken in some regions. A spot fungus, called "shot-hole" from the resemblance thereto of its effect upon the leaf, attacks both leaf and fruit, making ugly pustules upon the latter, which largely destroy its market value. This is prevented by winter use of the Bordeaux mixture, followed by summer treatment also with the copper sprays when required.

Viewed statistically, the apricot product of California is of considerable moment. There are, according to county assessors' returns, 2,659,231 trees in the State, which, at an average of 90 to the acre, occupy 29,547 acres. The product fluctuates widely, according to seasonal conditions. The crop of 1905 was the largest of recent years, and in that year the canned product was 624,481 cases of 2 dozen 2½ lb. tins; 36,000,000 pounds of dried apricots (made from fresh fruit six times their weight), and 279 carloads of fresh fruit for sale in Eastern markets. The large quantities of fresh apricots consumed in California and shipped to other Pacific States, where it is a very popular fruit, are not included in these figures. Owing to unfavorable weather conditions, the crops of the last two years have been very much smaller, but the current year promises a return to good figures.

In choosing varieties for planting, attention must be paid to local adaptations, for some varieties popular in one district are unsatisfactory in another. The Royal seems, however, an exception to this rule, and is a leading variety in all sections. Next in popularity come the Blenheim, Moorpark, Hemskirk and Peach. Several selected local seedlings are promising, but almost all of the dozens which have been named have enjoyed only brief popularity because of shyness in bearing. The Tilton, a Kings county seedling, is now very promising as a regular bearing, late and good sized variety.



## Horticulture.

### NOTES ON DATE GROWING.

Although commercial date growing is probably rather a remote industry for California, many of our readers have a few fruiting palms, and will be interested in a discussion of their culture based upon Arizona experience which R. H. Forbes, director of the Arizona Experiment Station, has just prepared:

Since the establishment of the co-operative date-palm orchard at Tempe in 1899, much experience has been gained in the planting and care of date palms at that point and elsewhere in the region. As it is to be expected in experimental work of any kind, this experience has modified our original ideas concerning the date palm in certain important respects. While the deserts of the Old World and of our own Southwest resemble each other in a general way, they are not identical, and imported trees find themselves confronted by modifications in climate, by new insect and animal enemies, and by changed commercial conditions.

**Soils.**—Properly irrigated, the date palm will grow in any of our Southwestern valley soils, but does not thrive well either in certain excessively heavy clays or light barren sands. Palms will grow in soils so alkaline as to kill out old established alfalfa, and remain uninjured, as at Tempe, by water standing at or near the surface of the soil for several months at a time. Only an unusual excess of soluble salts will inhibit the growth of date palms, the small seedlings and recently planted suckers being more sensitive than established trees.

**Localities.**—In Arizona, the valleys of the lower Colorado, Salt, and Gila rivers offer suitable climatic conditions for the date palm, which occasionally ranges to an elevation of 3500 feet in sheltered situations. At higher elevations, with shorter growing season, only the earliest varieties can be expected to ripen, while even our hottest and longest seasons are too short to properly mature certain valuable late varieties. Medium and early ripening sorts are therefore best suited to our climatic conditions.

**Cutting and Transplanting Suckers.**—Many of our native seedlings, as well as imported varieties, are worthy of propagation, which is done by means of the off-shoots or suckers. Suckers should not be taken from the parent tree until they have attained a diameter of 5 to 6 inches and a weight of 15 to 20 pounds. Suckers should be removed by cutting in and down along the line of cleavage between them and the main trunk, with a strong chisel or a sharp flat-pointed bar. If possible the cut should be carried down so as to bring away at least one or two sound roots. The leaves should be closely pruned and for shipment the cut bases had better be protected against drying out by a layer of wet moss or similar material.

In planting, the sucker should be set in previously irrigated and well settled soil to the depth of its greatest diameter, taking care that the center of the palm is not below the irrigating water level.

For convenience in irrigating, a shallow basin of earth should be made about the sucker, in which, to lessen evaporation and the rise of alkali, a mulch of chip dirt or fine barnyard litter three or four inches deep should be spread. The soil about newly transplanted suckers should be kept constantly wet by frequent irrigations.

Planted in this manner, from 2 to 100% of imported lots of suckers have been made to grow, according to their condition on arrival. Suckers should be cut and transplanted April to August, inclusive, but not during or approaching cool weather.

**Enemies.**—The most dangerous enemy of the date palm thus far encountered is the gopher, which feeds upon the roots and eats out the centers of the trees, and which if unchecked will quickly destroy an entire orchard of palms. Rats also destroyed most of the crop and somewhat damaged the trees in 1906. Poison and gopher guns have been used with best success against these rodent pests. A constant warfare has also

been kept up against the birds, beetles, weevils, and flies which attack the crop.

Date-palm scales have finally been brought under control by means of the gasoline blast-torch method described in Bulletin 56 of the Arizona Station.

**Production.**—While a little fruit is occasionally produced by suckers two years after planting, commercial yields cannot be expected until about the sixth or eighth year. The waste, due to insects, handling, untimely rain and other causes, is sometimes very great, as much as 90% of a crop of 4000 pounds being lost one year by such means. The first suckers large enough to cut were taken from the Tempe palms in their sixth year, and at eight years after planting the older trees at Tempe are carrying about ten off-shoots each, including those already cut.

**Varieties.**—Several of the Old World varieties which have thus far fruited have failed to make good for various reasons. Some have required a longer growing season to mature; others have soured in damp or cool weather, and still others do not appeal to the American consumer. A few varieties have proved acceptable in all respects, and to such as these we must look for future commercial developments. It is of especial interest in this connection to note that certain seedling trees developed in the orchard have produced early maturing fruit of excellent quality.

It is necessary also to develop an assortment of male palms which shall bloom at all-times during the flowering season for fruit bearing trees, in order that fresh pollen may be constantly available for this important operation.

**Planting Seed.**—By reason of the difficulty oftentimes in securing numbers of desirable suckers from the Old World, and the fair proportion of successful seedlings usually obtained, those having ground and water to spare may wisely plant seed with a view to the ultimate establishment of a grove of valuable trees.

Such seeds, in order to offer the best chance of success, should be derived from parent trees one or both of which should be characterized by excellence and earliness in the fruit. The Experiment Station, Tucson, Arizona, has a limited quantity of such seeds on hand, the female parent of which is Deglet Noor, while the male parents are seedlings from early varieties of imported fruit. The resulting trees may therefore be expected to present a fair proportion of palms whose fruit shall combine excellence and earliness. These seeds, which may be planted to advantage from about April 1 to August 1, may be had upon request while the supply lasts. They will come up more promptly if first stratified. This may be done by taking a gasoline can or deep box and placing three inches of sand in the bottom after making a number of holes in it for drainage. The seeds are placed upon this layer and the can or box filled with sand, the whole then being put in a sheltered place and kept moist for three to six weeks, when the seeds will be soft and ready for prompt growth when planted. The seedlings may be started either in nursery rows for transplanting, after one to three years, or if frequent irrigations may be relied on, in the field where the trees are to remain. In the latter case, by making the rows 25 to 30 feet apart, sufficient space remains for the culture of crops; and by planting five to six feet apart in the rows, according to a plan suggested by Mr. W. T. Swingle, provision is made for the replacement by cutting out and shifting in the row, of superfluous males and inferior female trees, when their character becomes evident. We have also found the borders of alfalfa fields available for date palms, although with some inconvenience to haying operations.

In conclusion, attention is directed to the fact that the date palm is valuable not only for its own products, but for the protection which it affords less hardy plants, such as citrus fruits and certain vegetables which may be grown in its shelter. In the Great Desert of Africa and in certain oases in Lower California such protection is necessary to the irrigated gardens beneath the palms, inasmuch as both the winter's frosts and the extreme heat of summer are mitigated thereby. For this purpose the date palm is ideal. Its deep root system, its lofty crown, and its straight trunk do not interfere with surface cultures, while its leaves afford sufficient but not too much shade for trees and plants beneath.

Looking to the undeveloped future, therefore, of a region which will some day be brought to the highest possible state of intensive cultivation, a grove of seedling palms, with possibilities of valuable new fruit-bearing varieties, and for protective shade, may be considered a wise investment.

It is not advisable, however, for planters at this time to make heavy expenditures in date-palm culture, with expectation of prompt or certain profits, for the reason that the subject is still in its experimental stage with respect to the all-important question of varieties best suited to the region.

### WHY FROSTED BUDS MAY BLOSSOM.

We seldom have in any part of California the hard freezing which will kill a fruit while it is still in the unopened bud, but what Prof. Paddock of the Colorado Experiment Station says of the subsequent bloom of such buds which cannot bear fruit is horticulturally interesting because many people may be curious to know how buds on fruit trees may burst forth in what appears to be full bloom after it is known that the crop has been ruined by frost.

In order to understand this it is necessary to understand the makeup of a flower. In the very center of the flower is found the part which develops into fruit. This has from one to several stem-like parts called styles, which project above the surface of the flower. The immature fruit, with its style or styles, for it will be found to have five in the apple and pear and only one in the stone fruit, is called the pistil. Next come other slender organs, the stamens, which bear sack-like bodies on their ends. Pollen is produced in these sacks or anthers and is the material out of which bees make bee bread. In order that fruit may be produced it is necessary for pollen to be deposited on the ends of the pistils. Here, if conditions are suitable, the pollen grains germinate much like seeds and the germ tube works its way down through the pistil and into the immature seed, where fertilization is accomplished. This is where insects are valuable to the fruit growers, for in a great many instances the parts of the flower are so constructed that the transfer must be made by mechanical means. So without insects to do this work for us, some kinds would fail to produce satisfactory crops of fruit.

It will be seen from the above that pistils and stamens are the essential parts of a flower. None of the other parts are necessary to fruit production. It is generally considered, however, that the brilliant parts are useful in attracting insects. But they may be cut entirely away without injury to the young fruit; in fact, this is quite commonly done in plant breeding.

The young pistil is the most sensitive to frost of all the parts of the flower, and it must be examined before injury can be detected. If it has been injured it will be found to be shriveled and discolored. The condition of the fruit buds can be determined at any time during the winter by this means. But while the pistil may be dead the petals are often uninjured and may expand as though the blossom were capable of setting fruit. With a little care anyone can determine the condition of the fruit buds in his orchard and all will find this knowledge a source of much satisfaction.

### OREGON CHERRY FAIR.

To the Editor: The third annual meeting of the Salem Cherry Fair will be held at Salem, Oregon, July 9 and 10, 1908.

At the convention last July of the Pacific Coast Association of Nurserymen, a resolution was adopted saying that the Second Annual Salem Cherry Fair was the greatest and finest display of cherries known to history, and Salem was christened the "Cherry City of the World" by the association.

That Salem is entitled to the name will be admitted by everyone visiting the Cherry Fair this year, as it will be much larger and better than ever. Fruit from every cherry section of Oregon will be entered for prizes, and a few are expected from Washington and California, both States being represented last year in the exhibits.

In addition to the cherries (for which a large number of silver cups are offered as premiums),



there will be premiums for and displays of other fruits, as well as roses, sweet peas, Burbank's Shasta daisies and other flowers. A large number of handsome diplomas will also be offered as premiums. These diplomas are being specially prepared by one of the largest lithograph companies, and will be fine works of art that will be prized by all winning them.

Cherry growers from all sections are urged to be present and bring fruit for exhibition. Premium list and rules will be furnished to any interested, and also published in the press. All fruit growers, nurserymen and florists are invited to be present.

Those desiring to attend the Pacific Coast Association of Nurserymen can do so, as the two meetings are held early in July.

F. W. POWER,  
Chairman Cherry Fair Committee.

### THE CALIFORNIA WALNUT.

To the Editor: On account of its economic interest it would be interesting to know the exact range of the native California walnut. It is cited in the books as occurring from the lower Sacramento to southern California, but this is too loose and vague a statement. So far as can at present be determined, there are two centers of distribution—one the lower Sacramento from Grand Island southward to Walnut Creek, and the other in southern California from Ventura county southward to the Sierra Santa Ana and eastward to San Bernardino. Mr. H. J. Dennison of the Upper Ojai ranch of Ventura county writes as follows: "I have been unable to find anyone who has seen our native walnut north of Tehachapi or Santa Barbara county. It seems to be a native of the rich black deep alluvial soil of southern California, growing mostly on shale lands and northern slopes, but at times in rocky exposed places. Starts its foliage early, and I have frequently seen it injured by frost."

Notes of localities between Diablo and Ventura county, if such exist, are therefore desired. The writer may say that he has thus far no definite record of a station for the native walnut in the South Coast Ranges anywhere northward of the limits of Ventura county, although he has received reports of its occurrence in Santa Barbara county and also on the easterly side of the Gabilan range westerly from Hollister.

WILLIS L. JEPSON.

University of California, May 27.

If our readers in different parts of the State who have seen the California black walnut growing wild in their localities will write us about it, with facts about size of trees, kind of soil, etc., it would be a great favor. Prof. Jepson is making a careful study of native California trees and the results will be widely published.—ED.

## Citrus Fruits.

### NATURAL FERTILIZERS OF THE CITRUS ORCHARD.

Perhaps the most notable paper presented at the Riverside Fruit Growers' Convention was by Mr. Frank F. Palmer of North Pomona on "Maintaining Fertility in the Orchard." We shall take from it those parts which seem most directly suggestive of what to do, and the reasons why. This week we select the masterly discussion of stable manures and cover crops. Though Mr. Palmer speaks with special reference to citrus fruits, his remarks are applicable to soil improvement for all fruits:

**Humus.**—Humus has been aptly described as the "life of the soil," and this is true in a very literal sense, for it is the home of the bacteria of the soil, those wonderful little organisms which convert the inert fertilizing elements into forms which are available as plant food. When the humus of a soil becomes exhausted or burned out, these micro-organisms cease to do their work; and under these conditions our trees may be insufficiently fed even though a plentiful supply of fer-

tilizers may have been applied, and this is because of the fact that the tree roots cannot take up fertilizers in the forms in which we apply them. Almost all the fertilizing elements that we use have first to be converted, by the action of the soil bacteria, into other forms that are available to the tree.

What are our conditions here in California? We have a semi-arid region. Our soils contain, as a rule, plenty of lime and potash, but are very deficient in humus and nitrogen. It thus becomes of vital importance that we conserve our humus supply, and add to it in every feasible way. consider that for our arid region the basis and foundation of all successful fertilization is the maintenance of a supply of humus.

How is this to be done? I know of only two ways. One is by liberal applications of stable manure, or straw, alfalfa hay or other mulch, and the other is by the growing and plowing under of cover crops.

**Stable Manure.**—The fertilizing effects of stable manures is far in excess of what we would expect from simply studying the amount of plant food contained in the manure. Dr. Wiley of the Agricultural Department has this to say on that point: "The action of stable manure is another instance of the great benefit which is derived from manuring a field with nitrifying organisms. It is well known that the nitrifying ferments of decomposing stable manure are particularly numerous and vigorous. It has long been a matter of wonder among agronomists to find stall manure, when scattered over a field, producing fertilizing results far in excess of what could be expected from the quantity of plant food contained therein. In the light of the facts set forth above, however, these results are no longer surprising. In the distribution of the manure large numbers of a particularly vigorous species of nitrifying organisms are incorporated with the soil, and these and their progeny continue to exercise their activity upon the inert nitrogen of the soil when the more easily nitrifiable portions of the stall manure are exhausted."

Let us, then, use stable manure, and accord to it the high appreciation that it deserves. It is a most valuable fertilizer, particularly for use in old orchards, where, owing to the size of the trees, it is difficult to grow cover crops successfully. Before leaving the subject I desire to add, however, that I do not regard the exclusive use of stable manure as desirable. It is a one-sided, unbalanced fertilizer, being rich in nitrogen as compared with phosphoric acid and potash. In its action it will combine with its nitrogen the available potash and phosphoric acid already in the soil, and year after year the available supply of these two constituents will become less. A bulletin of the New York Station cites the fact that the soil of many farms in that State have actually become exhausted by this process, where the exclusive use of stable manure has continued for long periods of years. Therefore, when using stable manures continuously, it seems to be evident that we should use some form of phosphate with it, and possibly both phosphate and potash.

**Cover Crops.**—I mentioned the use of stable manure and the growing of cover crops as the two best methods for maintaining the requisite supply of humus in the soil. Cover crops easily rank first in this particular; and, besides furnishing a supply of humus, they are also of great value and importance in other respects. The particular value of clover, peas, beans, vetch and other plants of that family for adding fertility to the soil has been known for hundreds of years, although the reason why these legumes possessed superior qualities in this respect over other plants is a discovery of modern times. In his bulletin on soil inoculation Dr. George T. Moore has these interesting quotations from the writings of Pliny the Elder: "The bean ranks first among the legumes. It fertilizes the ground in which it has sown as well as any manure. The vetch, too, enriches the soil and requires no attention in its culture."

But the ancient Romans knew only the fact that these legumes acted like manure; the true reason for the fact remained a secret and baffled many investigators, and not until the year 1886 was it definitely proved that the legumes were able to acquire and store up nitrogen from the air. This discovery is ascribed to the German sci-

entist Helriegel. Later still it became definitely known that this fixation of nitrogen from the air is accomplished by means of bacteria which gain entrance to the roots of the legumes. Great interest was awakened in the subject in this country when Dr. Moore of the U. S. Agricultural Department perfected a method of soil inoculation with the nitrogen-gathering bacteria, and pure cultures were prepared and sent to farmers in many different States. This has very naturally resulted in giving a special impetus to the growing of cover crops, which has extended even to the orchards of California. But, whatever the cause, the fruit growers are sowing peas and vetches and fenu-greek in the orchards far more extensively now than was the practice fifteen years ago.

I remember that green manuring was practiced successfully by a few orange growers in Redlands years ago, but probably Mr. James Mills, superintendent of the Arlington Heights orchards, has done more than anyone else to demonstrate the feasibility of growing cover crops in our orchards, and also the very great benefits which follow their use. Although we must admit there are difficulties in handling these crops in the orchard, and not everyone who has attempted it has been perfectly successful, yet I think the great and peculiar value of cover crops is appreciated more generally today than ever before; and it is not too much to say that this is the best method now known for maintaining the fertility of our soils. There are many different ways in which we derive benefits from their use. Here are ten different reasons that occur to me for growing cover crops (legumes) in the orchard:

1. They provide humus in the soil, by which the inert fertilization materials of the soil are made available.

2. They make it possible to obtain results from the use of the cheaper forms of phosphate, such as Thomas Slag and other unacidulated phosphates.

3. They store up nitrogen from the air, and therefore act as a direct nitrogenous fertilizer.

4. They improve vastly the mechanical condition of the soil, making it easily possible to secure the best cultivation.

5. They put the soil in a condition to retain moisture.

6. They make the soil porous, so that proper aeration is secured.

7. They are a means for overcoming irrigation hardpan and plow-sole.

8. While growing they prevent the washing of the soil by the storm waters.

9. While growing they probably assist in preventing the radiation of heat from the ground in time of a freeze.

10. They do away with the cultivation of the ground during the winter months.

**Nitrogen.**—It is evident, I think, that in any plan for fertilization in this semi-arid region, the humus content of the soil must be given first consideration. If humus is deficient, it must first be supplied. After it is supplied the foundation is laid for the use of chemical fertilizers if required, but to apply chemical fertilizers in a soil exhausted of its humus may possibly work more harm than good.

It is of course understood that when we have grown cover crops and obtained our humus, we have at the same time added materially to our supply of nitrogen. We have added to the soil whatever nitrogen may have been obtained from the air by the cover crop, and further, we have restored the proper conditions for nitrification in the soil.

Whether the quantity of nitrogen so obtained is sufficient, or, in other words, whether we may rely solely on green manuring for our supply of nitrogen, will depend possibly upon the kind of crop we desire to fertilize. If it be an orange or lemon crop, I think we must certainly add nitrogen in some other form. Perhaps an analysis of the matured cover crop may indicate a sufficient quantity of nitrogen for oranges or lemons, but we must remember that it is not in a form to be immediately available. We have turned under a mass of green vegetation which must first be decomposed and its fertilizing elements changed into other forms by the action of the soil bacteria, before it becomes available to the tree as plant food.

It seems unfortunate that our winter cover



crops mature so late in the season that when we turn under this mass of vegetation it is already so late that our trees cannot get the full benefit of it in time to help the setting of the new crop of fruit. Just at this time of the year our fruit trees need a suitable supply, though not an excessive supply, of available nitrogen; and in order to provide the available nitrogen it has been the practice with many growers to drag down the growing cover crop, sow a nitrogenous fertilizer on top of it, and then plow under the green crop and the fertilizer together. For this purpose either tankage or dried blood will serve an excellent purpose, provided it is put into the ground early enough. It is very desirable for several reasons and from every point of view that cover crops be plowed under early in the season, and no later than February, and I feel sure that the amount of benefit that may be derived from their use will depend very largely upon right management in this respect. If the plowing has been done early we may use a dressing of nitrate of soda a little later to good advantage, particularly if the spring weather is cold. We know that the processes of nitrification require a certain degree of warmth in the soil (Snyder says a temperature of 54° to 99° is the most favorable), and it is well to keep this fact in mind when considering whether to use nitrate of soda in the early spring.

There is another aspect of the matter to be noted, which is that we should not go to extremes in supplying nitrogen. If it be supplied in excessive quantities, plants and trees use it very freely, and in the case of fruit trees we sometimes get bad results. The quality of the fruit may be injured in this way, of which we have often seen evidence in the orange. And, not only is this true, but if the excessive feeding occurs about blossoming time the growth of leaves and stems will be promoted at the expense of the fruit buds, which then develop imperfectly, resulting in a decreased instead of an increased fruitage of the tree.

[At another time we shall give Mr. Palmer's equally satisfactory and significant discussion of commercial fertilizers.—ED.]

## The Botanist.

### THE CALIFORNIA BALLOON PLANT.

To the Editor: I recently received a letter from Mr. Raynald Dodge of Newburyport, Mass., as follows:

"I enclose clipping concerning a Californian plant taken from a French newspaper published in Montreal. As I am interested in natural methods of seed distribution, you would render me a favor if you were to verify the statements made and give me any further detailed information regarding the subject."

The following is a translation of the clipping above referred to by Mr. Dodge: "In these times of aeronautic activity it will not be without interest to describe, among the singularities of nature, a California plant commonly called by the people 'balloon plant.' It is a species of the Leguminosae which each year produces a light pod larger than an egg, a sort of inflated and empty body with the color of a swallow orange. At the time the pods have attained their extreme maturity the liquid substance which moistens the inside evaporates and forms a gas lighter than the air. These buoyant balls disengage themselves at this time from the stem and under the influence of the wind take flight toward the sky. They reach occasionally a height of 100 feet, and fall back again to the earth, collapsed and saturated with the humidity of the night."

The plant referred to is of the genus *Astragalus* or rattlesnake weed, of which there are several Californian species with inflated pods. Some of these balloon-pod species are known as loco weeds, notorious on account of their stock-poisoning characteristics. It has long been known that the inflated pods serve to further the distribution of the seeds. The wind rolls them lightly over the ground, and it is not improbable that in severe gales in the dry season they might be carried up into the air 100 feet, since much heavier plant parts are often taken up that distance. For myself, I have never seen the pods rise quietly into the air like a balloon, as related to me many

times in various parts of California. Such tales I have been inclined to refer back to the patron genius of California nature-stories—the Fairy of the Flume. We should, however, be glad to have any first-hand evidence from readers of the PACIFIC RURAL PRESS.

WILLIS L. JEPSON.

University of California, Berkeley.

## The Vineyard.

### WORMS ON GRAPE VINES.

We are receiving inquiries from the coast valleys north of the bay as to the most effective treatment of worms on grape vines. Grape vines are eaten by many caterpillars, which are usually called worms. Several of them are treated at length in a new bulletin of the University Experiment Station by Prof. H. J. Quayle, from which we shall draw points of treatment.

**Hawk Moth Larvae.**—The most conspicuous vine-eating worm is nearly as large as one's little finger, and is the larva of the hawk or hummingbird moth. Fortunately its work is only occasionally extensive, and is confined to the interior valley. Of this pest Mr. Quayle says: "Where there are but occasional specimens of this insect found in the vineyard, the cheapest and most practical way is to pick them off by hand. Where there are immense numbers of them, hand picking becomes a laborious task. In the latter case a thorough spraying with a strong arsenical spray applied just at the time they are hatching will check them before they can do a great deal of harm."

**Cut Worms and Army Worms.**—These worms are most injurious early in the spring when the vine is starting. Prof. Quayle has the following outline of treatment for these pests, which are closely related, as his statement shows:

The cut worm, although belonging to the same group as the army worm, on account of the difference in habits must be controlled in a different way. Since it is those species which acquire the climbing habit that attack vines, they require a different manner of treatment from those which feed upon plants at or near the surface. Because they actually devour the buds of the vine, the application of a poison spray ought to be effective. However, since the surface on which there may be poison in the case of buds is so small, one worm may destroy most of the buds on an ordinary sized vine before the dose eaten will prove fatal. Probably one of the best ways of fighting these is to place poisoned bait around the base of the vine. This consists of bran and molasses or other sweet substance poisoned with arsenic and distributed in handfuls about the vine. The proportions are as follows: 40 pounds of bran, 2 gallons of cheap molasses, and 5 pounds of arsenic. Cheap glycerine may be used to prevent the mixture from drying. Of course poultry and animals likely to eat the poison must be kept away from the vineyard while the poison is exposed. This will be eaten by the worms in preference to climbing up the vines and destroying the buds. They may also be captured by means of traps. Because of their habit of feeding at night and remaining concealed during the day, pieces of boards may be placed on the ground around the vine, and these may be turned over during the day and the worms killed.

**Army Worms.**—In case of outbreaks of army worms the most important and successful means of fighting them is to keep them out of the vineyards entirely. This can be successfully done if they are discovered in time, or if already in one portion they can be kept from spreading over the rest of the vineyard. They travel in immense numbers in a definite direction, coming generally from an adjoining or nearby grain field. If a furrow is plowed along the side of the vineyard to be protected it will effectively stop their progress. This furrow should be plowed as deep as possible, with the vertical side next to the field to be protected. It can be further trimmed with a spade, preferably cutting under slightly, making a smooth surface, over which few, if any, of the worms will make their way. Above this shoulder

fine pulverized earth should slope as abruptly upward as possible. If any of the worms should succeed in climbing up over the smooth surface made by the spade they will be pretty sure to fall back as they reach this fine loose earth in an attempt to ascend over the projecting shoulder. Postholes should be dug on the straight edge of the furrow every 15 or 20 feet. The worms in failing to scale the vertical side of the furrow will crawl along in the bottom and fall into these holes. Here they may be killed by pouring in a little crude oil, or by pouring in a little distillate and dropping in a match, thus burning them, or the holes filled in and others dug. They may also be killed in the furrow by sprinkling them with kerosene or by pouring a strip of crude oil along the furrow.

It is most essential in fighting army worms that prompt and vigorous efforts be undertaken immediately, since a day's delay may mean considerable loss and more difficulty in handling the situation. Once they are in the vineyard the vines infested should be heavily sprayed with lead arsenate at the rate of 5 pounds to 50 gallons of water, or with paris green in the proportion of 1 pound to 75 or 100 gallons of water.

**Not Always Abundant.**—Fortunately, army worms are only occasionally abundant. Last year they did great injury in the Lodi district of San Joaquin. Prof. Quayle, who was in Lodi last week, reports the natural cutting off of this year's hatch as follows:

"I examined in one vineyard nearly 1000 eggs of the army worm and failed to find a single fertile egg in the entire collection. In other vineyards that I visited I did not make such extensive examinations, but sufficient to satisfy me that the conditions throughout the district are the same. I feel safe in saying that if the grape growers are bothered by an insect this year, it will not be the army worm. I am unable at this time to give a reason for the lack of the army worm's egg fertility, but will determine that by a careful examination at the University."

## Sylviculture.

### EUCALYPTUS IN THE SAN JOAQUIN.

Mr. W. R. McIntosh has been rustling around among the gum trees and gummy people of the San Joaquin and has gathered up some statements for the Fresno Republican which will be read with interest by the many who are taking to the gum trees like a lot of owls. We shall collect a lot of interesting gossip from his writing.

**Grown at Modesto and Planted at Fresno.**—On my rounds of the farming communities near Modesto I encountered a Dr. Ekstein, who has been propagating eucalyptus nursery for three or four years, and he said: "I have just shipped my last remaining carload of young eucalyptus to Dr. Nicholson, living near Oleander." I have found out since my return from Stanislaus county, Dr. Nicholson has purchased 20 acres of that sandy loam soil near Bowles station, on the Santa Fe railroad, and has set it all out in Red Gum (*E. rostrata*). These have been set throughout in squares of eight feet. For this 20 acres it required 12,000 trees. Dr. Nicholson by this planting has demonstrated his confidence in the business.

**Uses of Eucalyptus.**—An agent for the Moline Plow Co. who was on a tour of this Coast recently made the remark that the advance in the price of his plows was solely due to the expense and delay in securing suitable timber for plow-beams.

This is only one instance, which will apply with equal effectiveness to a number of large concerns engaged in the manufacture of plows and other farm implements.

Of course, all eucalypti will not make good plow-beams, or other tough timber for use in wagon construction and agricultural tools generally. There is therefore something for us to learn as to the adaptability of different species for different uses.

The blue gum (*E. globulus*) is now the prevailing species in California, exceeding in quantity, perhaps, all other varieties combined. The blue



gum is fit only for the least valuable uses of the gums—windbreaks and fuel. [Here Mr. McIntosh is off his base. Blue gum wood is a hard wood and has very many timber uses.]

One of the most interesting characteristics of eucalypti to residents of this valley is the fact that they are very largely alkali-resistant. In the case of the Rudis, I doubt whether there is any situation in the San Joaquin valley too strongly impregnated with alkali for its successful growth. And so it is with many other species.

The genus is indigenous to an alkali country, and most of them flourish best in low, moist or even swamp land. Not only will most of the species resist alkali in its strongest form, but some of them, in my judgment, do best in soil containing alkali. In short, alkali acts as a fertilizer to some of them. [This is rather a free statement. There is plenty of alkali altogether too strong for any kind of a gum tree.]

The blue gum, however, is not one of these. It will endure very little alkali.

**The Blue Gum Is Tender.**—Many persons about Fresno have made the mistake in past years of planting young blue gum (*E. globulus*) in exposed situations, and then leaving them to their fate.

Some five or six years ago, when we had our "regulation" winters about Fresno, they almost invariably killed such young exposed trees.

The young trees of any of the genus, owing to the rapidity of new, sappy wood growth, are very tender. They should therefore have some artificial protection for a year or two, when planted as windbreaks or along streets and country roads. When planted in thick groves, only the outside rows need protection from the frosts of our winters.

A regular and generous supply of water must be provided also during the first two or three years of their existence. After that neither frosts nor droughts can seriously put them back.

**Eucalypti in Stanislaus County.**—Here is what Nurseryman Ekstein of Modesto says about the genus in Stanislaus county:

"Our people are just waking up to the fact that California must grow the coming hardwood for the nation, as it will not be long before our available native forests will have been exhausted. Some species of eucalypti are remarkably well adapted for forest planting on account of the rapidity of their growth and the quality of the timber they produce.

"We have a number of enterprising residents who have set out acreages to eucalyptus trees this spring. The Bald Eagle ranch has a grove of 100,000 young trees. The Pioneer Eucalyptus Co., organized this spring for the purpose of growing eucalyptus, have also planted in the neighborhood of 100,000 trees, and will add to their plantation from year to year. In addition to these there have been many smaller tracts planted to eucalyptus trees.

"Many miles of these trees have been planted along the country roads in different parts of the county, for shade and for windbreaks.

"The land in this vicinity is being cut up into small holdings, and nearly every newcomer is planting a little grove of eucalyptus for fuel, fence posts, etc. It will not be long before the unbroken monotony of the grain fields of Stanislaus county will be a part of the forgotten past.

"In setting out large tracts to eucalyptus trees there are many things to be taken into consideration. First of all is the object for which you wish to grow them. Some kinds will endure well underground or in water, making them suitable for piles, fence posts, railroad ties, etc. Some make a very straight growth, making them useful for masts for ships and for telegraph and telephone poles. Others are fine-grained and take a high polish, and make the choicest kind of timber for furniture and inside woodwork. Some have a wood which is very tough and strong and is good for the wooden parts of implements. Then again there are others which make the best of fuel or are desirable for windbreaks or ornamental trees.

The quality and conditions of the soil must be taken into consideration also. Some species will grow in soil containing alkali, and some will endure more drought than others. Some again will stand more heat and cold.

"There are only about a dozen species which will endure the climate of this valley, and of these about half have a commercial value. The question

is often asked: 'Is there not danger that there will be so great a territory set out to eucalyptus that there will be an over-production of the timber?' If we consider the vastness of our original forests and the comparatively short time it has taken to exhaust them, there need be no fear of over-production.

"There is only a very limited space within the United States where the eucalypti will thrive, and that space is almost all within the boundaries of California. If every available foot of the entire State were planted to eucalyptus there would still be no danger of over-supply."

**Big Profits in Gum Trees.**—The Bakersfield Echo recently published the following interview with a gentleman in close touch with industrial affairs and farm crops of this State, which contains some quotations by Elwood Cooper and other important facts recently developed, as follows:

"Let me give you a few facts that ought to make Bakersfield people sit up and take notice of eucalyptus. First of all, the eucalyptus trees grow wonderfully well in this valley. With care and without, they grow and always grow. In fact, they grow like a pest.

"Here is one of the easiest trees to produce. Grows to profit-making size within five to seven years, grows in the fence corners, on hillsides and in abandoned places—always grows. It will grow in 20 years larger than an oak tree will grow in 200 years.

"The semi-moist land of many San Joaquin valley counties presents the best opportunities for the production of this tree. The sugar gum, which is about equal to the red gum, will stand a good bit of alkali. But those who intend going into planting eucalyptus ought to get the very best land. It is worthy of being planted on the very best piece of alfalfa land you have. Prepare your land just as though you were going to plant alfalfa, and then don't do it. Buy about 680 young eucalyptus trees to the acre and plant them. Care for them one year, and then get ready to pocket your profits in five years. You can spend the in-between period figuring out what make of automobile you like the best.

"Never mind what the doubts have been about eucalyptus, look it up and plant. Your country will rejoice in later years for all that is done in this direction now. Take telegraph and telephone poles. A 30-foot pole, seven inches at the top, is worth right here today \$6 to \$7. A 60-foot pole, only seven inches at top, is worth \$20 to \$25 each. Take them at the rate of 500 trees to the acre, and the amount of time it takes to reach these dimensions, and what do you have as returns?"

"If it sounds like the old Belgian hare story, don't laugh it off. Figure it out, and keep a-thinking."

## The Field.

### SPRAYING FOR POTATO BLIGHT.

We have answered many questions about potato blight, which is widely troublesome in this State and causes not only a blackening and failure of the foliage, but invades the tubers, causing interior discolorations which are fatal to profitable sale of them. We have advised the use of Bordeaux mixture as soon as the first sign of the blight appears, or even before there is any sign of it in regions where experience has shown that it is sure to appear. This is the time for such work, and we give a detailed account by Prof. Sandsten of the Wisconsin station which will help readers to whom the experience is new.

The impression prevails among farmers that Bordeaux mixture is a remedy that will kill the potato blight. This is wrong. Bordeaux mixture is a preventive only and not a cure, and in order to be effective it should be applied before the disease has gained a foothold on the vines. The first application should be made when the vines are about six inches tall, so as to prevent the germination of any spores (seeds of the fungus) that happen to light on the foliage. The subsequent applications should be made at intervals of two or three weeks, depending upon the season, the object being to keep the foliage covered with a film of Bordeaux mixture at all times. From experiments and observation we have learned that a

moist and warm season is more favorable to development of the disease than a dry and cool one, and the grower should carefully study the seasonal conditions and regulate his spraying operations accordingly.

**Number of Sprayings.**—While no definite rule as to the number of spraying applications necessary to prevent blight can be given, the experiments indicate that at least four applications should be made. Five applications gave better results in the Coalfax experiments than four. If the applications are made at the right time and if the weather conditions are favorable, four sprayings should be sufficient. If, however, heavy rains should immediately follow an application, it will be necessary to repeat the spraying. The Bordeaux will generally stick to the foliage if it is permitted to dry thoroughly before a rain. Applications can be made at any time of the day, but it is not advisable to spray during rainy weather, as the material will then be washed off.

**Incidental Effects.**—Some writers maintain that the Bordeaux mixture is a fertilizer to the foliage and that an increased yield results from its use, whether the blight is present or not. This statement is true indirectly only. Bordeaux mixture is in no sense a fertilizer, but it does keep the foliage from becoming diseased and as a result sprayed vines will remain green in the fall when unsprayed vines are dead, thus giving the plant a longer season to grow and develop the tubers. From our experiments we have found that fields that have been sprayed and have not matured their crop as early in the fall as those unsprayed, and we strongly recommend that the farmers who intend to spray their field, plant their potatoes at least two weeks earlier than usual, so as to give the tubers a chance to grow larger and to fully mature before frost kills the vines.

Many complaints have reached us that spraying with Bordeaux mixture has not been uniformly effective. Upon investigation we have invariably found that the failure was due either to poor materials from which the Bordeaux was made, or to faulty application. It is very important that the materials from which the Bordeaux mixture is made, especially the lime, be fresh. Partially slacked lime is worthless. We have used the following formula for Bordeaux mixture in our experiments for a number of years past and recommend it to growers: Copper sulphate, 8 pounds; fresh lime, 12 pounds; water, 100 gallons. This strength will not injure the foliage and if rightly made will be effective.

**Making Bordeaux.**—The following directions for making Bordeaux mixture should be strictly followed to obtain the best results: Dissolve 4 pounds of copper sulphate (blue stone, blue vitriol) in 25 gallons of water, suspending it in a coarse gunny sack near the surface of the water. In a wooden pail slack 6 pounds of fresh quick lime in sufficient water, then add enough water to make 25 gallons and slowly pour the two solutions simultaneously into the barrel from which it is used. If a larger tank is used, proportionately larger quantities of materials should be taken. Before pouring the lime solution it should be strained through a coarse gunny sack, otherwise particles of rock and undissolved lime will get into the mixture and clog the nozzles in spraying. It is very important that the two ingredients are mixed as described, otherwise the proper combination of copper sulphate and lime does not take place. The mixture should never be made more than a few hours in advance of application. It cannot be kept over, and if any is left in the spraying machine after the day's work is done, it should be emptied.

**Why Spraying Sometimes Fails.**—The following are some reasons why spraying fails: The most common failure is that the spraying is done too late or at improper times. Many farmers do not start to spray before the disease has made considerable progress, and it is then next to impossible to stop the ravages of the disease. Others spray regardless of weather conditions. It is necessary for best results to repeat the application should a heavy rain follow immediately, as it will wash off a large portion of the mixture, thus leaving the foliage unprotected, and the next regular application may be applied too late. The application must be thorough; indifferent work produces indifferent results. All the vines should be covered even though it requires more time and materials.



## AGRICULTURAL REVIEW.

### ALAMEDA.

Careful inspection of the cherry orchards of San Leandro show that the crop is not so heavy as first estimated. It is said by the growers to be larger than that of last year, but not a full crop. The berries are developing rapidly and are exceptionally large. The apricot crop is the heaviest in years. Throughout all this section growers have been compelled to thin the green fruit from the trees, that the limbs may not break under their loads of fruit and the fruit may develop into good commercial size. Gangs of men have been put to work in the orchards and five green apricots out of every six have been pulled. The fruit is developing without blemish.

### BUTTE.

G. B. Mann of the Soil Survey, under the Department of Agriculture, is conducting a line of experiments with a number of varieties of plants, trees and seeds. Charles Crain, under the direction of Mr. Mann, planted 2000 blue gum trees, which are doing well. The Government soil experts are at work on the problem of what is best adapted to the many kinds of soils in this section of Butte county. Mr. Mann has also charge of the many rice experiments now going on at this place and east and west of Biggs.

### EL DORADO.

Placerville ranchers and fruit men are elated over the outlook for fruit this year. The strawberry crop is good and is now being harvested, and cherries are expected to come in soon. Shippers claim that there will be at least 100 cars of fruit to go East from there this season, a large increase over last season.

### GLENN.

Irrigation of the beet fields has been started in all districts. The beet crop continues to look good, especially in the river bottom lands, where they already cover the ground and are quite large.

### KINGS.

J. T. Sheward of Los Angeles, who recently purchased the Sim place near Hanford, expects to go into the poultry business in a large way.

Hanford advices state that there has never been a better outlook for fruit in Kings county than this year. The apricot and peach crop will be large; raisin grapes are looking fine. Chinese contractors are now out after the orchard products and are basing their contracting price 8 cents per pound for dried cots and 7 cents for peaches.

### LASSEN.

Frequent rains and occasional snow storms have visited the Susanville section during the past two weeks. From over the mountains the Tehama sheep men have already driven their flocks, and cattle men who winter their herds in the upper Sacramento valley are bringing them to the mountain ranges, with the assurance that feed will be ample for their needs.

### MERCED.

A fire at the ranch of Charles Shaffer near Atwater caused the loss of 250 acres of oats and barley, one day last week. Loss is estimated at \$4000.

A buyer for a Tacoma (Wash.) meat packing concern has been in Merced and vicinity during the past month and has bought and shipped to his company approximately 3000 head of beef cattle, which were purchased on the east side of the county, the west side of Mariposa and a few from the borders of Stanislaus and Madera counties. The average price was a little over \$45 per head.

### MONTEREY.

Pajaronian: Local packers have been quietly at work buying the 1908 apple crop of many of the best orchards in this valley. Already many sales of good orchards have been reported, and at figures equally as good, if not better, than those received last year at this season. Many contrary opinions are expressed as to the estimated apple yield in the Pajaro valley. Several packers say the crop will not be up to earlier estimates in yield, although the quality of the fruit promises to be first class. Other fruit men and orchardists say that on an average the valley's crop will be a large one. A conservative prediction of this year's apple crop is 3000 carloads.

### ORANGE.

Anaheim Gazette: Reports from many of the large walnut orchards of this section are to the effect that the crop will be the largest in the history of the industry. If favorable weather continues the output from many of the groves will be especially large.

### PLACER.

The first box of peaches from Placer county was shipped from Loomis May 22. They were shipped to Chicago. The first carload of cherries shipped this season was sold in Chicago for \$3941. The car contained 2232 boxes. The cars made exceptionally good time, making the trip in seven and one-half days.

### SACRAMENTO.

Alden Anderson, general manager of the California Fruit Distributors, after making a tour of the Eastern States, says that the fruit crop in the East will be good this season, and that California growers will not receive the phenomenal prices this year that they have received in the past.

### SAN BENITO.

The barley in the vicinity of Gonzales has come out wonderfully during the past two weeks, and the prospect for a larger yield than last year is good.

Free Lance: The shipments of hay from Hollister for the year ending May 9, 1908, aggregated 2953 carloads, or 28,800 tons. Included in this total are 4130 tons held over from the season of 1906. Of last year's crop 25,180 tons have been marketed, and 7550 tons still remain in the warehouses. This leaves 800 carloads of last year's crop still to be shipped. Early in the season it was thought the hay crop in this valley would not exceed 8000 tons. The Lathrop Hay Co., after careful investigation, now places the yield at approximately 20,000 tons, the crop depending on the acreage that is left for grain. Tres Pinos will have in the neighborhood of 7000 tons. It is estimated that 60,000 tons of last year's hay crop is still in the State.

### SAN BERNARDINO.

Citrograph: Up to May 20 Redlands had shipped 4060 cars of oranges and Riverside 3825. The proud distinction of being the largest orange growing district in the world, held for many years by Riverside, seems to be passing to Redlands.

### SAN JOAQUIN.

Prof. Quayle of the State University predicts a bumper Tokay grape crop about Lodi this year. He thinks the yield will be 10 tons to the acre on the average, with 20 tons in exceptional cases. He examined 1000 army worm eggs but found none fertile.

The cherry season is on in full force. The fruit is ripening fast and the packers are kept busy. E. A. Humphrey, the local representative of the Earl Fruit Co., says that carload lots of 2000 boxes are grossing \$4000 to \$5000 in the New York and Chicago markets.

### SAN LUIS OBISPO.

Tribune: Reports received from the farmers about the county indicate that the crops are going to be far better than expected. In the eastern part the wheat yield will be a fair average in many places. In the coast section the grain will turn out well. A large amount of hay has been cut and is of an excellent quality.

### SANTA CLARA.

Cherry shipments from San Jose have commenced with several carloads of as good fruit as has ever been grown in the Santa Clara valley. Ranchers and shippers believe that the crop of the Black Tartarian cherries this year will be up to the average in quantity, but with a larger proportion than usual of undersized fruit. The Royal Anns are of good quality, but the crop is far below average in quantity. At the last meeting of the San Jose Grange it was recommended that apricot growers hold their crops for drying, instead of disposing of them to canners. The crop of apricots will be heavier than was expected after the severe frosts which visited the valley in March and April. Though many orchards on low ground will produce practically no crop, others in the foothills and on the slopes were not affected and will bear more than an average crop.

### SANTA CRUZ.

Incorporation papers for the Foothill Apple Growers' Packing House Co. were filed last week. The principal place of business is Castroville. The orchard district affected by the new organization is the Prunedale and a portion of the Kirby districts across the river. The corporation is to exist for a period of 50 years. The purposes are to acquire, grow, buy or sell, hold in storage or otherwise all kinds of fruits and vegetables in California and elsewhere. The directors for the first years are F. H. Watts and H. G. Winchell of Watsonville, and J. F. Collins and E. W. Richards of Prunedale. The amount of capital stock is \$5000, divided into 100 shares of \$50 each.

### SOLANO.

Thirty-three carloads of fruit had been shipped from Vacaville up to May 27, as against 13 cars to same date last season.

### SONOMA.

Healdsburg Tribune: At Vacaville the cherries are picked by women, who earn from \$1.50 to \$1.75 per day. The probable champion cherry picker of the Pacific Coast is Edson Curtiss of Healdsburg. He picks from 400 to 500 pounds per day, receiving one cent per pound. Last year he earned as high as \$7.50 per day on the Ransom Powell place, picking 500 pounds.

The peach crop is something immense this year, says the Healdsburg Enterprise. Not in the recollection of the oldest resident has the equal been seen. Everybody is busy working in the orchards thinning out the fruit. A well known fruit grower says that at least 50 per cent of the crop will have to be thinned out, and even then many of the trees will be loaded heavier than they ought to be to produce good fruit. The ground around the trees looks as if a hail storm had just passed over. It is difficult and slow work, and one grower says he actually put in four hours thinning out one tree.

### STANISLAUS.

Modesto Herald: Perhaps the largest alfalfa plant on record is to be found in Modesto. It is unknown from whence the seed came. This year, growing in the hard soil and with no water but the rains, the plant has attained mammoth size. It is more like a shrub than the common conception of an alfalfa plant, standing 8 feet 2 inches in height, and its shoots covering a circle 7 feet in diameter.

### SUTTER.

The big grain crop predicted this season will not materialize. Prices, especially on barley and oats, should be good, and also on milling wheat.

Asparagus growers realized good prices this season and made large profits. On the Kells place three acres just coming into bearing yielded a profit of \$75 per acre.

Bee: Fruit buyers of the various canneries of this section decline to say anything regarding prices, and only volunteer the information that the crops this season will be very large. It is not expected that prices will run as high as last year, but it is safe to say from what can be learned that the prices will be far from low.

### TEHAMA.

About 400 bags of wool were sold to representatives of Pierce & Co. of Boston. The price paid was not announced, but probably was 13¼ cents.

### YOLO.

Local farmers have been informed by a German beet expert that this is the best section of country outside of Germany in which to raise beets. Although this has been a very dry and trying spring, the beet crop will turn out fair.

The Bear River hop district promises a very large yield this season of an excellent quality. Cool weather has helped, while the late rains have contributed to improve matters. Several hundred men are now at work on the Drescher, Horst and Durst ranches, training and cultivating the vines.

Union: The grape crop will be so large this year that the grower who has a term contract may consider himself fortunate. Buyers are coy about making offers for fruit. Prices for prunes are likely to be well sustained, for prunes are scarce. The apricot crop is so unusually large that it is difficult to get any line on what the prices are likely to be.

A representative of the Alameda Sugar Co. says the outlook for sugar beets is as good in Yolo county as it is in any other part of the State. The Alameda company has about 2500 acres planted to beets near Woodland. All the beets that have started look well. Where there was sufficient moisture to sprout the seed the growth is thrifty and there will be at least a part of a crop.

### YUBA.

A farmer residing near Waldo discovered a nest of ten young coyotes not yet old enough to open their eyes. There is a bounty of \$5 on each coyote scalp. Another farmer of the Smartsville district captured 14 young coyotes and two old ones, which means \$80 more.

Faithful to a promise made to the citizens of Marysville a year ago, that he would furnish Washington navel buds for all orange trees cut back during the war against the white fly, State Horticultural Commissioner Jeffrey landed 2000 of the buds for free distribution from the office of the County Commissioner. Deputy State Horticultural Commissioner Carnes has made another inspection of the yards of this city for traces of the white fly, and reports that the trees appear to be free of the pest.

Acting under instructions from County Horticultural Commissioner Harney, the Marysville authorities ordered removed from the city's sewer farm about 30 pear trees affected with blight. The Horticultural commissioner also caused the uprooting and destruction of grevillea and tea trees recently sent from Florida by the secretary of the Chamber of Commerce. These latter trees were in a perfectly healthy condition, but State Horticultural Commissioner Jeffrey states that he is not taking any chances with Florida importations.



**Horse Owners! Use**

GOMBAULT'S

**Caustic Balsam**

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

**The Dairy.****A Notable California Essay at an Eastern Convention.**

Among the notable papers presented at the recent National Convention of Butter Makers at St. Paul, Minnesota, was one by Mr. A. Jensen of Eureka, Humboldt county, on "making butter that is uniform in over-run and quality." This paper will be read with deep interest by California dairymen:

In this progressive world the relation of production to cost is an ever-important question, and so we find it in the work of butter-making. One creamery will have 10 per cent over-run and another will have 25 per cent, and both may be working under nearly the same conditions. As over-run is only the extra ingredients found in butter other than butter-fat, but being part of the finished product, and the butter-fat being the basis of first cost, the economical relation between butter and butter-fat necessarily becomes a great factor in determining the success of a creamery.

Up to within a few years, very limited knowledge was at hand as to how to control the over-run in butter, but the question presented itself how to obtain more money from a given quantity of butter-fat in the shape of finished butter. Busy brains set to work looking into the composition of butter, with the result that a great range of ingredients other than butter-fat was found. Further work established the fact that the over-run is largely controlled mechanically and can be increased and decreased at will, providing the operator knows conditions.

Here I wish to say that the question of quality also plays an important part, as with the increase of artificial over-run there will be a noted decrease in the quality.

**CAUSES OF OVER-RUN.**—I now wish to name a few of the principal factors that affect over-run.

**Condition of cream:** Ripe cream churns better and leaves less butter-fat in the buttermilk than partly ripe cream, thereby affecting over-run.

**Granules:** Large granules retain more moisture than small ones.

**Size of churning:** A full churning will show larger water content in the butter than a small one, although the same method is used.

**Wash water:** Warm wash water causes the butter to retain more moisture than ordinary cold water, though affecting the body of the butter.

**Rich cream:** Heavy cream shows a larger yield than thin cream, although made under apparently the same conditions.

**Working:** The amount of working of butter affects the yield also, and it is possible to increase or decrease the percentage of water by a manipulation of the churn.

These being some of the effects on yield and all being controllable, it is clearly seen that the question of yield is

primarily mechanical; still I would not attempt to describe how to obtain a specified over-run unless I were absolutely familiar with all conditions, but I can state positively that regularity in all details from the first handling of the raw material to the finishing of the work is absolutely essential in the control of over-run.

**How to CONTROL QUALITY.**—But there is another side to my subject, viz., quality and how to control same, that plays an equal if not more important part in butter-making.

By quality we judge value based on quantity. Butter standards are becoming more and more recognized, and judging from the scoring contests conducted over the country, good butter invariably ranges between 11 and 14½ per cent moisture and from 81 to 86 per cent butter-fat, with about 1 per cent casein and ash and salt, ranging from 1½ to 4 per cent, the latter suitable to individual taste. Here are some of the factors that affect quality.

**Raw material:** Whether whole milk or cream, the raw material must be good, and for first-class butter that will retain its delicacy until the consumer uses same, only sweet, clean flavored cream will do.

**Starter:** With first-class raw material a good starter is next in importance, as with starters we control flavors.

**Ripening:** High acidity develops high quick flavors, but it also weakens the keeping quality of the butter, and I recommend mild ripening for all purposes.

**Cream:** Cream heavy in butter-fat does not develop as good keeping butter and with as good body as cream light in butter-fat. It will turn fishy quicker and break down much sooner. I recommend cream to contain between 25 and 30 per cent butter-fat when churned.

**Temperature and granules:** Good butter cannot be made from cream of irregular temperature, nor from irregular sized granules. All cream should be churned at a uniform cold temperature and with uniform size granules, never larger than peas.

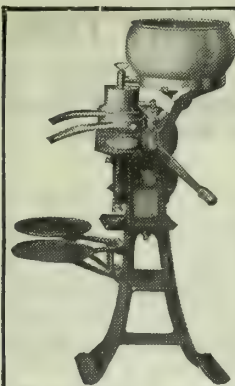
**Wash water:** The amount and temperature of wash water is very important to insure quality. I recommend wash water to be used at the rate of 100 pounds to every 100 pounds of butter when made for quick consumption, but for storage purposes I recommend double that quantity of water. The temperature of the wash water will range with conditions, but it should never be more than one degree above or below that of fresh drawn buttermilk.

**Working:** I find that butter will stand more working in a firm condition than when soft, without breaking down the body. I recommend working and plenty of it, as working alone will overcome mottles.

**Salt:** Salt plays a very important part in the structure of butter. I recommend quick dissolving salt of fine grain, which should be worked into the butter in the presence of a small percentage of water in order to dissolve quickly.

**Pasteurization:** I believe in pasteurization as I do in the Bible, and that 99 per cent of all dairy products would show better quality if properly applied. Butter-fat being strictly an animal product and highly perishable, offers a large field for bacteria. Aside from the point of health, butter should not be made the carrying medium of tuberculosis or other infections, and pasteurization alone offers the solution in our present day.

**Rancidness:** I believe that butter-fat will deteriorate more from the effect of air than from the effect of bacteria and that fishy butter is caused primarily by bacterial action, but secondarily by oxidation, and that rancid butter is the result of chemical reaction more than bacterial action, or possibly a combination of both. I believe we must know how



## TEN YEARS AHEAD OF ALL OTHER CREAM SEPARATORS

In skimming efficiency, simplicity, durability and convenience, the new 1908 Improved DE LAVAL CREAM SEPARATORS are fully ten years ahead of any other machine on the market today. Thirty years of experience, protecting patents, and the many valuable improvements devised and perfected by the DE LAVAL engineers in all parts of the world during the past three years, are responsible for this fact. Every feature of the DE LAVAL has been improved, from the supply can to the base. The new centre-balanced bowl with its separate spindle is alone a triumph in separator construction and must be seen to be fully appreciated. Then, there is the new one-piece "anti-splash" sanitary supply can, adjustable shelves for skim-milk and cream receptacles, new frame designs, and many other but less important improvements—all combining to make the DE LAVAL an absolutely ideal separator for farm and dairy use. There is the proper size machine for every size dairy, from the smallest to the largest, and no cow owner can afford to be without one of these improved machines. It will cost you nothing to see and examine the new DE LAVAL, and right at your own home, too, if you will but say the word. Our new illustrated catalogue describing the DE LAVAL improvements in detail is sent for the asking. Write us at once and you will receive this interesting book by first mail with full information as to how you may have a free demonstration of the improved DE LAVAL at your own home. It will pay you to do so and your only regret will be that you didn't investigate sooner.

**DE LAVAL DAIRY SUPPLY CO.**

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

**General Offices:**

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**

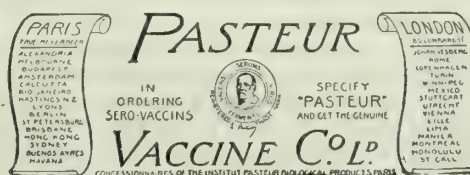
(General Agents U. S. A.)

161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.



### Pasteur Vaccine Co., Ltd. Anthrax and Blackleg Vaccines

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by the discoverers, Profs. Arloing, Cornevin and Thomas. Furnished in powder, cord and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore. It is furnished only in our established blue tube and always bears our name, trade mark and expiration date for your protection. Do not accept any other.

**PASTEUR VACCINE CO., Ltd., 7 Rue Meyerbeer, Paris**  
CHICAGO 328-325 Dearborn Street  
Local trade supplied by Richardson & Erlin Co., 580 Mission St., San Francisco, Cal.

When your animals are vaccinated be sure that it is with

## Nitrate of Soda

Nitrate Sold in Original Bags

**NITRATE AGENCIES CO.**

64 Stone Street, New York

Keyser Building, Baltimore, Md.

36 Bay Street, East, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street,  
San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly  
Filled—Write for Quotations

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL  
West of San Pablo Ave.

**PATENTS**

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

**Blake, Moffitt & Towne**

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon




**U. S. S.**

**WHY DOES THE  
IMPROVED 1908  
U. S. S.  
CREAM SEPARATOR  
Win So Many Laurels?**

Because it has that solid, low frame; most simple yet efficient bowl, holding World's Record for cleanest skimming; so many conveniences; and the easiest running separator made.

If you have cows, you need a separator, you need the best separator. That one is the **U. S. S.**



Simply send for catalogue "No. 131" read it carefully, and we leave it to you, which is best.

ADDRESS ALL LETTERS TO  
**Vermont Farm Machine Co.**  
BELLOWS FALLS, VT.

DISTRIBUTING WAREHOUSES AT:  
Chicago, Ill., La Crosse, Wis., Minneapolis, Minn., Kansas City, Mo., Omaha, Neb., Toledo, O., Salt Lake City, Utah, Denver, Colo., San Francisco, Cal., Spokane, Wash., Portland, Ore., Buffalo, N. Y., Auburn, Me., Montreal and Sherbrooke, Quebec, Winnipeg, Man., Hamilton, Ont., Calgary, Alta.

to prepare our cream more scientifically to overcome rancidness.

SOMETHING WRONG WITH BUTTER.—I regret to note the general decrease in quality of the butter produced in the United States. It shows that something in our present system is wrong and unstable. Millions of pounds of poor-grade butter-fat are being marketed annually, most of which has lost the greater part of its food value, only to be purchased by eager buyers and made into something to be sold for butter, with the result that the public consumes less butter or uses substitutes. What will be the outcome? I predict and hope that the Government will step in and say, "Mr. Farmer and Mr. Creameryman, your product to enter human food consumption must be wholesome, must be free from disease germs, must represent full weight, must not be overloaded with water, must be clean, and if you are not able to run your own business we will have to send our inspectors to pass on your product, the same as we did with the meat product, and you will have to stand the expense."

I believe that buttermaking will be conducted on a much more scientific basis in the future, that the dairymen and creamerymen will have fuller knowledge of the product that they are manufacturing, and that substantial variations from the present system will be made. I believe that our dairy products will be pasteurized to stop the spread of tuberculosis and other diseases. This will not be by choice, but will be compulsory through congressional action. I believe that the buttermakers to come will have to master subjects and conditions that only a few today even conceive, and that sanitary conditions in the dairy and in the creamery will be fully appreciated.

DADD'S MODERN HORSE DOCTOR.—By George H. Dadd, M. D., V. S., containing practical observations on the causes, nature and treatment of diseases and lameness of horses—embracing recent and improved methods, according to an enlightened system of veterinary practice, for preservation and restoration of health. Illustrated. 482 pages. 5 by 7 inches. Cloth. \$1.

## The Poultry Yard.

What Californians Have Actually Done With Fowls.

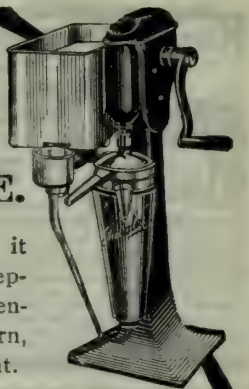
Mrs. M. R. Jones of Berkeley writes in a sprightly fashion for the Petaluma Poultry Journal, in answer to the question, "Do people ever get rich in the poultry business?" She says the question proved somewhat of a poser until she discovered the proprietor of the Richland Egg Ranch riding in an automobile and was assured that some sixteen years ago he tackled the poultry business with just \$1.40 all told in his pocket—that he bought five acres of bare land on credit; built a bit of a house for himself and bride on the same terms; planted a part of his land to peaches and balance to alfalfa; got a start with poultry, and so with sails squared to catch every favoring wind set afloat for the port of Success. Now, his fruit and poultry ranch is described as a very Mecca among small farms—a model and a wonder in beauty and utility, equipped with every convenience, and netting him a steady average income of some \$2300 a year; and—ah, yes; he rides in his automobile!

A POULTRY GRADUATE.—Five years ago, H. M. Warren, now of Santa Cruz, was compelled by failing health to give up his business and with his family seek a milder climate where he could gain a livelihood by outdoor employment. He located in the suburb of Seabright, where rents were low at that time; invested his small capital in a flock of good hens; bought his other equipment on installments, and launched a poultry business. It was a case of "swim or sink" with him; but he kept afloat and has made the right port in good shape. He carried on a diversified poultry business—eggs, broilers and roasters—and later worked into a good hatching egg and breeding stock trade. He also raised Indian Runner ducks extensively and found them very profitable, especially their eggs. In speaking of his experience, he said: "In the beginning I was not able to do hard work and had to be out of doors; I used to sit around among the fowls and study them and keep tab on the trap-nests, and so learned lots that has been of use to me in the business."

This season he has disposed of his ducks and all of his chickens but one flock of Barred Rocks and gone into truck gardening. In reply to my question of why, he said that the town had grown up around him and people complained of a large duck and chicken business in the midst of a popular seaside resort, and so he had compromised on market gardening, which is an excellent business there, and the soil is adapted to that purpose. Mr. Warren leaves the poultry business "well fixed," as he owns a goodly piece of land where he had been formerly a tenant, with a new two-story house, large barn, etc. and more than all, a stock of vigorous health and strength. Not a bad showing for five years in the poultry business—or any other business depending upon legitimate profits, without speculation, grafting and gulling the public generally.

MISS CARRINGTON'S RECORD.—Fourteen years ago the young daughter of a neighbor of ours in Haywards was raising poultry in a small way. She had only one extra lot adjoining the home place at her disposal, but she made the most of that, and though her flock off and on averaged about 200 fowls, the premises were always "spick and span." The neighbors were inclined to wonder at the queer fancy of a young girl, for they recognized that she was an enthusiast who got more out of chickens than the dollars and cents

## The Name "Tubular" on a Cream Separator Stands for the Same as "Sterling" on Silver—THE BEST MADE.



What the Tubular does in the dairy puts it foremost—twice as clean separating as other separators at Fairmont, Minn.; twice as clean at Kendall, Wis.; six to ten times as clean at Scotsburn, N. S.; fifteen times as clean at Gananoque, Ont.

But these competitions were far away from your home. Well, try it out in your own dairy, and see whether the Tubular is sterling, whether it will do better for you, with your own cows, than any other process or separator. No cost to you. Just write us you want to know what the Tubular can do for you. Ask first for Catalogue No. 131. It's a good introduction.

**THE SHARPLES SEPARATOR COMPANY,**  
West Chester, Penna.

Toronto, Can.

San Francisco, Calif.

Chicago, Ill.

they netted her. Last month, in calling upon old acquaintances in Haywards, I stopped at the Carrington White Leghorn Yards, where the fact is very much in evidence that the proprietor, the poultry girl of years ago, has likewise reached the port of Success. Miss Carrington now has 10 acres of her very own devoted to her fowls, and laughingly declared that although this had been the limit of space to which she looked forward, she still needs more room. The ranch is just out of Haywards in fair Castro Valley. On that March day the prune trees were in the flush of bloom, and every breeze brought snow-like showers to the ground and threw fresh fragrance to the winds. In fact, the whole valley was a flower garden of fragrance and beauty. Miss Carrington's grounds occupy a corner section and slope as smoothly as a lawn to Orchard avenue on the front. From the two roads every fowl can be seen; and truly some 1500 snow-white fowls and over 1100 chicks make a fine showing when they can be taken at one glance. The fowls are kept in open-front colony houses with no division fences except for the special matings and the chicks, and all have practically free range. Not even one little chick is allowed to step foot on the place unless it is a thoroughbred White Leghorn, and no Leghorn is kept unless it is fit for a breeder; so that things never get mixed, and Miss Carrington can fill the largest orders for hatching eggs at short notice. In truth, the magnitude of the business done on this ranch is astonishing. Hatching eggs are shipped by the thousands; orders of this size often come in from a single party. By working always to have the best thing in feathers; by fair and considerate treatment of her patrons, and—by printers' ink—Miss Carrington has built up a business which any man might be proud of and glad to handle—if he could! Though the hatching for the ranch was completed, the several incubators in the new incubator house were running at full blast to supply the day-old-chick trade, which Miss Carrington reports as very satisfactory to all concerned. She had yet to receive the first complaint from buyers, though some of the chicks had been three days in transit.

ANOTHER ALAMEDA COUNTY OUTFIT.—A little farther on in this valley is another large and successful poultry plant. This is strictly a White Leghorn egg farm. The proprietor, Mr. Hill, was fresh to the business when he started it some nine years ago, and has worked out his own salvation according to his own methods. He keeps some 2000 fowls, which year in

and year out net him an average profit of \$1 per fowl. He has systematized and simplified things so that he can do all the work himself without working very hard except during the hatching season. The fowls are kept on the colony plan, in open-front houses set quite near together and without division fences; with the laying house in the center fitted with tiers of nests. They have a good range, with wheat always before them, and once a day wet mash containing cooked fresh meat. Nowhere among large, well established poultry plants have I found the dry hopper feed methods in operation; it had been tried by most if not all of them and found unsatisfactory.

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### POULTRY.

BUFF ORPINGTONS—Su Hvan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

SANTA TERESA POULTRY FARM for White Leghorns. Wm. HAUSAM, Eden Vale, Cal. Box 45.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.


GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

**POULTRY SUPPLIES**  
of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Sept. 31, 320 McAllister St., S. F.



**DO YOU KNOW**  
THE WET WEATHER  
COMFORT AND  
PROTECTION  
afforded by a  
**TOWER'S  
FISH BRAND  
SLICKER?**  
Clean - Light  
Durable  
Guaranteed  
Waterproof  
\$3.00  
Everywhere



600 A. J. TOWER CO. BOSTON, U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO, CAN.

## Agricultural Engineer.

### Washing Out Alkali.

Concerning the method of this, which has long been known to be feasible if you can get fresh water on top and draw it off below, Mr. Clarence W. Dorsey gives the following suggestions:

Drainage may be accomplished by pumping plants that depend upon shallow ground water for their supply or by the use of gravity drains that will conduct the water to some natural outlet or to a sump dug for the purpose, from which it is raised. Either method is capable of lowering the ground water. If the drainage water does not contain soluble salts in large quantities, pumping may be used to furnish water for irrigation purposes. If, however, the drainage water contains too much salt to be applied to crops, it will be better to depend on a gravity system of drains. No great difficulty will be experienced in finding a gravity outlet where the land has ample fall.

A drainage system to reclaim alkali land differs somewhat from the drainage systems commonly used in regions of abundant rainfall. To secure best results the drains are placed at greater depth and at a correspondingly increased distance apart. In heavy soils drains placed 200 feet apart are apparently as successful as those placed 150 feet apart. On light sandy loams where the alkali occurs in moderate quantity the drains may be placed at intervals as great as 250 and 300 feet. On heavy clay soils with a large amount of alkali, intervals of 150 feet between drains will be more satisfactory. The drains should be placed at least three feet deep and depths of four and even five feet will repay the extra cost in laying them at this depth. The depth at which the drains are installed will be found to be about that to which the alkali can be leached from the soil.

For closed drains tiles of burned clay or boxes of boards or planks may be used. Flat stones are frequently used for closed drains as well as bundles of brush tied together and placed end to end. Since drain tiles have proved the most economical form of drainage implements, their use is generally to be recommended. Tiles smaller than four inches have not given satisfaction in draining alkali lands on account of the difficulty in keeping them free from silt. The tiles should be crowded closely together and silt catchment basins constructed in long lines of tile. It will generally be found advisable to construct these of sufficient size, so that the deposits of silt may be easily removed. Boxes made of boards or planks four or five feet long and two feet wide and at least one foot deeper than the tile have been found satisfactory. After the tiles are laid care should be taken to settle the earth firmly over them. This may be done by filling to a depth of several inches and allowing a small stream of water to enter the trenches before filling in the entire trench.

## Patrons of Husbandry.

### Sonoma Pomona Grange.

To the Editor: The Master of the State Grange informs me that many Patrons express the wish to him that they could see some further mention of Grange affairs in a paper which they value so much as the PACIFIC RURAL PRESS, and to which so many of them are subscribers. If it would suit your convenience to publish occasional notes of Grange affairs, I should take pleasure in sending them to you.

An open and out-door meeting of Sonoma County Grange was held at the home of State Master Griffith on May 23rd. The different Granges in the county were well represented, about 60 members arriving by train, carriage or auto. The meeting was held in the shade of a magnificent group of live-oak trees near the house, and a cordial welcome was extended to the guests by Bro. Griffith.

Crop reports and other business being dispatched, the usual chicken dinner was served, with many dainties, on tables which were beautifully decorated with flowers, while the oak and mountain laurel trees on the other side of the house came delightfully into view.

In the afternoon the assigned topics were discussed. S. H. Stone, on "What are the advantages of a straight crop?" made some telling points. The farmer who confines himself to one crop is apt to know much more about it than he would with a number of different products. He will be better posted on markets and able to dispose of his crop to better advantage than if he had a number of small lots of different kinds. Even in case of a crop failure, the average of the years will bring conditions up quite as well as in the case of a mixed crop.

Several members spoke also. Bro. J. E. Metzger's experience was in favor of the straight crop. His specialty is cherries. One year they brought in \$1000; the last two years \$500 per year. He remarked on the convenience of the crop being all out of the way at one time, and said that, had he confined himself to cherries, he probably would have attained that desirable holiday in a farmer's life—the time to go fishing. The next topic was given by A. E. Burnham—"Is it profitable to carry out the principle of mixed farming in our county?" Mr. Burnham supported his argument in favor of it by many pertinent illustrations.

"What public measure is of the greatest importance at the present time to the farmers of California?" was taken by M. H. Johnson, who decided on "Good Roads," and gave convincing reasons for his belief.

An address on "The Aristocracy of Education and Occupation" was given by E. C. Griffith, Pomona Lecturer. The address was most thought-suggestive.

Improved bridge building was discussed in connection with "Good Roads," and a specimen of concrete tile made of one-third cement and two-thirds gravel and cast in a wooden mold was shown. It was twelve inches in diameter. Its cost was 65 cents and it seemed to be of excellent quality and durability.

Mrs. Walter Church gave a paper on "The influence of an attractive home in forming the character of the young."

Master J. E. Talbot spoke of the benefit of meeting in this way the local Granges and State Master Griffith responded in a brief and inspiring address, urging members to work for the growth of the Order and the good of the Order.

GRACE S. HARWOOD.

[This is splendid. Now Bro. Tuohy will have to look out for his laurels as a Grange reporter. We know that for the good of the cause he would like to be beaten. The race is on in our columns.—ED.]

## Home Jobs



There are a thousand little things to be done about the house and farm that you are called upon to do yourself if they are done at all. To do them rightly and easily you require good tools—better tools, indeed, than the carpenter, because he has the means of sharpening, setting, and adjusting, which you have not.

For the home, the shop, or the farm, there are no tools equal in any respect to

## KEEN KUTTER

### Tools and Cutlery

The Keen Kutter trademark on the tools guarantees your money back if the tool is not exactly right.

Keen Kutter Tools include Carpenter's Tools, and a full line of Farm and Garden Tools—Forks, Hoes, Trowels, Scythes, Manure-hooks, Lawn-mowers, Grass-shears, Rakes, etc. Also Scissors and Shears, Pocket-knives and Table Cutlery.

Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. SIMMONS. Trademark Registered.

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (INC.), ST. LOUIS AND NEW YORK, U. S. A.

### Forest Guard Appointments.

The Forest Service has just announced the following appointments of Forest Guards on California National Forests:

H. B. Patterson, Frank A. Robinson and Howard Higgins on the Stanislaus National Forest.

Daniel Deerwater, W. W. Hitchcock, E. A. Shulmire and Richard Williams on the Tahoe National Forest.

Henry L. Lewis and Edward S. Zumwalt on the Sierra (S) National Forest.

Daniel F. Foley, William F. Blackburn, Ben S. Featherston and Albert B. Watkins on the Santa Barbara National Forest.

Arthur C. Barrett on the Plumas National Forest.

Charles R. Nail on Diamond Mountain National Forest.

John N. Lindsey on the Stanislaus National Forest.

Claude Barker and Lincoln Herriek on the Sierra (N) National Forest.

Ivo Reed on the San Gabriel National Forest.

These appointments are made to meet the increased demands of the Forest Service work, due to the opening of the grazing season, resumption of active lumbering operations on forests, and permanent improvement work after the cessation of practically all business of this kind during the winter months.

## DEMING

Hand, Knapsack, Barrel and Power Sprayers



for the poultryman, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it's possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

THE DEMING COMPANY

595 Depot St., Salem, Ohio

CHANCE CO., Pacific Coast Agents,

Portland, Seattle, Spokane, Tacoma,

San Francisco, Salt Lake City.

### NOTICE TO STOCKHOLDERS.

Notice is hereby given that the Annual Meeting of the Stockholders of the Grangers' Business Association, (a corporation) for the election of Officers to serve for the ensuing year and for the transaction of such business as may come before it, will be held at its principal place of business at the Merchants Exchange Building, No. 431 California Street, San Francisco, State of California, at 10 o'clock A. M., on Tuesday, June 9, 1908.

A. D. LOGAN, President,  
R. H. CHILDS, Secretary.

Dated, May 28, 1908.

## Eureka Lemon Valencia and Navel Oranges Eucalyptus Trees

Globulus, Rostrata,  
Rudis, and fereticornis

## Phoenix Canariensis, Chamaerops Excelsa Loquats, Roses, Etc.

We are contracting now for the growing of Eucalyptus trees for next season's planting.

Write us for prices.

COVINA NURSERIES,  
Covina, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## A GREAT BARGAIN

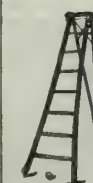
The Popular Barren Hill Nursery  
at Nevada City, Cal.

Formerly conducted by the late Felix Gillet, is offered for sale at a very low figure. Contains 16 acres, fine House of nine rooms, Greenhouse, Office Building, Packing and Dry House. An attractive feature being a quartz ledge running through a portion of the property.

Write for particulars.

BARREN HILL NURSERY,  
Nevada City, Cal.

**THE BOSS LADDER**



We have been making the Boss Ladder since 1895 and thousands of them are now in use. They are lighter, stronger and wider than any other make. A 10-ft. ladder weighs 15 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. R. Station in California, on receipt of price—30 cents per foot and prepaid freight.

Driver, Abner & Co., San Leandro, Cal.

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 69 pages 5 by 7 inches. Cloth.....\$0.50



## The Home Circle.

### Poverty Flat.

Our lodging is humble and tiny,  
High up amidst chimney and lead;  
To reach it we climb a steep stairway  
And stop when we're pretty near dead!  
Our outlook a back yard—and farther  
A bill-board encompasses that!  
But what, may I ask, is expected  
By dwellers in Poverty Flat?

Some days where the funds for the morrow  
Will originate, nobody knows;  
And again, when I've sold a few sketches  
The future is couleur de rose.  
Our life's a perpetual struggle,  
The wolf we must always combat,  
Yet Molly and I are quite happy  
In this so-called "Poverty Flat."

Where there is no touch of a lover  
To soothe when a task is done;  
No smiles when the dark clouds threaten,  
No kiss when a prize is won;  
Where pain and pleasure and hoping  
Are shared by no other—why, that,  
My Molly and I are agreeing,  
Is genuine Poverty Flat.  
—Edwin L. Sabin in People's Magazine.

### The Mist and the Sea.

The mist crept in from the sea  
Out of the void and the vast;  
And it bore the silver rain  
A shimmering guest in its train,  
And many a murmuring strain  
Of the ships that sailed in the past;  
Soft as sleep's footfalls be  
The mist crept in from the sea.

The mist crept in from the sea  
And folded the length of the shore  
In the clasp of its mothering arms,  
As though it would shield from harm;  
And lulled were the loud alarms,  
And lost was the rage and roar  
Of the surge; so soothingly  
The mist crept in from the sea.

The mist crept in from the sea  
White, impalpable, strange;  
Full of the wafture of wings,  
Of eerie and eldritch things,  
Of visions and vanishings  
Ever in shift and change;  
Silently, hauntingly,  
The mist crept in from the sea.

The mist crept in from the sea,  
And bode for space, and then  
It heard the imperious call  
Of the deep, transcending all,  
And it knows itself as the thrall  
Of the world old master of men;  
So, still as the dreams that flee,  
The mist crept back to the sea.

—Clinton Scollard.

### What a Bit of Coquetry Cost.

Tracey Ashley, a young northerner, spent a winter in New Orleans, where he met and wooed Rosalind St. Leger, a resident of that old southern city. Miss St. Leger was a belle and had no end of suitors, among them a Julius Warfield, born and bred in Louisiana and heir to a large sugar plantation. Ashley was an ardent wooer, while the southerner appeared to be rather indifferent.

Mardi Gras was coming on and with it preparations for unusual festivities. Ashley, whose engagements at home required him to leave New Orleans with the advent of Lent, begged hard of the lady to give him an affirmative answer to a proposition of marriage he had made her, but she would not.

Meanwhile the Mardi Gras opened. On the last evening of the festivities Ashley put on a domino and mingled with the masqueraders. Among the throng he noticed a feminine figure in a green domino on the arm of a man dressed in a red one. In the former was something familiar to the young northerner. As he passed them the woman flirted her handkerchief at him. He followed the couple and at last made up his mind that she was Miss St. Leger. Then he purchased a bouquet from a street vender and, approaching her, offered it. She accepted it and slipped her hand within his arm. Her attendant fell back. Convinced of her identity, Ashley took a fancy to press

his suit without revealing the fact that she was known to him.

"But supposing," she said in a voice thinly disguised, "that I am not of your class."

"That cannot be," he said. "One to the manner born cannot conceal it even in disguise."

"I may be homely."

"That I will risk."

"You haven't seen my face."

"I have seen your figure. I have heard your voice. Neither could belong to any but a beautiful girl. But were your face pockmarked, were your eyes green, your nose a beet, still would I love you."

She was silent. He felt her hand tremble on his arm.

"Oh, to have a lover like that," she responded presently — "to be loved for oneself by one who loves so well that a lack of beauty, a blemish, has no weight to turn his love!"

"You will find me such. You are beautiful. I know it. But supposing some accident, some illness, should convert that beauty into ugliness, still would I love you."

"If you only would!"

"I know I would."

"But suppose you should find my face, which you insist on believing beautiful, to be hideous."

"I would love you."

They had passed beyond the crowd of merrymakers. The torches flickered in the distance. Shouts of laughter, the tooting of horns, the tread of feet, came confusedly. Ashley unclasped the hand from his arm and pressed it.

"Tell me, sweetheart," he said, "is it yes?"

"You do not know what you are doing."

"I know this—that I love you."

"When you see my face you will spurn me."

"Never!"

"Even if you should wish to keep your word I would not permit you to make the sacrifice. A hero once loved a beautiful woman. She refused him. Smallpox destroyed her beauty. They met again, and she accepted him. He married her. They lived a wretched life."

"It would not be so with me."

"I would not trust you."

"I beg of you, do not hold me off longer. I am becoming beside myself. Send me away from you, and I will bury my grief under the bosom of the Mississippi."

"You don't mean it."

"I do."

"You will surely die if I deny you?"

"I will."

"Then I must yield."

Removing her mask, she turned toward him the face of a full blooded African negress. He started back.

"Reckon yo' been mistaken, mars'," she said in broad negro dialect.

Ashley drew forth a well filled wallet and was about to open it when the negro snatched it.

"I want it all, Mars' Ashley. Ef yo' don' gib it to me I'll tell Missy Rosalind."

"You know her?"

"I ought to. I'm her maid."

"Keep it, and if you keep the secret as well you shall have more." And, turning on his heel, he rejoined the revellers.

An hour later Ashley again passed the green and red dominos. The woman shook his wallet at him triumphantly. He was about to turn his back upon her when she lifted her mask and showed the features of Miss St. Leger. She tossed his wallet to him with a merry laugh and turned away. As she did so her escort raised his mask and showed the face of Julius Warfield.

Rosalind St. Leger regarded her act as a bit of coquetry that would serve to draw the northerner only the more closely to her. She was mistaken. He left the city the next morning without a call or a line of adieu. When she realized what she had done she bitterly rued her folly. She waited a year, hoping that he would relent; but, failing to hear from him, there was nothing for

her to do but complete the part she had played by marrying Warfield. The only comfort remaining to her was to send her wedding cards to the man she really wanted.

### About the Limit.

A newly married couple came in a hotel where we were resting and asked how much it would cost to get two bowls of boiled rice and milk and were informed that the price was 15 cents per portion. The groom pulled a small package wrapped in a bit of newspaper from his pocket and, opening it, displayed about a double handful of rice, which he said they had gathered from their clothing after the shower which followed the early morning wedding. He inquired how much would be deducted if they furnished their own rice and upon being informed that no allowance could be made he became indignant and remarked that they would wait until they reached home for their dinner rather than submit to such unfair dealing and left the place. The proprietor said that the young man owned one of the best farms in the town and had established quite a famous reputation locally for economy, although that is not exactly the way he expressed it.—Forest and Stream.

### Putting Things in Use.

If the use of the various means of communication is to be considered as a measure of civilization, this country certainly appears to an advantage when compared with Europe. The last figures obtainable for the year ending Jan. 1, 1905: Of letters and postal cards each 1,000 persons sent 6,719, as compared to 29,554 for Europe. In the matter of telegrams each 1,000 Americans sent 1000 messages for every 731 transmitted by Europeans. But it is in the matter of telephone messages that the inhabitants of the United States far surpassed those of the Old World. While each 1000 of the population in the old country sent 7,364 messages by the telephone, each 1000 Americans sent 44,344 or more than six times as many.

### What a Man's Beard Tells.

"You can tell some of a man's habits and read some of his traits of character from his beard," said the old barber. "If a man spends his days at a desk beside a window his hair and beard will grow faster on the side toward the window. Plants and beards both flourish under the influence of sunlight. Why, one of my customers found the effects of the side light so pronounced that he changed his office desk to face the window. Another interesting fact is that, when a man is up late or works long hours, he needs a shave oftener than if he took the usual amount of sleep. That's because in being awake he keeps the vital processes of his body in greater activity than when asleep. The growth of the hair depends largely on the circulation of the blood, and the heart slows down when we sleep."

### How to Make Cold Cream.

One of the best cold creams is made of rosewater, two ounces of almond oil, half an ounce of spermaceti and half an ounce of white wax. Melt the wax and spermaceti in a basin set into a dish of boiling water. If the mixing is done with an egg beater the cream will be lighter and pleasanter to use. As the fats congeal remove from the heat and pour in the almond oil; then beat and very slowly add the rosewater. The cream when done should have the consistency of whipped cream. If desired, a few drops of violet extract may be added before it congeals. Keep in a glass or earthen jar. The addition of a quarter of a dram of liquid benzoin just before the mixture cools helps to keep it sweet.

### Gleanings.

The bee can outfly the pigeon.

The mole will starve to death in a day.

The elephant's span of life is one century.

The average life of the eagle is 200 years.

The gray buzzard is the heaviest bird that flies.

The Mikado has a corps of 60 doctors and 30 priests.

Some of the cigars of the Philippines are 18 inches long.

Great Britain uses 72 pounds of salt per capita per year.

Italy leads the nations of the world in the matter of theatres.

The municipality of Tokio now owns its own street car lines.

England consumes 30 ounces of tobacco per annum per head.

With 5,500,000 inhabitants Holland has 1,000,000 wage earners.

Sugar is to be found in the sap of nearly 200 plants and trees.

Given plenty of water, a horse can subsist 25 days without food.

One Amsterdam factory alone cuts 400,000 diamonds every year.

Fish-hooks have been made on precisely the same design for 3,000 years.

A new London library has a room set apart for conversations on literary matters.

Antwerp and Amsterdam have the best health records of all European cities.

It has been stated that Iceland has the greatest number of centenarians per capita.

Ten pounds of blood are sent through the human system at each pulsation of the heart.

Despite lower tolls, the receipts of the Suez Canal were greater last year than ever before.

The lyre bird of Australia is the largest song bird. It is about the size of an English pheasant.

The Salvation Army has a factory in Europe where musical instruments are made for its warriors.

Hashish, which in its effects is much the same as opium, is prepared from the gum taken from hemp.

The Japanese will never sleep with their heads to the north, but their dead are always buried that way.

In China the property of the parent must be equally shared by the children, upon the death of the former.

Accident insurance is compulsory among the workmen of Holland and sickness insurance voluntary.

The whale is thought to be the longest lived of the animal kingdom. Its average age is about 500 years.

The Italian government is making efforts to divert the tide of emigration from the United States to Africa.

### Manicurist in Packing-house.

A packing company at Kansas City has hired a manicurist to clean the nails of the girls who pack chipped beef, ox tongue and other delicacies into tin boxes. This is the result of the recent packing house exposure. One girl is excused at a time, and she goes to the manicurist, who works upon her hands, keeping the nails trimmed and every part of the hand scrupulously clean. Of the 75 girls employed in this establishment each must have her hands manicured every working day.

### Borax Soap.

Dissolve 1 can of lye and  $\frac{1}{2}$  pound of borax (powdered) in 1 quart of cold water. When all dissolved add 5 pounds melted grease. Pour grease slowly into lye, stirring all the time. When well mixed turn into mould to harden.



## The Railroads Must Have Telegraph Operators

Special inducements to young men to take up the work. Write for particulars.

**PACIFIC COAST BUSINESS COLLEGE**  
SAN JOSE, CAL.

### Dogs Work for a Living.

The Eskimo begins to train his dog for sledge work before it is a month old. One of the most interesting features of Eskimo villages are puppies tied to the pole of a tent. They pull on the rope with all their puppy strength in the effort to break away and join in the frolics of their elders.

Not until a dog bred for mail service is one year old is it put in training for the trail. It begins by running 10 miles with the team; then it is dropped out. Next day it runs the same distance. Gradually the distance is increased until it reaches the fifteenth month of life, when it becomes part of the regular service. The life of a mail dog is from three to four years. No greater punishment can be inflicted than to lay a dog off from service. When unruly they are often threatened with a lay-off, and with almost human intelligence they seem to understand the disgrace it implies in the eyes of their fellow workers on the trail. All fight to be leaders. A constant spur to an unambitious dog is the "outsider," who will quickly take away the leadership not only in the mail service, but in teams maintained chiefly for the pleasure of the sport. The intelligence of the malamute is remarkable, its scent wonderful, its instinct, as a rule, unerring.

Some dogs are better trail followers than others, as some are better leaders. In a blizzard the best of them lose the trail, but invariably find it. When on the trail they never eat but once a day, then at the end of a journey. After feeding, like weary children, they fall asleep and are never quarrelsome. It takes on an average 20 pounds of food a day for a team of 11 dogs on a hard route.—St. Nicholas.

### Curing Hams.

An Ohio farmer gives the following as his method of curing hams and bacon. For one hog weighing, alive, 200 pounds, use a gallon and a half of salt. Put it in a kettle and get it very hot. Add one tablespoonful of pulverized saltpeter and mix well with salt. Cover salting block with this and lay the meat with the rind down on it. Then cover the meat with the hot salt and let it remain ten days. Scrape off all the salt and turn the meat over and salt as before, using less salt and a teaspoonful of saltpeter. In eight days resalt and hang it up and smoke brown, using hickory wood if possible. Put in muslin sacks, with straw around to prevent molding, and hang in a dry place.

Shopper—"Pardon me; you're a married woman, aren't you?" Saleslady—"How'd you know?" Shopper—"You forgot to give me any change out of that \$10 bill I gave you for this collar-button."

"Mother," remarked a sour philosopher, "gits a lot of attention in songs and po'try, but she continues to slave for the entire family and wear old clothes, just as she always has."

### Pith, Point and Pathos.

A lover is a man a woman picks out to throw herself away upon.

Plans are the blocks that mortals use to build castles for the gods to knock over.

Time will clear up all things unaided except promissory notes of the bankrupts.

Happiness is the result of keeping your desires down to the limit of your abilities.

The chief end of a politician is to convince the voters that he is a real statesman.

No matter what it is, a man can get a lot of fun out of it if it is only prohibited.

A martyr is the name friends apply to the man the rest of the world calls a fool.

Some men think they can fool their fellow-mortals as easily as they can hoodwink themselves.

A friend is a man with courage enough to tell you something besides what you want him to.

A habit is something that costs money; a virtue, that which you can obtain without a cash outlay.

The average woman knows that when a man starts to explain something he is going to lie to her.

Ambition is a balloon that takes men up before informing them that it has no parachute attachment.

Most men spend their lives trying to make the world think as much of them as they themselves do.

An honest man is one who considers the righteousness of a thing before how much it will hurt him.

A minister earns the right to tell you what he thinks of you by agreeing to preach your funeral sermon.

### Pointers for Boys.

In a mother's old scrap book we recently came across the following choice counsel for boys:

1. To Throw Stones.—Fold each one carefully in a feather bed, and give notice to all the neighborhood when and where you are going to pitch it.

2. To Carry Gunpowder in the Pocket.—Soak it well in cold water, and then wrap it up in a cover of oiled silk.

3. To Slide Down the Banister.—Let a surgeon sit on the lower stair. Also, carry a pail full of poultice in each of your hands, as you may need it.

4. To Cure Creaky Boots and Shoes.—Wear them always in going into the pantry to get some of mother's cakes and pies.—Exchange.

### Maple Sugar Candy.

To make maple sugar candy break one pound of maple sugar in small pieces and put them into a granite pan with two cups of milk. Place over the fire and cook until entirely dissolved. Then stir the mixture with a wooden spoon and keep it boiling until, when tested with cold water, it will be crisp and crack when hit. Add a piece of butter the size of a walnut and turn the mixture into buttered tins. When it is partly cool take a sharp knife and mark the candy into squares.

"Shakespeare wrote for all time."

"For instance?"

"Take his expression: 'Tis not so deep as a well, nor so wide as a barn door, yet 'twill serve.' How well that describes a 1908 spring hat!"

### "State Eggs."

On his recent trip to Denver to arrange hotel accommodations for the New York delegates to the national Democratic convention, Thomas F. Smith, secretary of Tammany, became much interested in the customs of the West. One morning at breakfast Secretary Smith began questioning the colored waiter.

"Sam," said he, "these eggs are fine; what sort are they?"

"Strickly fresh aigs, sah, strickly fresh; they was jis' laid yesterday, sah."

"Indeed! Is there any other kind sold here?" asked the secretary.

"Oh, yas, yas sah; deys Colorado ranch aigs, sah."

"What sort of eggs are those?"

"Why, sah, dem Colorado ranch aigs is aigs raised in Colorado, sah; but deys not quite so fresh as strickly fresh aigs, no sah, not quite, sah."

"And are there any other varieties?" asked the secretary.

"Yes, sah; dars de aigs dey call 'State' aigs, sah, but dey's a mighty poor sort of aigs, sah."

"Well, Colorado is a State, isn't it? How do they differ from other eggs; were they laid in Nebraska or Kansas?"

"Deed, sah, I don't know 'bout dat but I dun guess not, sah. Fur a fac', sah, I don't think dat word 'state' signifies what locality dem aigs was born in at all, sah, only jes describes the condition they's in, sah. Yes, sah, I think it do."

### "Next."

"I was counsel for a railway company in the West," says a prominent New York lawyer, "in whose employ a section hand had been killed by an express train. His widow, of course, sued for damages. The principal witness swore positively that the locomotive whistle had not sounded until after the entire train had passed over his departed friend.

"You admit that the whistle blew," I sternly demanded of the witness.

"Oh, yes; it blew."

"Now," I added impressively, "if that whistle sounded in time to give Morgan warning the fact would be in favor of the company, wouldn't it?"

"I suppose so," said the witness.

"Very well. Now, for what earthly purpose would the engineer blow his whistle after the man had been struck?"

"I presume," replied the witness, with great deliberation, "that the whistle was for the next man on the track."—Harper's Weekly.

The greatest known daily range of temperature is found in Arizona, where a change of 80° in 12 hours frequently occurs, and where the mean annual temperature is 45° in the north and 69° in the south, with 120° as a frequent summer maximum. The most equable climate, on the other hand, is claimed by Honolulu. The maximum temperature in 1907 was 89°, on September 3; the minimum was 58° on March 13, and the yearly average was 73.82°. The yearly rainfall, 2.84 inches at Yuma and 24.65 inches at Flagstaff, in Arizona, has averaged 30.25 inches for 16 years in Honolulu, with a minimum of 16.04 and a maximum of 50.30 inches.

Flowers are as a rule 1½° warmer than the surrounding air.

### Domestic Hints.

Cherry Pudding: One cup milk, 2 tablespoonfuls sugar, 2½ cups flour, 1 beaten egg, 1 tablespoonful butter, 1 cup stewed and flavored cherries. Steam, and serve with wine sauce.

Cream pie: Two eggs, ½ level teaspoonful salt, ½ teaspoonful lemon, ⅔ cup sugar; beat to a cream, add ¾ cup flour, mix, and add lastly, ⅓ cup hot milk. Put batter into two pie plates and bake.

Lady Baltimore Cake: Three-quarters cup sugar, ½ cup milk, 1 cup flour, ¾ cup pastry flour, 3 whites of eggs beaten stiff, ½ cup butter, ½ teaspoonful vanilla; cream butter and sugar, add milk, vanilla, and flour. Lastly add the beaten egg whites.

Apple Sauce Cake: One cup sugar, 1 egg, ½ level teaspoonful soda (dissolved in the apple sauce), 1½ cups chopped raisins, ½ teaspoonful each of cinnamon, nutmegs, and cloves; 1 cup flour, 1¾ cups pastry flour.



We have knocked the bottom right out of all other offers for the world's greatest musical instrument.

#### OUR OFFER

We will send to anyone, anywhere, a complete

#### VICTOR Outfit Absolutely FREE

records and all, on trial, and if you don't like it send it back, it won't cost you a penny.

After you have listened to Sousa's grand band—the U. S. Marine Band—The Royal Marine Band of Italy—songs by great singers and the best dance music you ever stepped to, and then if you decide to keep it, and we feel you will, the small sum of 50c a week for a few weeks, makes you the owner of the whole outfit.

We are "The Victor Dealers of California" and by special arrangement with the Victor Talking Machine Company, we have permission to make this great free trial offer and the terms are so liberal that no one can afford to miss this chance to own a Victor while this offer lasts.

#### How to Get the Outfit

Send us your name and address on a postal, don't delay, write at once, and we will send you "Our Great Free Trial Offer" by return mail.

#### CLARK WISE & CO.

"The Victor Dealers of California"  
1420-1422 Van Ness Ave  
SAN FRANCISCO



When answering this advertisement please mention the PACIFIC RURAL PRESS.

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25. Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.

#### HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.



## THE MARKETS.

San Francisco, Cal., June 3, 1908.

## WHEAT.

Wheat remains without change in the San Francisco market. There has not been any activity in the buying of futures, and while some cash wheat has changed hands, the market has been far from brisk. The latest reports from the wheat crop in California show it to be in a much better condition than it was supposed to be. Grains in general on the Coast are going to come out better than was estimated. The official report from India, compiled by officials, shows India's crop will be very short.

California White Australian..	1.70 @ 1.72½
California Club.....	1.65 @ 1.67½
California Milling.....	1.67½ @ 1.70
California lower grades.....	1.40 @ 1.60
Northern Club.....	1.65 @ 1.67½
Northern Bluestem.....	1.70 @ 1.75
Northern Red.....	1.65 @ 1.67½
Turkey Red.....	1.67½ @ 1.75

## BARLEY.

Large arrivals of barley from the north, where the market is weak, caused the market to weaken and there was a drop in the price of feed barley. This is practically the only offering on the market now, there being no stocks of brewing or chevalier. The future market is unchanged, but some interest is being shown in it.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.40 @ 1.42½
Common to Fair.....	1.35 @ 1.37½
Shipping.....	Nominal

## OATS.

Choice Red, per ctl.....	\$1.52½ @ 1.55
Ordinary Red.....	1.45 @ 1.47½
Gray.....	1.50 @ 1.57½
White.....	1.47½ @ 1.57½

## CORN.

Corn still keeps at the advanced price it went to last week, and is still firm. There is little interest being taken in the market at the present prices, however. There has been some brown Egyptian offered during the week at \$1.80 to \$1.85 per cental, but this has found no buyers.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow.....	1.85 @ —
White, in bulk.....	1.74 @ —
Mixed, in bulk.....	1.72 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

The quotations on rye remain unchanged, but on account of the small offerings it is merely nominal.

California.....	\$1.47½ @ 1.50
-----------------	----------------

## BEANS.

There has been another advance in the bean market during the week, affecting limas and large and small whites. Bayos remain unchanged from last quotations. The demand for beans is still brisk and the market remains advantageous to the sellers.

Bayos, per ctl.....	\$3.15 @ 3.30
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.50 @ 3.00
Garvanzos.....	3.25 @ 3.65
Horse Beans.....	2.25 @ 2.75
Small White.....	4.30 @ 4.35
Large White.....	4.35 @ 4.40
Limas.....	4.90 @ 5.00
Pea.....	3.50 @ 4.00
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	3.00 @ —

## SEEDS.

Prices of seeds remain as last week. There is no life in the seed market at this season.

Alfalfa per lb.....	20 @ 22 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

The dull condition of the flour market still holds, in spite of the prospect of a

short supply before the new crop of wheat is harvested. There has been no change in prices during the week.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

Shipments of hay to this market continue to show a decrease, the total for the past week being only 2640 tons, in comparison with 3160 last week and 3410 for the week before that. According to advices from the interior, the chief reason for this is that the holders are dissatisfied with the prices ruling here and are disposed to wait and see what the near future will bring. Dealers here claim that there is nothing in the present situation that justifies expectations that the old range of prices will be restored, and some of them believe that within 30 days the figures quoted will be still lower than at present. The United States Government is reported to have bought 5500 tons of hay in Seattle for shipment to Manila, hay being lower in the North than in this State. New hay continues to come in very slowly, and is not yet generally quoted. Dealers are not yet in a position to tell much about the size of the new crop, but expect to be better informed within a week or two. For some reason dealers and holders are getting farther apart in their views on prices and light arrivals are expected to continue for some time.

Choice Wheat, per ton.....	\$16.00 @ 18.00
Other Grades Wheat.....	11.50 @ 15.00
Wheat and Oat.....	12.00 @ 16.50
Tame Oat.....	11.50 @ 16.00
Wild Oat.....	10.00 @ 15.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 95c

## MILLSTUFFS.

The price of milled corn products has followed the rise in price of the raw grain and during the week corn meal has advanced \$3 on the ton. Other corn products have risen in proportion. The demand for all millstuffs remains good.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	32.00 @ 33.00
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	28.00 @ —
Jobbing.....	29.00 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 39.00
Rolled Barley.....	31.00 @ 32.00
Shorts.....	33.00 @ 35.00

## VEGETABLES.

The markets being closed on both Saturday and Sunday, created a good demand for all lines of vegetables on Monday. The regular trade has since been normal and uneventful. All arrivals have gone fairly well and the market has not been glutted. The arrivals have been sufficient for all demands. The arrival of green corn from different points is becoming a daily occurrence. Tomatoes are arriving in plentiful supply, and are weaker.

Garlic, per lb.....	18 @ 20 c
Green Peas, sack.....	1.25 @ 2.25
String beans, lb.....	4 @ 6 c
Cabbage, per ctl.....	35 @ 50 c
Onions—	
Australian, per ctl.....	3.50 @ 3.75
Bermudas, per crate.....	1.25 @ 1.50
New Red, sack.....	1.00 @ 1.15
Summer Squash, box.....	75 @ 1.00
Tomatoes, crate.....	1.50 @ 1.75
Carrots, sack.....	75 @ —
Rhubarb, box.....	60 @ 1.00
Asparagus, extra, lb.....	6 @ 7 c
Asparagus, No. 1.....	5½ @ 6 c
Asparagus, No. 2, lb.....	3 @ 5 c
Green Peppers, lb.....	10 @ 20 c
Cucumbers, doz.....	40 @ 65 c

## POULTRY.

The arrivals of poultry from local points and from outside the State have been smaller during the week and the dealers have had an opportunity to clean up their carry-overs. Consequently the market is in a much better condition and there seems to be a chance that there will be a general advance in prices in the near future if this condition holds. There has been an advance in the prices of the

better grades of hens. In other lines there has been no change of prices.

Broilers.....	\$3.50 @ 4.50
Small Broilers.....	2.50 @ 3.50
Fryers.....	6.00 @ 7.00
Hens, extra.....	7.00 @ 8.00
Hens, per doz.....	5.00 @ 6.00
Small Hens.....	4.00 @ 5.00
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	7.50 @ 8.50
Young Roosters, full grown.....	9.00 @ 10.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50
Ducks.....	4.00 @ 7.00
Geese.....	1.75 @ 2.00
Goslings, per pair.....	2.00 @ 2.50

## BUTTER.

The large arrivals and warm weather of last week drove the price of butter down slightly and there seemed to be no attempt made to keep it up. Monday's strong trading has made the market firm again, but creamery extras are quoted one cent below last week. In spite of the prevailing high price, there has been considerable storing of butter during the past week, although some of the storing interests consider the price still prohibitive. The market closed firm today at the following quotations:

Cal. (extras) per lb.....	23 c
Firsts.....	22½ c
Seconds.....	22 c
Thirds.....	21 c
Fresh Packing Stock, No. 1.....	21 c
Fresh Packing Stock, No. 2.....	20 c

## EGGS.

Lower grades of eggs have received the preference of buyers during the week and there has been a slight advance in the price of these grades. Extra fine eggs are still firm. The arrivals on Monday were large but went well, as the retailers had about closed out their stocks during the two holidays. Reports from Sonoma county indicate a falling off in the supply of eggs that is quite noticeable.

California (extra) per doz.....	22 c
Firsts.....	21 c
Seconds.....	18 c
Thirds.....	17 c

## CHEESE.

The cheese market showed signs of weakening last week, and the arrival of stocks from all parts of the Coast threatened to crowd the market. The large movement into storage, however, prevented any serious break. California flats are again steady and the whole market is steady to firm.

Fancy California Flats, per lb.....	12 c
Firsts.....	11 c
New Young Americas, Fancy.....	14 c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	16 c
Cal. Storage, Fancy flats.....	14 c
Oregon, Fancy.....	13 c
Oregon Flats.....	14½ c
Oregon Y. A.....	14½ c

## POTATOES.

The highest point of the potato market was reached last week, at \$1.35 a hundred for Oregon Burbanks. Later there was a break in the market, caused by holders in the North unloading. The market has remained weak ever since at lower prices. The supply of both old and new potatoes is plentiful and only the better offerings of the new crop are receiving much attention.

Oregon Burbanks.....	90 @ 1.10
Burbanks, River, bag.....	40 @ 75
New Potatoes, lb.....	1 @ 2c

## FRESH FRUITS.

More generous offerings of early fruits continued through the week. The early peaches and plums are coming in and the quality of the apricots is much better and they are going better. Cherries are higher and these are not arriving in such large quantities. Berries are coming in in bigger consignments.

Cherries—	
Black Tartarian, drawer.....	65 @ 1.00
Royal Anne.....	60 @ 85c
Bulk, lb.....	2 @ 6 c
Apples, fancy (old).....	1.75 @ 2.25
Apples, new green.....	50 @ 65
Strawberries—	
Longworths, chest.....	7.00 @ 10.00
Cheneys, chest.....	6.00 @ 8.00
Blackberries, small crate.....	75 @ 1.00
Loganberries, chest.....	7.00 @ 10.00
Gooseberries, dratwer.....	50 @ 75
Apricots, crate.....	1.00 @ 1.25
Plums, crate.....	75 @ 1.00
Bananas—	
Honolulu, bunch.....	1.00 @ 1.75

**LILLY'S BEST**  
MEANS  
**Comfort for Stock**

**FLY KILLER**  
applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A coat of

**LICE KILLER**  
applied to roost or board beneath the roost will positively kill lice. For something in the powder form

**INSECT POWDER**  
is sure death to all vermin and is positively harmless to chicks.

These remedies are Sold by Dealers

Manufactured by  
**THE CHAS. H. LILLY CO.**  
SEATTLE and PORTLAND

New Orleans.....	2.50 @ 3.50
Pineapples—	
Mexican, doz.....	2'0 @ 4.00

## CITRUS FRUITS.

There has been no change in the citrus fruit market. The demand is not very brisk, owing to the large variety of fresh fruits which are offered. There has been no change in prices.

Choice Lemons.....	\$1.50 @ 1.75
Fancy Lemons.....	2.25 @ 2.75
Standard.....	1.00 @ 1.25
Limes.....	5.00 @ 5.50
Oranges—	
Navels.....	2.50 @ 3.50
Grape Fruit.....	3.50 @ 4.00

## DRIED FRUITS.

There has been no interest taken in the dried fruit market. Almost no buying of futures is being done, and spot fruit is very weak. No changes have occurred in prices since last week.

Evaporated Apples.....	5 @ 6 c
Figs.....	2½ @ 3 c
Apricots, per lb.....	11 @ 13 c
Peaches.....	7 @ 8½ c
Prunes, 4-size basis, 1907 crop..	3 @ 3½ c
Pears.....	7½ @ 9½ c

## RAISINS.

2 Crown.....	3½ @ —
3 Crown.....	4 @ —
4 Crown.....	4 @ 4½ c
Seeded, per lb.....	6 @ 6½ c
Seedless Sultanias.....	4½ @ —
London Layers, per box.....	9 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

With no change in prices, the nut market remains firm, but with very little buying being done. The stocks on hand are somewhat light, but prospects for the new crop remain good.

Almonds, Nonpareils.....	13½ @ 14½ c
IXL.....	13 @ 14 c
Ne Plus Ultra.....	12½ @ 13 c
Drakes.....	11 @ 11½ c
Languedoc.....	10 @ —
Hardshell.....	7 @ 7½ c
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12½ c

## HONEY.

The first offerings of the new crop of honey have arrived and have been picked up eagerly by the dealers as soon as they arrived. There has not been a sufficient amount of this to make any marked difference, and the market is still in a very bare condition. The dealers are still anxiously awaiting the arrival of substantial shipments. Prices remain as last stated.

Water White, Comb.....	16 @ 17 c
White.....	15 @ —
Water-white, extracted.....	8 @ 8½ c
Light Amber, extracted.....	7 @ 7½ c
Dark Amber and candied.....	5½ @ 5½ c

## WOOL.

Another drop in wool during the week has made the market still more discouraging to the producer. The market is quiet and very little is selling at the price offered.

Spring-clip, Humboldt, year's staple.....	15 @ —
---	--------





## Prevent Accidents

Keep the harness soft and it will be strong. No danger any time when every strap is made pliable and tough with

## EUREKA HARNESS OIL

Nothing like it to save leather from the destructive effect of rain, wind and animal sweat. Makes harness look like new.

Made by  
**STANDARD OIL CO.,**  
(Incorporated)

Northern Humboldt and Mendocino	12 @ 13 c
San Joaquin	7 @ 9 c
1907 crop	4 @ 6 1/2 c
Fall Clip, northern, free	6 @ 8 c
Southern Coast	6 @ 8 c
Nevada	9 @ 12 c

### HOPS.

A very slight advance in the hop market took place during the week. No movement of any importance has taken place in the situation.

1906 crop	1 1/2 @ 3 c
1907 crop	4 @ 6 1/2 c
1908 (contracts)	8 @ 10 c
3 to 5 year contracts	10 @ 12 c

### MEAT.

Meat has been very steady of late, there being almost no fluctuation in the market for several days. The price of beef is a little weaker. There is no change in the price of livestock.

Beef: Steers, per lb.	6 1/2 @ 7 c
Cows	5 @ 6 c
Heifers	5 @ 6 c
Veal: Large	6 @ 8 c
Small	8 @ 9 c
Mutton: Wethers	8 1/2 @ 9 1/2 c
Ewes	7 1/2 @ 8 1/2 c
Spring lamb	10 @ 11 c
Hogs, dressed, heavy	7 1/2 @ 8 c
Light	9 @ 10 c

### LIVESTOCK

Steers, No. 1	8 @
No. 2	7 1/2 @
No. 3	6 1/2 @ 7 c
Cows and Heifers, No. 1	6 1/2 @ 7 c
No. 2	6 @ 6 1/2 c
Bulls and Stags	3 1/2 @ 4 c
Calves, Light	4 1/2 @
Medium	4 @
Heavy	3 1/2 @
Sheep, Wethers	4 1/2 @
Ewes	4 @
Spring Lambs, lb.	5 1/2 @
Hogs, 100 to 200 lbs	6 @
200 to 300 lbs	5 1/2 @ 5 3/4 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

### THE TEST OF TIME.

Year in and year out the International Harvester Company of America continues to do business, and is distributing more McCormick, Champion, Deering, Milwaukee, Osborne, and Plano harvesting machines than ever before.

The International Harvester Company has the best equipped factories in the world for the manufacture of harvesting machines. The money back of this company makes it possible for them to install the latest and most up-to-date money-saving machinery, which the smaller manufacturers cannot do.

While the various machines are all made up by the one company, or rather by the respective divisions of the one company, they are sold by different agents throughout the country, and the line not only includes harvesters, but mowers, rakes, corn harvesters, wagons, binder twine, gasoline engines, and practically everything in the line of agricultural implements. It is always a part of good judgment to order things before you actually need them, so as to have them ready and thus avoid delay in getting your order filled at the busy season. Be sure to read the advertisement of the International Harvester Company of America in this issue, and if you would like to secure a catalogue of any one of the machines, or all of them for that matter, go to the local International dealer—he will supply you and answer all questions cheerfully.

"Don't make yourself ridiculous," said the young lady who had been in the country before and knew a thing or two. "Goats give buttermilk."

Short lives make merry undertakers.

### One More Veteran.

To the Editor: If you look up any more old files of 1872 I think you will find the name of your subscriber as a contributor in those pioneer days when penmanship was at a premium.

I can recall with much pleasure coming into personal contact with the present genial editor about a third of a century ago, and discussing with him things great and small, from butter globules to archangels, in his pleasant home near the University of California, when he had barely dreamed of ever becoming dean of the College of Agriculture. And, as he knows, though "I'm gittin' old and gray," I'm just as ready for a scrap on any mortal subject now as I was then.

But I refrain because he has the floor, and I congratulate him on the good use he has made of it to foster the development of California horticulture and agriculture. Here's "more power to his elbow!" Drink it down!

EDWARD BERWICK.

Pacific Grove.

### Good To Know.

Snakeweed is very plentiful in the mountains. Many people keep this herb always on hand for its peculiar medicinal properties, as it is practically the only infallible cure for poison-oak poisoning known and also cures all sorts of venomous bites, whether of spider, snake, tarantula or the like. The botanical name of the plant is *Daucus pusillus*, being of the carrot family, and it may be recognized by its umbel of seeds on top of the single stalk and by the leaves, which are exactly similar in pattern to carrot leaves, only much smaller. The herb may be either chewed or brewed into a decoction and is used both internally and externally. The medical profession is indeed slow in making use of this remarkable remedy.—Ex.

### How About That Manure Spreader?

It seems incredible, but there are still a number of farmers who continue to spread manure by the old fork method—or are letting it rot in the barnyard, which means less farm profits.

The manure spreader has come to be a farm necessity. The farm can only be made to pay by keeping the soil in the highest state of fertility. That means making the most of the manure, the best of all fertilizers, and the only one that is produced on the farm.

All agree that manure can be made to go farther and produce better results by spreading with a machine than when it is spread by hand. The popular estimate is that the spreader doubles the value of the manure. If this be true, or approximately true, it will be easy to arrive at the conclusion that a spreader will pay for itself in increased crops and soil benefits in one or two years.

The old way of handling manure was wasteful in the extreme. First, it was allowed to wash away and ferment in the barnyard. Then, at a convenient season, it was hauled out and thrown in piles in the field, and the same wasting process was continued. Finally, it was spread by throwing it in forks and in hard lumps over the ground, leaving it in a condition in which the ground could not get the benefit of even the fertilizing contents still remaining.

With a view to preventing this great waste, the International Harvester Company of America is offering to the farmers of the country, through their local dealers everywhere, three most excellent machines. These are the Corn King, the Cloverleaf and the Kemp 20th Century spreaders.

The manure is pulverized and spread evenly, so that it is immediately available for plant life. The first shower that comes along after the spreading washes the whole into the soil. There is no waste. And with such a machine always at hand the farmer is induced to spread the manure at the right time, while it is fresh, thus getting all the value for his land.

Write direct to the International Harvester Company of America for catalogues, booklets and complete information.

The West Coast Stock Food Co. is erecting a new mill and warehouse along the railway track, corner Alhambra and Griffin Ave., Los Angeles, which will have a floor space of over 14,000 feet. This improvement will greatly enlarge the capacity of the plant, and with new machinery installed, the company will be well equipped to handle its rapidly growing business. The principal output is West Coast Chick Feed and Egg-More, which have during the past two years made wonderful sales. Mr. T. S. Tompkins is at the head of the company, and the progress it has made is largely due to his business hustle, as well as to the merit of the goods. May the company have to double its capacity again in another two years.

## BOOKS FOR THE FARM

### For Sale by PACIFIC RURAL PRESS

**FARM DRAINAGE.**—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, plows, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**THE HOP.**—Its culture and care, marketing and manufacture. By Herbert Myrick. A practical handbook on the most approved methods in growing, harvesting, curing and selling hops and on the use and manufacture of hops. It takes up every detail from preparing the soil and laying out the yard to curing and selling the crop. Illustrated. 300 pages. 5 by 7 inches. Bound in cloth and gold.....\$1.50

**THE POTATO.**—By Samuel Frazier. This book is destined to rank as a standard work upon Potato Culture. While the practical side has been emphasized, the scientific part has not been neglected, and the information given is of value, both to the grower and the student. Taken all in all, it is the most complete, reliable and authoritative book on the potato ever published in America. Illustrated. 200 pages. 5 by 7 inches. Cloth.....\$0.75

**ALFALFA.**—By F. D. Coburn. Its growth, uses and feeding value. The fact that alfalfa thrives in almost any soil; that without reseeded it goes on yielding two, three, four and sometimes five cuttings annually for five, ten, or perhaps 100 years; and that either green or cured it is one of the most nutritious forage plants known, makes reliable information upon its production and uses of unusual interest. Such information is given in this volume for every part of America, by the highest authority. Illustrated. 164 pages. 5 by 7 inches. Cloth.....\$0.50

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1

**MUSHROOMS; HOW TO GROW THEM.**—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

**IRRIGATION FARMING.**—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth.....\$2

**SOILING CROPS AND THE SILO.**—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth.....\$1.50

**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth.....\$1.00

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author whom no one is better qualified. The subject-matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 450 pages. 5 1/2 by 8 inches. Cloth.....\$1.75

**ASPARAGUS.**—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants, selection and preparation of the soil, planting, cultivating, manuring, cutting, drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth.....\$0.50

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Barren Hill Nursery	363
Beckman, Geo. V.	362
Bird & Co., J. A. & W.	361
Blake, Moffitt & Towne	361
Breeders' Directory	362
Covina Nurseries	363
Croley, George H.	362
Clark Wise & Co.	365
Cutter Laboratory, The	361
De Laval Dairy Supply Co.	361
Deming Co., The	363
Dewey, Strong & Co.	361
Dietz Company, R. E.	366
Disbrow, F. H.	363
Doak Gas Engine Co.	368
Driver, Aber & Co.	363
Driver, E. S.	362
Fleming & Sons Mfg. Co.	368
Fresno Agricultural Works	—
Galloway, A. J.	363
German Kall Works	—
Grangers' Business Association	363
Hausam, Wm.	362
Hart, Ed.	362
Howard Cattle Co.	362
International Harvester Co.	—
Jackson & Co., T. W.	368
Lawrence-Williams Co.	361
Lilly Co., Chas. H.	366
Lister, Henry B.	365
Lynch, John	362
Meacham, Frank A.	—
Mountain Copper Co.	368
National Wood Pipe Co.	368
Nitrate Agencies Co.	361
Oakland Poultry Yards	362
Pacific Coast Business College	365
Pasteur Vaccine Co.	361
Pear Blight Remedy Co.	368
Roeding, Geo. C.	362
San Francisco Sulphur Co.	—
Santa Teresa Poultry Farm	362
Sharples Separator Co.	362
Silva & Bergholdt Co.	368
Simmons Hardware Co.	363
Smith, Francis	—
Sorby Vaccine Co. (Inc.)	361
Southern Pacific Railway	368
Standard Oil Co.	366
Stowe, C. A.	362
Sullivan, W.	362
Teague, R. M.	—
Temple Pump Co.	—
Tower Co., A. J.	363
Tuttle's Elixir Co.	—
Van Der Naillen, A.	365
Vermont Farm Machine Co.	362
Wagner, J. B.	363
Waite, Thos.	362
Woodin & Little	368

"THE OLD RELIABLE"



**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

**THE NEW ONION CULTURE.**—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and experiment stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth.....\$0.50

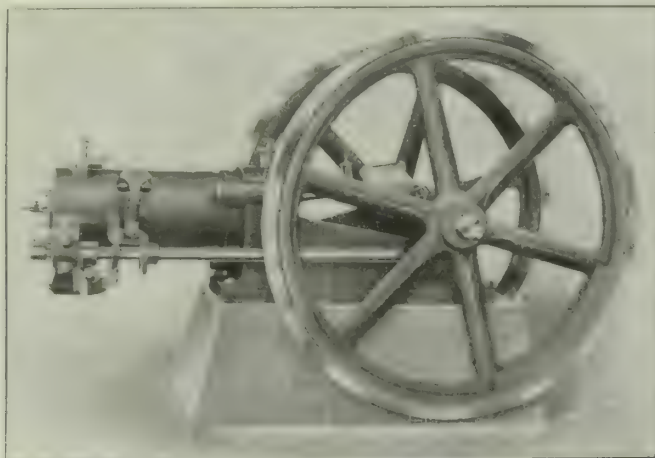
**THE BOOK OF CORN.**—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages. 5 by 7 inches. Cloth.....\$1.50.

**AMERICAN GRAPE GROWING AND WINE MAKING.**—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.

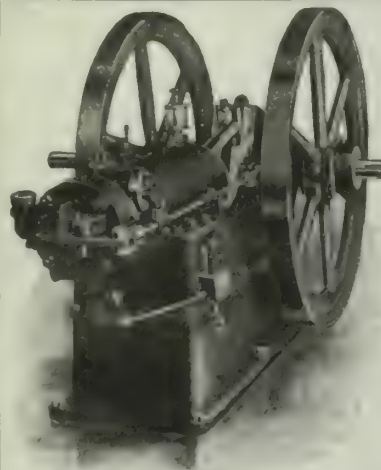


you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

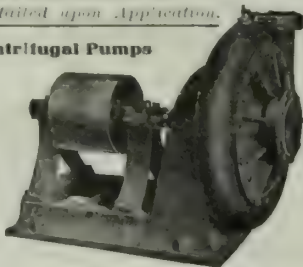
Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



### FAMOUS Stover Gasoline Engines BUILT UPON HONOR

They develop more than the rated horsepower. Simple, Durable, Easily Operated, Economical in Fuel Consumption and Guaranteed. We carry in stock from 2 to 50 horsepower. Catalogue Mailed upon Application.

Gould's Centrifugal Pumps are more efficient and take less power to operate them. All sizes from 1 to 10 inch in stock.



WOODIN & LITTLE PUMP HOUSE, 70-72 Fremont Street SAN FRANCISCO, CAL.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. It resists them all. Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## Put Up 145 Acres Heavy Hay in Seven Days

The Horse Swings the Load as He Raises It, which makes the Fleming the Only Automatic Swinging Stacker Made.

Will Build a Stack 20 Feet Wide by 50 Feet Long, 25 to 30 Feet High. Made in 3 Sizes.



Field view from photo on D. R. Love's farm, Falmouth, Ill., with Fleming Automatic Swinging Hay Stacker and 3-Wheel Rakes.

The Rake is built 12 ft. wide and has 14, 4 or 8 ft. Metal-pointed Teeth, Sliding Swool Seat, 16 or 20 in. Drive Wheels, Self Tongues or Hinged Tongues as desired.

In order to introduce our machines to every hay raiser we will sell direct from Factory to user a limited number of machines at prices to suit you. Write for circular.

Manufactured by FLEMING & SONS MFG. CO., Huntsville, Mo.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.



## SUPERPHOSPHATES (PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.  
**MIXED FERTILIZERS,**

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY  
**The Mountain Copper Company, Ltd.**  
150 PINE STREET, SAN FRANCISCO.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

June 9, 10, 11, 15, 16, 22 to 28, inc.  
July 2, 3, 6, 7, 8, 28, 29.  
August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	.	.	.	\$ 60.00
Council Bluffs	.	.	.	60.00
Kansas City	.	.	.	60.00
Chicago	.	.	.	72.50
St. Louis	.	.	.	67.50
New Orleans	.	.	.	67.50
Washington	.	.	.	107.50
Philadelphia	.	.	.	108.50
New York	.	.	.	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 24.

SAN FRANCISCO, SATURDAY, JUNE 13, 1908.

Thirty-eighth Year.

## Poultry for the Home.

By M. R. JAMES.

### Part I: The Choice of Breeds.

Poultry is a natural adjunct of the home. The deliciously fresh breakfast egg, the juicy broiler, the tender roaster, these are some of the things which make a man buy his commutation ticket; while being able to say, "Of our own raising, you know," adds zest to their enjoyment. To the small farm and the large one, poultry is an essential; in truth, these soft-winged creatures of man's comfort belong wherever there is a home with a patch of ground. This is indeed their chief advantage, they are at home in all conditions and in all localities. Little Sissy's handful of chickies often yield larger individual returns than the flocks of the millionaire, where thousands are invested. To make a start with poultry seems simple enough—is simple enough when you know how; but much study and experience go with the knowing how. Poultry culture is a science, like all other branches of stock breeding, and rather more perplexing because of the greater number of individuals. Still the knowledge has been so simplified within the last twenty years that even the novice can start right; and a right start puts him on the highway to success. To aid him in this purpose the PACIFIC RURAL PRESS

will consider the subject from a practical standpoint of Poultry for the Home, under the heads:

The Choice of Breeds.

The Housing of Poultry.

The Feeding and Care of Poultry.

The Diseases of Poultry.

The Hatching and Rearing of Chicks.

The first rule in the choice of breeds is to start with but one breed, and be sure that that one is adapted to your purpose. (The tendency is to start with many breeds and end with one.) The prime requisite in a breed is utility, and this should be supplemented by beauty. The fowls

must pay and their owner must be proud of them in order to gain the desired "profit and pleasure." As different people have different tastes, the style of fowl that will most delight one will least please another. There are, however, choice breeds a plenty to please all tastes. In the "Standard of Perfection," the fancier's textbook, there are 11 recognized classes and 104 breeds and varieties of breeds. But for practical purposes, these may be reduced to two, or at most three, classes, and to some half-dozen breeds and varieties of breeds.



TYPICAL BUFF LEGHORN COCK.

One who wishes a general purpose fowl and prizes most its table qualities, while admiring its sturdy yet symmetrical build and quiet disposition, should choose a breed from the American class, preferably the Barred or White Plymouth Rock or the White Wyandotte. The Orpingtons, belonging to the English class, are of much the same type, and are gaining in popularity in this country. The Barred Rock is hard to excel in practical qualities, and leads all other breeds in the favor of the fancier, and also holds first place among packers as a dressed fowl. As broilers and fryers, the white-colored poultry of all breeds have a little

advantage, owing to the lack of pigment in the pinfeathers. The Rocks, and the Wyandottes as well, are good mothers and are fine winter layers, active and hardy; but care must be used in their feeding as their tendency is to take on fat after the first year and fall off in egg-production. Again all of these heavier breeds lay brown-colored eggs, and though these have the preference in the Boston market, they are quoted from two to four cents per dozen lower in our market, as well as in some other large cities. In spite of the strenuous

endeavors of the raisers of brown ones, the white egg is gaining everywhere. The charm of the pure white egg in its shell on the breakfast table grows on one.

To the Mediterranean class belong the strictly egg-producing breeds, and for commercial purposes, the question of profit has been decided in favor of these breeds, as the highest returns come from egg-farming. They lay the pure white eggs and are practically non-sitters. The person who is working primarily for eggs and whose eye is captivated by small size, graceful curves, flower-like coloring, alertness, and ever-lasting "get up" in fowls will make no mistake in choosing a breed of this class. The Blue Andalusian deserves wider popularity than it has attained. This breed approaches nearest the Leghorn, but is somewhat larger and lays a larger egg. It has the distinction of displaying the national colors in the brilliant red and white of its comb and earlobes and the blue of its feathers. It is even more hardy than the

Leghorn, and is potent in impressing its qualities upon other breeds, to their betterment. Its disadvantages, along with those of the beautiful Black Minorca, are in its white skin and blue legs, the preference in this country being for yellow-skinned, yellow-legged fowls. This brings us to the Leghorn, which has the yellow skin and legs in addition to the other virtues of its class. The Leghorn matures earlier, requires less food, less room, and lays more eggs than any other breed. The Whites and Buffs excel as broilers, and the

(Continued on Page 377.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., June 9, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.01	35.80	45.40
Red Bluff.....	...	20.06	24.75
Sacramento .....	...	12.17	20.03
Mt. Tamalpais.....	...	24.60	22.74
San Francisco.....	.01	17.35	22.19
San Jose .....	...	11.64	22.12
Fresno .....	...	7.61	9.68
Independence .....	...	5.29	9.53
San Luis Obispo.....	...	18.06	20.51
Los Angeles.....	...	11.71	15.59
San Diego.....	...	8.54	10.01

## The Week.

We are having a queer summer to match the queer winter which went before, and in certain lines to partially atone for it. The lack of heat and the prevalence of moisture-bearing winds and fogs have caused the rather short winter moisture to go farther in plant growth than was expected, and much scant growth has pulled up to a hay standard, and much counted on for hay has pulled up to grain yielding, and the weather-and-crop wise city people are revising their estimates. One account says: "The light drizzles and moist nights have worked wonders in the valleys and along the coast, and what a month ago looked like a \$25,000,000 crop now gives promise of reaching \$50,000,000. The production will equal that of last year and may, in fact, exceed it. The State has practically been enriched by \$25,000,000 by the favorable weather conditions." The estimates of total grain values in millions of dollars are as follows: Barley, 12½; oats, 4; wheat, 9; hay, 15; minor cereals, etc., 10. In this way a cereal output of fifty millions is anticipated, which is certainly much better than anyone would have dreamed of in April. We cannot help feeling that the improvement is somewhat exaggerated. We have seen very little in the country which seemed so great a gain, and we trust that values will not be based upon a fifty million output. It should, of course, be remembered that the places where such notable improvements are found are chiefly those of narrow area, and that the great plains which in good years roll up the great figures have not been so notably affected. Still, field crops are better than expected: that is true and fortunate.

But the conditions which have helped hay, pasture and cereals have not been universally of advantage. There have been considerable losses on low lands from frost-cutting of tender crops like potatoes, and much increased outlay through replanting. Conditions have also interfered somewhat with full development of early fruits. Cher-

ries did not reach their usual size, taking the crop as a whole. Apricots are not enlarging as they should, and it has been a bad year for shot-hole spotting. Later fruits have, of course, still a chance for expansion, and yet the rate of growth often seems set by the first push, while there is no question about ample available moisture, and the lack of this is sometimes not compensated for by later heat when moisture is reduced by evaporation, especially when spring conditions have not favored the best cultivation. We apprehend therefore that the current reports about bumper yields of everything but prunes may also be an exaggeration, and that extra fine fruit should bring good prices.

Whatever irregularities we have had in California this year, are, as we often have occasion to remark, only slight agricultural afflictions as compared with the heavy ends of the strokes which fall from the aerial envelope upon the interior regions of the continent. While we have had coolness the Rocky Mountain and Plains States have had hard freezing and snow, floods and tornados in quantity, and have suffered greatly both in life and property. Anything in the shape of weather-movements which throws us out of our normal develops intensity to the east of us as we nestle beside the ocean under our mountain barriers. In this connection some continental weather phases which are discussed upon another page of this issue will be found interesting.

They are having a meat sensation in Chicago which will no doubt have a wide influence, particularly eastward from that point. On Saturday last wholesale prices of dressed beef took an upward jump of 1½ cents a pound, as a result of sharply decreased supplies in packers' coolers and more general demand for fresh meats. Butchers said that the meat trade was fast "recovering" from the depression resulting from the recent financial stringency, and that the increase in the consumption of meats "necessitated the advance." One can appreciate how wide is the effect from the announcement that storage beef is to be brought back from England to the Atlantic cities because it is worth more on this side than the other. To ship a perishable product like beef twice across the Atlantic is a tribute to the perfection of our cold-storage processes, and will bring perhaps to some readers a fuller appreciation of how delicately our food supplies are adjusted to commercial value fluctuations. It used to be thought quite an achievement to get dressed beef once across the Atlantic successfully.

Mr. J. C. Everding of this city, representing the Pacific Oil & Lead Works, is conducting an interesting campaign of promotion of flaxseed growing in the interior valleys, and is exciting much interest thereby. His proposition is a good one. In a country which grows flaxseed so well as California, we certainly ought to produce sufficient to keep our local oil mills busy. Flaxseed is as easily grown as grain, the crop is handled with the same machinery, and the profits should be greater. As the intending buyers are willing to contract in advance for the product, the proposition seems an eminently safe and good one, and we are glad it is attracting attention. Perhaps we shall have more to say about it later.

Now that many men are being thrown out of employment by the after-effects of the financial stringency, it is not surprising that free writers are advising everyone who is out of a job to go to farming. We have spoken of this advice so often that regular readers will remember that we have a perpetual grinch against giving idle people

such advice. It proceeds with a total ignorance of the requirements of farming, in the way of knowledge, experience, capital and business sense. It assumes that farming consists chiefly in going into the fields and picking up things and selling them for so much money that it makes one tired to carry it to the bank. But we are not going to write more about it now, because we find an ally in a writer for the New Bedford Standard, who says:

There is a great army of city workers who are willing and industrious enough, but who would be of little use on a farm, because they know practically nothing of the work. Many of those who ask with impatience why the men who are out of work on account of business depression do not go to the farms, fail to consider that scores of them know so little about farm work that they would be scarcely worth hiring. The cities of this country have been rearing a class of workmen who are not adapted for the farm, and who know it perfectly well. It is unfortunate, no doubt, that city life unfits most men for agricultural pursuits. Nevertheless so it is—and that is a very considerable reason why clerks and mechanics do not rush to take the places which the farmers offer.

This is very good, but it has a little tincture of misapprehension in it. It takes the ground that farmers are imploring the city idle to come and work for them. This is a mistake. Some farmers may sometimes need such help as willing, agriculturally unintelligent help can give, and will do the best they can with and for them. But as a rule the farmer cannot use such help, any more than a shoemaker can use a good milker. Farming requires not only special intelligence and devotion on the part of a man: it demands that he should know something agricultural.

The relations of the farmers to the labor union are also often misunderstood. We see a statement telegraphed from the State of Washington "that plans are being discussed for the labor unions of this State to unite with the granges to elect a United States Senator to succeed Levi Ankeny, making use of the direct primary system. It is proposed to select a member of the State Grange as the candidate this year and a union man two years hence to succeed Senator Piles." Farmers as a rule favor the direct election of United States Senators, not because they are farmers, but because that is a better way to get thoroughly representative senators. As we understand them, they do not favor this movement as a class proposition at all. They do not call for senators to represent them as a class, though incidentally they believe, and they are right, that there ought to be more men in the national legislature who understand the point of view of such an important industry and the stalwart element of our population which gives its life to it. It is assuming too much, however, to claim that the farming population of the United States is to take the point of view of the labor union leaders and to enter into any sort of a trade with them by which national legislators are to be secured to represent classes as such. That seems to be the suggestion of the dispatch which we have quoted above, and if that is what is intended, we are sure that it does not represent the agricultural classes. They are against monopoly, plutocracy, aristocracy and other forms of evil which are false to manhood, and they are perfectly sure there are other forms of tyranny under other names which they are just as resolutely opposed to. This whole matter of such an alliance as is indicated from Washington needs to be more fully looked into before any announcement on the part of the farmers can be considered as in any way authorized.

Sonoma county is forging ahead in the matter



of co-operative handling of products. We have frequently cited the success of the new effort at disposition of poultry products, which is still doing well. The berry growers are undertaking to protect themselves by organization. They have had some success in previous years. At a meeting of the Gold Ridge district at Sebastopol, a few miles west of Santa Rosa, it is reported that fully one-half of the entire crop of the entire county was signed up for the pooling planned by the growers. The berry growers are very anxious to perfect an organization for the handling of their own crops, and are working to pool the entire output of the district. Last year they sold to the canners, but this season the packers are not anxious buyers, and the farmers are concerned about the prices which will prevail. They have been offered \$40 a ton, but feel that this is not enough and are holding out for something better.

Our State Horticultural Commissioner, Mr. Jeffrey, will furnish Mexico a supply of the Austral-frey, will furnish Mexico a supply of the Austracottony cushion scale which has made its appearance in some of the orange groves of our sister republic, and to eradicate that pest. The Mexican Government made the request upon the Horticultural Commission through Dr. Plutarco Ornelas, Consul-General for Mexico. Dr. Ornelas is a close student of California agriculture, and is interested in securing for his country all the good things which Californians are attaining.

## Queries and Replies.

### Our Rosy Eucalyptus Statement.

To the Editor: I fear the rosy statement of blue gums in southern California published in a recent issue may be misleading, hence I give you my experience here in Santa Paula. I planted a good many blue gums in 1874, and again in 1877, I think, around my orchard, and have been cutting blue gums for the last 10 or 15 years. I have just cut down a windbreak through my orchard, of gums that were planted in 1874, that run from 125 to 140 feet high; occasionally one would reach up to 150 feet. These trees were cut into stove-wood, usually 14 inches long, and the cost of cutting the wood is \$3.50 per cord. Gum wood here in Santa Paula has been sold for years at the rate of about \$6 per cord on the ground, sometimes as high as \$7, so that one can readily see what the profit is. In this valley the soil is very rich and deep. Our farmers have been generally cutting up these blue gums planted along the roadside and on boundary lines for some years back, because they have been a detriment to their orchards and farming lands. You may use the above as you desire. I write because I do not like to see people misled.—NATHAN W. BLANCHARD.

We have been arraigned as a eucalyptus knocker, and it gives us much encouragement to have such an experienced and wide-awake man as Mr. Blanchard call our statements rosy. If we are rosy, there is not vermilion enough in stock to paint the claims of the boomers who criticise us.

### Poisoning Grasshoppers.

To the Editor: Will you kindly answer two questions: Is paris green the best material known for killing grasshoppers or vine hoppers? How much is required per acre?—Reader, Wasco.

The way to poison grasshoppers is to get them to take a dose before they reach the plant you wish to protect, because if they have to eat the plant to get the poison, it would be destroyed anyway, because there will usually be enough hoppers to take all its leaves before they begin to have stomach trouble. The way to poison them is to use the bran-arsenic mixture described in another column for worms which eat vines. Grasshoppers

should be destroyed before they get wings by burning the fields surrounding the vineyard or by the vigorous use of hopper-dosers where firing cannot be done. Leaf-hoppers cannot be poisoned because they do not bite. You can get a full account of ways to fight them by sending to the Experiment Station at Berkeley for a recent bulletin on vineyard insects.

### Sunny Stanislaus.

To the Editor: Can you give me information as to the value of any of the lands in the thermal belt east of Modesto, in Stanislaus county? I do not mean the pecuniary value, but the horticultural value. Is the soil adapted to the raising of fruits? What can be expected to do well there? What is likely to be the climate? Is the region afflicted with high winds and dust storms? Is it liable to fogs? I have been more or less of a fruit grower here in Massachusetts for many years but am tired of the vagaries of the climate and the uncertainty of the crop. In fact, for the last few years the only sure thing about the seasons has been the early October gales, which have made windfalls of the best of the apples. Uncertainty is too mild a term for the outlook. How far up the mountains must one go to be certain of a crop from the natural rainfall of the region?—Weary Worker, Massachusetts.

We cannot as a rule undertake to discuss localities. The local Boards of Trade and journals publish fully on such points. We can only say in a general way that there is some of the best land in the State lying east of Modesto, in Stanislaus county, and that it is adapted to a wide variety of fruit trees and vines, including, at suitable elevations, the citrus fruits. It is not subject to fogs, or high winds and dust storms, although there may be brief periods of each of these phenomena—not enough, however, to interfere at all with comfort or with horticultural success. In the mountains and foothill regions it is necessary to provide irrigation, for although the rainfall may be greater than in the valley below, the retentiveness of the soil and the run-off from the slopes do not favor moisture retention to such an extent. This is true of our foothill and mountain regions generally.

### Whitewash for Fruit Trees.

To the Editor: I would like to ask in regard to the use of whitewash to protect the trunks of prune and other large trees from sun-scald. Would it in any way injure a tree to keep the trunk and lower parts of the large limbs whitewashed year after year? Would it be a good plan to put a little sulphur in the lime while slaking to act as a barrier against rot fungi and to disinfect rotting spots? Some say that whitewash on young trees just set out will hold them from leafing out as soon as other trees. Is this so, and is the method better than protecting by paper or burlap? The wash we use for peach root-borers is: Lime, 50 pounds; coal tar, 1½ gallons, and whale-oil soap, 12 pounds. Do you think this would be a good whitewash for the upper part of trunk and lower part of large limbs?—Student, San Benito.

There would be no injury to trees from annual application of whitewash. It would be specially innocent as the tree begins to form rough bark. There has always been an impression that the addition of sulphur serves a good purpose, and it is freely used, although we are not aware that actual demonstration of efficiency has ever been made. So far as whitewash reflects the heat and postpones the attainment in the tissue of a temperature which causes sap-rise and pressure, the starting of the tree will be retarded. It has been demonstrated in Missouri and elsewhere that in the case of peaches this has actually occurred, though the effect is supposed to be limited to a small number of days difference between the whitewashed trees and those allowed to attain a natural dark color. It is also well known that it is the

heating of the tissues of the upper part of the tree by the sun, and not the heating of the ground, which occasions the first break of growth. Whether the reflection of the heat by whitewash, or the shade of the bark by a cover of paper or burlap is more effective in this direction, would have to be determined by experiment.

The wash which you mention for peach borers would also act as a retarding influence more or less, as the wash is darkened by the addition of coal tar and soap. If it is still a clear white, it must act in the same way as whitewash produced without the darkening additions.

### Pruning Blackberries.

To the Editor: Is it an advantage to cut back say 12 to 18 inches of the new canes on which will grow the next crop of common and mammoth blackberries, also dewberries? By so doing will I curtail the next crop, or can I cause the strength of growth thus saved to go into the present crop of berries, as well as keeping my bushes from growing into a veritable jungle?

I have one row of common blackberries that I intend to dig out this fall. Now, would it be advisable to cut out all the new growth and let the strength go to the berries, or would the loss of shade prove a counterbalancing detriment? Can grapes be treated in this way?—Amateur, Pasadena.

Theoretically it is a good idea to pinch off the tips of this year's shoots, in order that laterals may grow from the buds and mature well enough so that fruiting laterals may appear upon several canes next year, instead of one long cane, which would result if this summer's growth were not interfered with, but we would not cut back as short as you mention—three or four feet would be better. At the same time it must be admitted that in ordinary blackberry growing this summer pinching is not undertaken. The long canes are shortened in somewhat at the end of the season's growth and tied in place on a trellis or to a stake, for next year's fruiting. The objection to pinching and growing laterals seems to be the amount of summer care and labor necessary. We would not cut out all the new wood even on plants that we expected to dig out, but rather pinch off the shoots when they get to a height which will supply the desirable shade. We are not sure that cutting out the shoots will render any particular advantage to the current year's crop, and there is some danger of killing back the shortened canes. It would be admissible also to nip off the grape cane, but not cut them back to the fruit. This would probably force a lot of laterals, which would not be desirable, if it did not do other injury.

### Burr Clover.

To the Editor: The RURAL PRESS, which comes regularly to me, is said to have contained something about planting burr clover, which I did not see. If not too much trouble, would you kindly tell me, if you know, when it should be sowed, and how, and how much clean seed per acre?—Reader, San Rafael.

We do not remember printing anything particularly wise or definite concerning the planting of burr clover. If there was such a paragraph, it was incidentally introduced, and we cannot now refer to it. By sowing clean seed, which can now be obtained from our seedsmen, at the rate of 10 to 15 pounds to the acre, just before the rains begin, one ought to get land thoroughly seeded down with this plant. The best results should follow sowing after cultivation, but if the rains come right, undoubtedly good results would be attained by broad-casting upon the surface, as the plant has demonstrated its ability to make a catch in that way.



## Horticulture.

### SEVERAL SEMI-TROPICAL FRUITS IN CALIFORNIA.

Written for the PACIFIC RURAL PRESS  
By Mr. C. P. TAFT of Orange.

**The Cherimolia or Custard Apple.**—Of the ananas, that known as the cherimolia or Peruvian custard apple is alone a success in this climate. The tree is a semi-deciduous evergreen; that is, it retains its foliage except for a few weeks in the early spring, when the new leaves, apparently by unanimous consent, push off the old ones and quickly clothe the limbs again with a new green dress. Those found in the gardens of southern California are almost always seedlings, and generally shy bearers. There is but one named variety, so far as I am aware, the Golden Russett. This is very prolific and frequently attains large size. Specimens above one pound in weight are not uncommon. The quality is as good as any, but is variable owing to the season and time of ripening, much cold having a marked deteriorating effect. The normal shape is like that of the strawberry, and the variations from the normal are equally abundant; in fact, in this respect the cherimolia is quite extraordinary, as the same tree will have on it fully matured fruit from less than an inch in diameter up to six or eight inches. In size the tree averages about the same as the peach. The market is a good one, large fruit commanding \$3 per dozen or more, while the smaller ones sell by the pound at a relatively lower price.

**Guavas.**—The Strawberry guava is too well known to more than mention in this article, but the type commonly called the lemon guava, because it is sometimes, though not often, very acid, is not so generally grown, and where known is not particularly well liked. It has great possibilities, however. In size it is far larger than the so-called strawberry, and of quite attractive appearance. Sometimes the color is almost white, sometimes quite green, and frequently of a bright yellow, often with a red cheek. These variations are only what is naturally to be expected from seedlings, and almost no others have yet been planted. I have fruited quite a number, perhaps a hundred, and find it to possess qualities which if properly selected and developed will cause it to equal the strawberry guava in hardness and flavor and early ripening.

**The Feijoa.**—Along with the guava should be mentioned that recent valuable introduction from South America, the Feijoa Sellowiana, a member also of the myrtle family. In habits of growth it is much the same, and while the foliage is not so handsome, being of a generally silvery gray effect, the flower is very showy. In May it sends forth a great profusion of blossoms, which may be called red, white and blue, unless one desires to be perfectly accurate, in which case the blue would have to be changed to purple. The petals are unusually thick and fleshy and very sweet to the taste. The highly perfumed fruit, about one and one-half to two inches or more in length, comes in November. The flavor is delicious, like the strawberry but lacking the acid. The seeds are very small, almost unnoticeable; quite a contrast in this respect to the guava.

**The Sapota.**—Of the other fruits experimented with, the white sapota (Sapota blanco), a Mexican introduction, bears very well. The tree is an exceedingly rapid grower, much after the habit of the walnut, but evergreen. In August and September the peach-like fruit, greenish yellow, with large seeds shaped like those of an orange, matures well and is excellent, this being the normal season for ripening. At other times fruit is often found, but is apt to be worthless and even dangerous. As it will not ripen well off the trees and must be quite soft when eaten, it will never be of much market value.

**Carissas.**—The carissas are thorny evergreen shrubs and would make excellent hedges. I have fruited only the grandiflora or amatungula. The very fragrant white flowers are abundant, but comparatively few succeed in setting. The fruits are about the size and shape of a large acorn, and bright red and attractive looking, having a rose flavor. When properly matured they make a pass-

able jam or a sauce, somewhat like cranberry. It is too shy a bearer to be of much market value, at least until some good bearing variety is originated. Other types of carissas appear to be equally hardy, and some may prove of greater value.

**The Pepino.**—The pepino is a biennial solanum, resembling somewhat the pepper in foliage, but with a tendency to spread out on the ground like the tomato. The flowers are blue, grow in clusters, and are very abundant. The seedless fruit is yellow, splashed with violet, and is about the size and shape of a goose egg on the average. The flavor is somewhat like a musk melon. As a salad it is excellent, and worthy of attention for this use alone. It is never likely to become very popular, however, as too much educational work is required to bring about appreciation.

Of the other fruits tried, such as mangos, eugenias, etc., none do sufficiently well in this climate to justify further attention, and I do not think it likely that they will ever be a success.

### REINFORCING FRUIT TREES.

An orchardist writes to the Sonoma Tribune about strengthening the fruit trees, which may suggest to readers ways to save breaking with the loads of fruit which are now daily increasing in weight:

The California method of pruning fruit trees may be best for ripening fruit, but it makes a very weak tree. It makes a tree which will break down with a load of fruit unless artificially supported. As most of the trees in Sonoma county are heavily loaded, the question is how to save them. A favorite way with many is to stand props under heavy branches. Props are a nuisance. They are in the way. It is hard to drive among them, and if your wagon hits a prop, down comes the tree. Tying with a rope is better, but rope will rot and must be renewed or it will break with a heavy load and spoil the tree.

The best way to protect trees is with wire. There is plenty of baling wire being thrown away on every ranch, which if properly used will save many trees from being ruined. How to use it: Select a branch which you wish to support, drive a wire nail or spike through the branch from the lower side. The nail should be long enough to reach through an inch or more. With the claws of the hammer a hook can be turned on the pointed end of the nail. Repeat on a branch on the opposite side of the tree, and you can wire across from one hook to another. Two branches served this way will be self-supporting, and it will be permanent.

Sometimes a heavy branch on one side can be hitched to two light ones on the opposite side. With a little practice this work is soon done. The writer has taken large trees which had split and let the whole top drop to the ground, and has raised the fallen branches to their former position and wired them as above, and they ripened their crops then and other crops since.

This way of hooking a limb by driving a nail through it is old but good. It was practiced to some extent in the Bancroft orchard in Contra Costa county 20 years ago, and elsewhere probably. Hoyt's tree support, made at Watsonville, is a device for doing the same thing without driving nails and injuring the bark.

### GRAND CALIFORNIA BLACK WALNUT TREES.

To the Editor: In answer to Dr. Jepson's question I would say that at the head or north end of Broadway, Chico, looms a California black walnut tree over 100 feet high, at least a hundred foot spread of branches, and a trunk nearly 6 feet in diameter. This is pointed out to you by Gen. Bidwell on Rancho Chico in the '60s.

A 15-foot sucker grown last year is in the Bidwell office.

Hundreds of these trees are in and around Chico, and the way the Eastern tenderfoot and the squirrels gather the nuts is an eye-opener to the natives, who have allowed them to go back into the soil, sprouting innumerable seedlings.

CHARLES REEVES.

Chico, June 6.

### A SHASTA COMMISSIONER SPEAKS ON PEAR BLIGHT.

Mr. Chris. Tharssing, a well known California horticulturist, who has been serving for some years as commissioner of the southern district of Shasta county, comments upon the pear blight as follows:

I receive a great many letters in regard to pear blight. And most of the correspondents ask, What do you think of pear blight now?

I have not changed my mind a particle on the subject. The people who take care of their trees and cut out the blight so fast as it appeared have their trees left and will reap the benefit of their labor and expenses. Climatic changes have been favorable this season for checking pear blight. Then besides, last year was very unfavorable to a pear crop. Nature gave more strength to wood growth and kept the tender shoots in the pear tree very late, helping to prolong the blight. This year is entirely different. The unusually dry season seems to have had the effect of checking blight, scab and several other plant diseases.

The scab that damaged the pears so badly the last few years is nothing but a fungus disease, and can be controlled easily by spraying. Pear blight is different. It is a bacterium, different from fungus and scale diseases that can be reached by different formulas of sprays.

Bacterial diseases in animals come and go. Such ailments as black-leg, hog cholera and other diseases come and go. We don't know whence they come or where they go, but while they are with us we fight them. So it is with the pear blight.

I have had experience with pear blight for 22 years, and I have lots to learn yet. The Government has spent more than a million dollars for the benefit of the pear growers, and has had the best horticulturists in the country in its employ, and with good results. But less than half the pear growers have taken any advice from the Government. There are a good many orchardists who are sorry they did not heed the advice of the Government experts, for most pear orchards that have been cared for properly will produce from \$100 to \$500 worth of pears per acre this year.

It is too bad that the horticultural law is not enforced. The law is plain and clear that the people who won't take care of their orchards can not maintain a nuisance and should take out their badly diseased, neglected and disease-spreading trees. But there are so many orchards owned by men who are orchardists, no more than I am a druggist. They have come into possession of orchards by mortgage, by inheritance, or to get a slip crop, hoping to get big returns for doing nothing. That kind of orchardists don't prune, spray and cultivate much—only scratching. That will do for a while, but it kills the orchard in time.

Coming back to pear blight, don't think that it has left you for good. It is only a lull. Stay with cutting it out or breaking it off as fast as it appears. Don't listen to these knowalls, for they don't know as much as they think they do. They only mislead you. Cut it out all the time. The dead limbs, or carry-over from last year, is what causes lots of trouble. When I see blight I look around for a dead limb—what is called a carry-over—that has been overlooked in pruning in the spring, and I will surely find it if I look thoroughly.

Apples as well as pears are affected by blight. Apple blight is more easily controlled. Cut it out all the time, as soon as you see the leaves affected. It doesn't seem to get into the body of the trees so much as the pear blight. The new growth, called suckers, should be kept removed from the body of the tree all the time.

Worst of all, and as bad as pear blight, is a class of people in every community. They naturally have cold feet and no pear trees. If they do have poor trees they don't do anything but cry, "Cut them out. They are gone: they are no good." They try to discourage good and industrious people. Worst of all, they cut up all the free seats and benches in town, and kick when they are whittled up. These people don't even keep good benches to sit on, and they curse their industrious brother.



## Citrus Fruits.

### COMMERCIAL FERTILIZERS IN THE CITRUS ORCHARD.

Last week we gave telling paragraphs from the Riverside address of Mr. Frank L. Palmer of North Pomona on natural fertilizers in the orange orchard, closing with a clear discussion of the offices of nitrogen in plant feeding. We give now the complementary discussion of phosphoric acid and potash and a general exhortation for the liberal feeding of the tree and a suggestion of the relation thereof to the development of quality and commercial suitability. After the delivery of Mr. Palmer's address Mr. James Mills of Riverside pronounced it a classic in citrus culture, and Mr. Mills has a way of hitting things aright. Mr. Palmer's paragraphs follow:

**Phosphoric Acid.**—There are two fertilizing elements in addition to nitrogen which we must return to the soils in order to maintain their fertility, viz., phosphoric acid and potash. Nitrogen, as we have seen, promotes the growth and sustains the vigor of the tree; phosphoric acid, it is believed, promotes a larger fruit yield. My idea is that in growing fruits we should supply phosphoric acid quite generously. But the form in which we will get the most benefit from it is a question more difficult to decide; and even scientific men after years of field experiments are not well agreed on the subject.

If we buy superphosphates, for example, we will get a large percentage of the phosphoric acid in a water solution. This should be followed by a sowing of field peas of vetch immediately after, completing the ration in the spring by applying dried blood or tankage when the cover crop is plowed under.

These two rations are mentioned only as examples; the point I would make is to urge the importance of having a comprehensive plan for the season's fertilizing, broad enough to fulfill the requirements of the crop.

**Potash.**—As generally understood, potash is the maturing element in fertilizers. It performs an important office in the formation of starch in the leaves and in its transference to the fleshy part of the fruit. If in liberal supply, it is supposed to add sweetness to the fruit. It also hardens up and aids in maturing the woody parts of the tree.

We have a large supply of potash in our California soils, 40,000 pounds in the first six feet of soil is, I believe, the estimate. To what extent this is available to the tree is difficult to determine, but we do know that the bulk of the soil potash is not in a form to be immediately available and only becomes available by slow degrees. We also know that it has been repeatedly demonstrated by field experiments that under similar conditions, with an apparently adequate supply of inert potash in the soil, the application of a light dressing of available potash will give an increase in the crop. I suppose there is no question but that the best way to get the benefit of the soil potash is by growing cover crops.

It may be said that a good deal of uncertainty exists among the fruit growers as to the advisability of using potash fertilizers; theoretically they are not needed, because there is a sufficient supply in the soil, and money spent for potash would seem to be money thrown away.

**Experiments Planned For.**—In this respect, as in many others, there is no uniformity of practice on the part of growers. This is one of the reasons why the State of California has established an Experiment Station here in Riverside. Such questions as the potash question are to be studied by Prof. Smith and his associates, and it is expected that by means of field experiments now being carried on at the Station grounds, and also in some of the orchards, results will ultimately be obtained so clear and positive in character as to serve as rules of guidance for the future. Such results will be of inestimable value to the fruit industry.

One of the important questions to be studied is the maximum quantity of fertilizers per acre that we may profitably use. Another is the most favorable time of the year for applying the different forms of fertilizing materials. Another is the problem of influencing quality of crop by means of fertilization.

**Intensive Culture.**—We have been considering the question of maintaining the fertility of the soil. Let us go a step further. What is the chief object the orchardist has in view? Is it not to produce large crops of fruit of the finest and best quality? Does not this imply intensive culture? We might grow large and healthy trees, of ordinary productiveness, by simply maintaining the original fertility of the soil, but to cause these trees to produce yearly crops of fruit which shall be of maximum quantity and of the best quality, may involve far more generous fertilization than we have ever practiced in California.

There is nothing alarming about this. In Florida experiments have been made of increasing the applications of commercial fertilizers for bearing orange trees year by year, and it is claimed that up to 80 pounds of commercial fertilizer to the tree was used with ever increasing profit.

**Feeding for Special Effects.**—And can we not influence quality of crop by means of fertilization? Proper and improper pruning will influence quality; proper and improper irrigation will influence quality, and so I think we may confidently believe that we may improve the quality of our fruit by fertilization. Not, indeed, by the use of any nostrums nor secret formulas, but in a purely scientific way. Science has not exhausted herself. Science as applied to horticulture is only in its infancy, and its possibilities are beyond our ken.

As production increases, the question of profitable fruit raising may become more and more serious, but of one thing we may be certain, there will always be a demand for the best fruit. "There is always room at the top." Our conditions for successful fruit culture are of the very best. We live in the best country under the sun; we have the best climate under the sun; we have the best people under the sun; and we shall fall short of our high privilege if we fail to produce the best fruit under the sun.

## Meteorological.

### WHAT BECOMES OF OUR WINTER STORMS?

This is often a matter of popular discussion. In a general way it is known that they pass eastward over the mountains, and the impression is that they raise rain there as they lose the Pacific temperatures which they bring from the ocean to our coast States. Some more definite ideas of how they work and how they get bad by association with boreal blasts over the great central regions of the country can be had from a few paragraphs which we take from an article by Professor Alfred J. Henry in the Monthly Weather Review for March last. In reading, of course, it will be understood that the word cyclone does not mean a tornado or local storm of any kind, but rather the general movement of all that pertains to a storm centre, and this may possibly cover thousands of miles of distance, for aught we know. The following paragraphs are selected from Prof. Henry's writing, because they seem to indicate in a popular way how these great movements act and are acted upon:

A strong 12-hour fall in pressure (.60 to .90 inch) appearing on the north Pacific coast will become only a moderate fall (.20 to .40 inch) when it reaches the Mississippi Valley, if it does not disappear before that time. The attendant cyclone will naturally diminish in strength as it passes over the continent. This rule expresses the fact, whatever the cause, that a highly developed storm suffers loss of energy in crossing the western mountain ranges and plateaus. That the loss of energy is in some manner connected with the work evidently required in raising the system from sea level to the mountain summits and the added friction due to the irregular topography, seems possible. On the other hand, it should be remembered that a cyclone may develop on the lee side of the Sierra Nevada, preserve its entity and even increase its strength while crossing the semi-arid region of the Great Basin and the Rocky Mountains. An instance is given of a pressure fall that came from the Pacific, began to increase in Nevada, and developed into a storm of considerable energy in the interior valleys and Atlantic Coast districts.

The areas of pressure fall that attend severe cyclones in the eastern part of the United States are at the beginning moderately shallow areas, mostly circular, rather than elliptical, in form. The increase in strength is apt to occur suddenly. When the form of an area of pressure fall closely approaches that of a circle, the attendant cyclone will be well marked and will generally increase in strength. The usual form of areas of pressure fall in the United States is that of an oval whose longer dimension generally stretches from the British Possessions to Mexico over a strip 800 to 1000 miles broad.

Two separate areas of pressure fall, one moving eastward across the southern Rocky Mountain region or northeastward over the Gulf States, and the other moving eastward along the northern boundary, are apt to unite in the Mississippi Valley. The amplitude of the fall in the area after merging takes place is greater than in either of the single areas, and severe storms are sometimes caused in this way.

Areas of rising pressure whose origin is apparently over the Pacific Ocean, do not produce severe cold as they move across the continent. In the same class are areas of rising pressure that build up over the southern part of the United States in the rear of a sharp and continuous fall in pressure.

The unusually frigid weather that is sometimes experienced in the United States is preceded, almost invariably, by areas of rising pressure that issue either directly from the north or with a strong northerly component. The degree of cold that will follow any certain cyclone in the winter season depends mostly on the geographic position of the succeeding anticyclone. While anticyclones are generally considered as regions of cold west to northwest winds, it is important to take note of the region whence they come; thus on the California coast the anticyclones that advance from the southwest, a region of relatively high temperature, have very little effect on terrestrial temperatures in California. In their subsequent course to the eastward they pass over elevated regions of low temperature and occasionally over snow surfaces, whereby the temperature of the air in the front of the anticyclone becomes considerably lower than it was in California. As the air descends to lower altitudes, after crossing the Rocky Mountains, the reverse process must obtain and the air must gradually become warmer. No quantitative statement of the amount of warming in the descent is possible, but the fact remains that when the front of the anticyclone reaches the Mississippi Valley the fall in temperature will be great or small according as the existing temperature is above the normal for the time and place, or approximately normal. If the air over the Mississippi Valley is unduly warm as a result of a strong cyclonic indraught from the Gulf of Mexico, then will the fall in temperature on the front of the anticyclone be as much as 16 to 20°. On the other hand, when anticyclones issue from the north the conditions are much different. The cold and consequently dense air currents of which the anticyclones are composed flow in a general southerly or southeasterly direction, such a flow being made possible by the previous development of an area of low pressure over the Plains States.

The rapid southward flow of extremely cold air is one of the most striking characteristics of the winter climate of the Missouri Valley and the Plains States. The sharp and decided temperature falls which attend these phenomena can hardly be explained on the ground of radiation alone, although radiation from the air itself and the earth's surface becomes effective in lowering the temperature as soon as the wind abates. On the front of the anticyclones which issue from the northwest the wind velocity over the Plains States generally exceeds 30 miles per hour, occasionally 40 miles per hour. These velocities are sufficiently great to constantly renew the air at any given point and thus maintain the low temperature it had in more northern latitudes, regardless of the influence of insolation during the daylight hours and the warmth of lower latitudes. The chief cause of the low temperatures on the front of anticyclones seems to be, therefore, cooling by transported air from high latitudes plus radiation. The latter is effective in proportion to the rate of movement of the anticyclones, being greater in proportion as the motion of the latter is slower.



## AGRICULTURAL REVIEW.

### ALAMEDA.

Vegetable growers of San Leandro are planting tomatoes and cucumbers. The acreage promises to be as large as last year. The local cannery is preparing to open for the season's business. The pea crop is at its height and black cherries are ripening rapidly. The cherries are finding a ready market and for a few weeks the supply of ripe fruit will not meet the demand. Until it does there will be but few sent to the canneries. The apricot crop is the heaviest in many seasons. The trees are so loaded that it has become necessary to prop branches. The orchardists have thinned the fruit in order that what remains may ripen into a commercial size.

### BUTTE.

The Horticultural Commission has started a war of extermination of the Canadian thistle.

Twenty-five varieties of cotton seed will be planted at the National Plant Introduction Gardens at Chico this year.

It is estimated that the beets available for the factory this year will be between 70,000 and 100,000 tons. J. G. Hamilton of the Sacramento Valley Sugar Beet Co. is enthused over the condition of beets.

### COLUSA.

The grain crop this year will be heavier than for many seasons past.

### CONTRA COSTA.

Samples from the heavily laden almond orchards were displayed this week. Two small branches were secured in the orchard of John Perry, which held 182 nuts, every one plump and of good size.

Hay making at Clayton is on in earnest and what is to be left for grain is looking fine. A month ago prospects for hay looked bad and grain seemed hopeless. The crop is from fair to average where none was expected.

Antioch Ledger: The hay baling record of 48 tons in a day, made recently by the Joe Sward crew, has already been smashed by the same men. Last week while baling near Antioch these rustlers baled a trifle over 58 tons in a day. They are not satisfied with this remarkable showing, and state they intend establishing a record of 65 tons in one day before the season closes.

### FRESNO.

Fresno Republican: County Bee Inspector J. T. Dunn inspected apiaries on the west side, in the vicinity of Coalinga. Conditions among the honey bees were not found to be the best. Forty-one apiaries were inspected, 2553 healthy colonies found and 302 with foul broods. The inspection was one of the most thorough that apiarists on the west side have been subjected to.

### GLENN.

E. F. Hale of Orland is shipping dressed calves to San Francisco. He finds it quite a profitable adjunct to the creamery business, as he keeps quite a herd of dairy cows and finds there is more profit in killing the calves at a few months and selling them for veal than to keep them till they are two or three years old.

Willows Journal: The crop situation is improving; grain that looked hopeless now gives promise of more than half the usual yield; fruit is more plentiful than for several years; the only shortage of consequence is the pastures in the western side of the county, where feed is very short. Many cattle are being driven to the plains and there will be no serious loss among stockmen.

### IMPERIAL.

Grapes will make a good crop in the

Imperial country this year, and will come on the market by July 1.

The first carload of cantaloupes of the season was forwarded to Chicago May 31. They were raised on the Tivesley ranch, in the Imperial Valley. The express car was loaded with 14 standard, 307 pony and 127 special crates. Other cars will follow rapidly. This shipment holds the record. The best previous was in 1907, when the first car was shipped June 2.

Francis Heiny, horticultural inspector for the Brawley district, has started a seed bed of the St. John's bread fruit, or Carob tree, and says that he has more than 1000 thrifty young trees that he will reset in the fall. The pods are fine stock food and are also good eating for humans. The St. John's bread fruit tree has an evergreen foliage of glossy thick leaves somewhat like those of the locust tree.

### KERN.

Many people near Delano are putting in pumping plants and digging artesian wells. Farmers thereabout expect a fair grain crop. Several fine vineyards have been set out this year.

### KINGS.

The alfalfa hay crop in the irrigated districts will be unusually heavy this year. Growers are getting \$11 per ton for the hay on board cars.

A dispatch from Hanford states that agitation to replace Jap labor with white in the orchards and vineyards is growing daily. Several of the large growers have already signed contracts for white labor to pick the coming crop.

### MERCED.

At least 3000 head of beef cattle have been shipped from Merced to the State of Washington during the last few months. The average price per head was about \$45.

### MONTEREY.

The potato crop around Salinas promises to be fully up to the average this season.

A cargo of evaporated apples was shipped from Watsonville last week, bound for Australia and New Zealand.

Encouraging reports are received from the Salinas valley. Agriculture and stock raising are the main industries, and those who have been intelligently and energetically giving attention to these industries the last five or six years are prosperous and well established.

The Spreckels Sugar Co. is planting eucalyptus seed in quantity, and hopes to have 25,000 young trees for transplanting on their ranches at Spreckels, Kings City and Soledad next winter. The young trees will be planted for wind-breaks and the varieties will be the red and blue gum.

Prof. R. H. Cox of the Agricultural Department at Washington was at Watsonville last week, making an investigation of the morning glory. This pest is found most largely in the valleys of Santa Clara, San Benito, Pajaro, and Salinas, and the Department hopes to find some way of eradicating it.

Pajaronian: Representatives of local packing houses are active in their purchase of 1908 apple crops and the prices being received by orchardists are far in advance of last year's prices. Many orchardists who have heretofore handled their own apple crops have succumbed to the lump sum prices, with no chances attached, and have sold outright their 1908 crop. A local orchardist sold the apple crop from his 40-acre orchard for \$6660—one-half again as much as he received for it last year. The price received for this year's crop is as much as the bare land cost a number of years ago.

### NAPA.

Journal: The Napa Canning Co. made

contracts for 425 tons of fruit—300 tons of apricots and 125 tons of Muir peaches. The contracts were made with growers who voluntarily called at the company's office.

### ORANGE.

Estimates made by competent persons show that Orange county's walnut crop will be considerably larger this season than last, and from present prospects it will be from two to three weeks earlier. Blight is reported in some districts, but the disease is not so much in evidence as it was last year. It is too soon to say anything about prices, but growers believe that the figures will be as good as last year, and perhaps better.

### PLACER.

The first box of peaches shipped from the State this season sold in Chicago at auction for \$7.50. This was a box of Alexanders grown near Loomis.

### SACRAMENTO.

The California State Fair will be held at Sacramento from August 29 to September 5.

### SAN BENITO.

The hay crop in the San Juan and Hollister valleys will approximate about 20,000 tons this year.

### SAN BERNARDINO.

Shipments of bees are being made to Utah, as the honey gatherers of that State were largely killed last winter by cold weather, and there is a large honey crop to gather.

Citrograph: Riverside has shipped 4056 cars of oranges this season, which leaves her in second place, Redlands having shipped 4252 cars. This is the first year that Redlands has ever reached the total shipped by Riverside.

About 600,000 young seedling forest trees are now growing nicely up in the Government nursery on Lytle creek. Most of the trees are pinus Jeffreyi, although some cedars are grown.

### SAN JOAQUIN.

Extensive work is now being done in the vineyards in and around Lodi. The vines are in full bloom and this is the time to do the sulphuring. On account of the high winds that have been raging for the past few weeks, most of the work is being done at night. Large bunches of grapes are fast developing and a record-breaking crop is anticipated.

Record: Five carloads of onions were recently shipped from Stockton to Seattle. They are of good quality and are bringing 90 and 95 cents a sack. Producers who planted onions this season are doing well. The crop is unusually large. Frost caused considerable damage to the island potatoes. Seven hundred boxes of cherries are being shipped daily. The fruit is bringing from 7 to 9 cents a pound. The crop is large and the fruit of excellent quality. Most of the cherry orchards are along the river bottom lands near the Calaveras.

### SANTA BARBARA.

Santa Maria Graphic: Grain crops in this vicinity are looking better than expected. The grain is of a good color and the heads seem to be filling out well, while the stands are good. The Santa Maria valley will have an average crop this year. Reports from the Nipomo mesa and from Garey serve to substantiate this statement. The crop in the Los Alamos valley is not as heavy as usual, but the shortage in yield will be more than made up in the increased acreage.

### SAN LUIS OBISPO.

Tribune: Throughout the coast section extending from the Chorro to Cambria there are many fine fields of grain that will go above an average crop. Reports from the eastern part of the county are

most encouraging. The wheat is filling out well. Crops will be a good average and all kinds of produce will bring good prices. Much hay has been cut in the county.

### SOLANO.

Farmers are haying, and the harvesting a much better crop than anticipated. Hay hands are very scarce.

### SONOMA.

The Roma Winery at Healdsburg will be increased. A distillery will be built and fitted up with the latest and best machinery.

The berry raisers of the Gold Ridge district, Sebastopol, are considering the matter of pooling their berry crops. So far the buyers have not been forward with their offers, as was the case this time last year. The growers incline to making a move themselves.

Last Saturday afternoon at a mass meeting of the members of the Santa Rosa branch of the Sonoma County Co-operative Poultrymen's Association, Manager Schultz reported that from the opening of the wholesale store here on March 16 last to May 26, Santa Rosa and Cotati packed 257,000 dozen eggs, and the sales amounted to over \$45,000.

The meeting of berry growers of Anady township resulted in no move being made for the pooling of the crop for this season. Cable & Roof of Santa Rosa stated that they would agree to contract for the purchase of the berries from the district if the growers would guarantee at least 1200 tons at \$40 a ton. They also wanted them to pay 25 cents a ton for handling the berries on this contract. The proposition raised strenuous objection.

### STANISLAUS.

Modesto News: Two immense capri fig trees have reached full maturity on the Gates place, and their wide-spreading branches are this year loaded with fruit. Mr. Gates says that many of the fig orchards in this district have become productive through his trees, the growers securing the half-ripened figs in which is conveyed the blastophaga or capri wasp. Four figs are usually the number used for this purpose, and these are tied together and suspended over the limb of a tree in the younger orchard. The wasps then leave the old figs, and, multiplying rapidly, soon visit every tree and fig in the new orchard, depositing the germ that brings the fruit to full development.

### SUTTER.

Irrigation is now in full swing on all of the farms and orchards in the vicinity of Yuba City. Many gasoline engines have been installed, and hereafter the Sutter county farmer as a rule will not care if the season is wet or dry.

Farmer: Recently a new pest has been discovered in some of the vineyards of this county. Irregular holes are found in the leaves, and in some cases the foliage has been almost stripped from the vine. The Horticultural Commissioners found the pest, which is a small insect—the grape leaf beetle. The insect is a ravenous eater and confines its operations to a small area at first. They can be poisoned by spraying the vines with paris green, one pound to 100 gallons of water.

For the past few weeks the representatives of the various fruit companies have been canvassing the country, getting a line on the crops in this section. The Armsby Co. purchased the freestone crop of Edward Winship. The price named in the contract was \$20 per ton. This is considered a fair price for the variety, but a majority of the growers are inclined to believe that from \$25 to \$30 per ton will be the price that will prevail for the freestones, while the clings will go from \$35 to \$40.



## TEHAMA.

Eight thousand sheep are being shipped from Red Bluff to British Columbia.

Sentinel: Between 8000 and 9000 sheep of the Lowery country are said to be shut out from their usual summer range on the Trinity reserve, which has been allotted to cattlemen this year. Most of the sheep are already on the move to the mountains. Two bands, one of 6000 and another of 4000, passed through on the long drive to the McCloud country. Another band of 2500 came from the west, seeking the northern ranges.

## TULARE.

The apricot and peach crops in Tulare and Kings counties will be very large. It is stated that Griffin & Skelly are offering to pay cash for the fruit delivered to them.

Porterville Enterprise: A buyer purchased the crop of prunes on the Scruggs place at Poplar, and also the crop of several other orchards. He says this will be a banner fruit year in Tulare county and that he never saw the fruit hanging so thick on the trees in the Poplar country as it is this year, and that a great amount of thinning will have to be done in order to give the fruit a chance to develop.

## VENTURA.

Oxnard Courier: Bean planting is about finished. The crop as a whole is not so far along as usual at this time of year.

## YOLO.

Winters will have 2000 people busy handling apricots.

The fruit season at Winters is on in earnest. The shipments consist of Pringle, seedless and Royal apricots, Clyman plums and Alexander peaches.

The grain crop around Woodland will be rather light, but the larger acreage this year will make up an average yield for the district. Sugar beets will also be a big crop.

Thomas Waite of Perkins, Sacramento county, is looking for a location near Woodland with a view to establishing a stock farm. He is a breeder of Berkshire hogs. If he comes to Yolo he will enter extensively into the breeding of Jersey cattle and Southdown sheep.

If the present indications are any key to the hop crops that will be ready to harvest on Bear river, there will be an immense quantity of superior quality hops to place upon the market this fall, says the Four Corners. On the Durst, Drescher and Horst ranches the hops are in a most prosperous and thriving condition, and the cool damp weather that has prevailed has caused the young vines to jump.

Four Corners: The E. Clemens Horst Co., hop growers, with yards in various parts of California, Washington and British Columbia, are working upon an invention which gives promise of reducing the cost of harvesting hops. Eight machines will be tried this summer in picking the crop. These machines have been tested and the results seem to justify the expenditure of a big sum in making others.

## YUBA.

While there have been no prices made on the fruit crop in this locality as yet, there is a report that various canneries may do some contracting with the growers provided the growers think the prices are right. The market should open at about \$35 to \$40 per ton for cling varieties and \$20 to \$25 for freestones; \$40 for pears and \$30 for apricots.

Appeal: The wool situation, from the growers' point of view, looks brighter; 680 bales of wool were sold for 14 cents spot cash, the highest market price paid this year. This wool is from the vicinity of Red Bluff. There are now 1000 bales in the warehouses at Corning and 400 at Arbuckle, ready to be disposed of.

## The Dairy.

## The Dairyman and the Home Creamery.

By A. P. FERGUSON, Butter-maker at the Modesto Creamery.

The local creamery means much to the farmer and to the community in which it is located. It employs home capital, perhaps; if not, don't kick at that. It employs home labor when it can get it; if not, it brings in new citizens. It makes a home product from home raw material: your cream. It gives you the highest market price for your butter-fat, and oftentimes more. Should your test go down and you are not able to discover any reason for it, you have the privilege of talking it over with the manager. Of course the other fellow is watching for a chance to adjust the difficulty for you, and if you allow him to do so, perchance in the long run he may cheat you out of five or six points, but don't kick at that. He is not doing business for his health by any means.

While you are in the dairy business and while you are furnishing cream to your local creamery, remember that in order to make both a success, one being dependent upon the other, you, Mr. Dairyman, have the first and most important duty to perform, viz.: The proper production and care of your cream, preparatory to sending it to the creamery.

Volumes have been written upon the different phases of this question, and if you fail to properly inform yourself, don't kick, but do better.

Don't kick because your cream is poor and insufficient. Remember that your test represents only a relative value, and that it is the butter-fat that you receive pay for, not the test. There are nine chances for your test to go down where there is one for it to go up. In every case the separator or its manipulation, and the circumstances governing it, make the quality of the cream. Neither cow nor feed have anything to do with the percentage after it has been run through the separator. Quantity as per each hundredweight of milk run through may be considered.

Allowing, then, that the manager of the local creamery is as honest as the average manager of the city creamery, what advantage can accrue to one who is constantly kicking and seeking a change in order to determine whether or not he is being treated fairly? In justice to all concerned, it is not only right but mandatory that we leave no stone unturned until we determine the exact status of the matter from every point of view.

In every instance, give the manager of your local creamery the first chance to right any wrong before you invite criticism, foreign or otherwise, or before you turn them down flatly. It is a duty they owe to you, and kindly allow them to perform it. Remember, they have hundreds to deal with, while you are only one.

Where the controversy is in the matter of the test, which is most often the case, the most satisfactory results have been obtained by an eye-witness test, or, better by far, having one's own tester always at hand. Every well conducted dairy should own one and use it. Not only is it useful in determining the quality of cream, but it may be used to ascertain the value of each individual cow in the dairy.

Very often the separator needs attention. The bearings may be loose, foundation insecure, machine out of level—all of which more or less affect the quality and quantity of the cream.

Warm cream turned into cold gives to

WORKING DAY AND NIGHT  
MANUFACTURINGDE LAVAL  
CREAM  
SEPARATORS

That's what the De Laval shops have been doing since early in February, from seven o'clock in the morning until nine o'clock at night, with every available man, and new tools being added every week; while the material supplying shops have been running double force all day and all night.

That's the record of the De Laval shops in the effort to meet the doubled demand from every section for the new Improved 1908 DE LAVAL machines.

That's the showing which stands out alone and by itself, against every shop and every industry in America for 1908.

There's certainly a very good reason for it, and if you need a separator—either the first one or a good one in place of a poor one—it's up to you to find it.

The improved machine itself tells the story best—a catalogue to be had for the asking is the next best thing.

## DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

## General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 First Street  
PORTLAND, OREG.  
1018 Western Ave.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

the whole an old and smothered flavor. If you have been doing this, don't kick if you are informed at the creamery that your cream is bad.

Gather your cream in a clean vessel at each separation, allow it to cool, then you may pour it into the receiving can, which should be kept in a well ventilated place, at a temperature not to exceed sixty degrees; cooler if possible.

An average test will always give the best results. This will range from 35 to 40 per cent. If you find that your cream is running low, you can very easily raise the test five or six points by increasing the speed of the separator. Rather do this than to tighten the cream screw, for speed is the principle upon which the separation is accomplished. The reverse is true if you desire a thinner cream. In this case maintain an even speed, but open the cream screw just a little at a time until the desired quality is reached.

The location and surroundings of the cream house are of great importance in the care of cream. While it may be of a fine quality immediately after separation, very often the unsanitary conditions prevailing about the premises are productive of bad results. Standing water, bad floors, or worse, no floor at all, where cream may be spilled, create a condition almost intolerable, with a predisposition to disease. Clean up, and don't kick, if you wish to get best results from your business.

In this article I have touched upon a few points only, and in a general way. Each one might be taken up specifically and discussed at some length, but enough has been written to lead the enquiring mind into a subsequent discussion of any subject of interest to the progressive dairyman.

## Effect of Stripping.

To the Editor: We have just installed a milking machine, and the man who does the milking contends that if the cow

is stripped after milking by machine, she will dry up. The directions plainly state that a cow should be stripped after each milking. Please send me some advice on this subject if in your power.

J. NOBLE SCAMMELL.

Concord, California.

We should say the cow would be more likely to dry up if she is not milked out clean. We believe the directions are right.

## Report of a Kern County Dairy Herd.

Mr. J. G. Stahl, who is dairying in Kern county, gives Hoard's Dairyman an interesting statement about what his cows are doing, and how he helps them to do it:

On January 1, 1907, we moved onto 80 acres of good land five miles from Bakersfield; there were about 45 acres in alfalfa. We took 23 head of dairy cows with us. Six of these were heifers with first calf, five with second calf. Each cow was charged \$1 per month for pasturage the entire year, excepting the month of January, the month we went there. As it had been pastured closely until we got possession, there was no feed until it started to grow, which was in February. We fed hay and grain (rolled barley) in January and part of February, then hay and grass until about April 1, then grass until September 1, when our cows began to freshen (in 35 days we had 19 head come fresh), then hay and rolled barley (all hay was alfalfa) until January 1.

Each cow in our herd gets a rest. Our rule is to begin drying off 60 days before due to calve. Some will dry off in 14 days, some take 20 days.

As to dairy rules, will say that I have never followed the 1 to 3 rule, as I do not find it necessary with good alfalfa pasture day and night and good alfalfa hay. I have never fed more than 8 pounds of grain per cow per day, and some only 4 pounds. All depends upon what each cow is doing. My hay I have always estimated previous to last year, but I bought



U S U S U S U S U S U S U S U S

**For 16 Years the Best STILL BETTER 1908**

The market to-day is flooded with separators of every style and description, and all make big claims!

But the World's Record for clean skimming in 50 consecutive tests is held by only one Separator, and that one is the reliable

**U. S. CREAM SEPARATOR**

in competition with all other Standard makes. Is not this convincing proof of which is best? Dairy men, "get wise."

Send to-day for Catalogue No. 148

18 distributing warehouses in U. S. and Canada.

VT. FARM MACHINE CO., BELLows FALLS, VT.

**Prompt Delivery Assured** California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

every pound that was fed, so I know the figures are correct.

There is one other feed that was fed last fall, from September 1 until November 10, and that was green corn. I sowed three acres of land to Indian corn (broadcast) in June, and cut a load each day and hauled it to the cows every morning, and that is everything that was fed last year.

Gross returns from creamery per year .....	\$2,162.64
Gross returns from creamery per year per cow .....	94.02
Total cost of feed per year....	629.05
Total cost of feed per year per cow .....	27.35
Total amount of butter fat per herd per year, lbs.....	7,053
Average amount of butter fat per cow per year, lbs.....	306
Average net returns per cow per year .....	\$66.67
<hr/>	
Total net returns of 23 cows per year .....	\$1,533.59
Cost of feed as follows:	
Pasture .....	\$253.00
Hay, \$6 per ton .....	280.00
Three acres plowed and planted to corn .....	10.00
Rolled barley .....	86.05
<hr/>	
Total .....	\$629.05

This does not include the milk that was used by the family, nor the good milk fed to the calves. Each calf was fed good milk as much as 14 days, and some 21 days.

#### Dairy Notes.

The farmers of Butte valley, Siskiyou county, are arranging to start a creamery.

The creamery at Waddington has been consolidated with the creamery at Grizzly Bluff.

The New Era creamery at Gustine, has been leased to the Dairy Delivery Co. of San Francisco.

Sutter county is to have a Swiss cheese factory. The new industry is to be located on the banks of the Sacramento. Paul Steude of Sacramento has the matter in hand. He is confident the Swiss colony will be an acceptable addition to the population. The people are thrifty and industrious.

#### The Cheese Business in California.

Cheese vs. butter; that is, which is more profitable, is an old question with constantly changing conditions. In a letter addressed to Mr. John Tuohy, lecturer of Tulare Grange, pending a discussion of the dairy business by that Grange which was recently outlined in the PACIFIC RURAL PRESS, W. S. Carpenter & Co. present an argument favoring the superior opportunity in cheese making at the present time:

Last year in this State there was produced 44,599,211 pounds of butter and 5,928,942 pounds of cheese. These goods were sold for more than \$13,500,000.

From the dairyman's standpoint it is very essential that both cheese and butter be made from his milk. Should all the milk produced go into either product there is no doubt that it would result in lower prices.

The law requires that butter makers do not produce butter containing over 16 per cent water and 4 per cent salt; this allows a creamery 20 per cent over churn and no more. Taking milk that will test .038 per cent butter fat as a basis to figure from, 100 pounds of milk will make, over churn and all, 4.36 pounds of butter. This same milk will make 11 pounds of cheese. At today's market prices, 25 cents for butter and 11 cents for cheese, this 100 pounds of milk would bring 99 cents as butter or \$1.21 as cheese. In fact, when the price of butter is not more than  $2\frac{1}{4}$  times the price of cheese, there is more money in cheese, not considering the difference in the value of skim milk and whey as feed.

With the exception of two weeks in the last year, the price of butter has not run more than  $2\frac{1}{4}$  times the price of cheese, and the greater portion of this time it has not run over  $2\frac{1}{2}$  times cheese in price. This has allowed the cheese maker to receive at least 6 cents a pound more for his butter fat than the butter factory. The result of this is that the cheese factories have paid the dairymen from 2 to 6 cents a pound more for butter fat than the creameries have been able to.

The drawback to the cheese business on this coast is small factories. It costs as much to make up 100 pounds of milk a day as it does 5000 pounds. Labor, rent, fuel, in fact everything but the cheese cloth is the same. It does not cost more than 50 per cent more to make up 10,000 pounds of milk a day than it does 100 pounds. The average yield of our California factories is only about 300 pounds of cheese a day. The result is that the operating cost is too high. A factory, to be successful, must receive at least 5000 pounds of milk a day; otherwise it is paying for labor, oil, rent, etc., and not receiving the amount of milk that same expense should take care of.

**FEEDING WHEY.**—As to the feed value of whey, our best authorities state that it is two thirds that of skim milk. For calves the whey must be sweet; then there should be a handful of oil meal or some mill feed added to each gallon. The idea being to add solids enough in this way to make up for what is taken out in cheese making that is not taken where the milk is simply separated. In cheese the caseine is used and most of the butter fat, while in butter all of the butter fat is used and very little caseine. Of the two solids, butter fat is more valuable as a feed, so it is not necessary to add the same amount of nutriment to the whey as the difference in the test for solids would indicate. Experience has shown that a small handful of any of our ordinary mill feeds to the gallon of sweet whey gives it the same value as skim milk.

In separating 100 pounds of milk there is usually about 80 pounds of skim left.

## Seeing is Believing

Look with your own eyes and see wherein the **TUBULAR Cream Separator** is different from all others.

### Here are the Differences:

Low Supply Tank	Perfect Self Oiling
Suspended Bowl	Fewest Bowl Parts—1
No Oil Cups or Holes	Bottom Feed
No Exposed Gear	Quickest Cleaned
Waist Low Crank Shaft	Plain Smooth Bowl
No Bowl Vibration	Least Weight Bowl

You can't avoid seeing these differences if you look at and compare separators.

Now as to whether they are an advantage: (1) Ask people who have tried several kinds of separators: (2) Try out a Tubular and other separators in your dairy.

Then you'll know why the Tubular is different from and better than other cream separators, why it is in a class alone, why it belongs to the XXth Century, while others are of the XIXth.

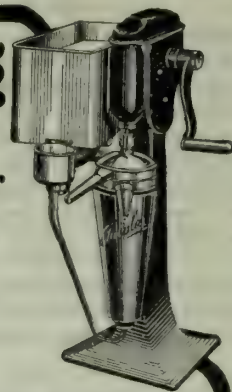
These are plain reasons, which your own eyes may prove, if you choose, and this sure and safe knowledge will cost you nothing. Send for Catalog No. 190.

**THE SHARPLES SEPARATOR CO.,**  
**West Chester, Penna.**

Toronto, Can.

San Francisco, Calif.

Chicago, Ill.



In cheese making there is about 90 pounds of whey to the 100 pounds of milk. So the difference in weight from 100 pounds of milk almost makes up for the difference in feed value of the two, however slight the difference is in favor of skim milk. But with the addition of a little mill feed as above mentioned, whey is as good feed as skim milk.

A gentleman said the other day that he had raised 10 calves on whey and oil meal as described above, and he found that the oil meal cost him about \$2 a month for the 10, or 20 cents a month each. This same man delivered an average of 900 pounds of milk a day to a cheese factory from 50 cows; he received 4 cents above the price paid by the creameries for sour cream. This allowed him about \$44 for the feed that cost him \$2, and his calves are in strictly A1 condition.

The question seems to resolve itself into this: If cheese and butter production stays about as it is today, cheese will pay the dairyman the better; if, on the other hand, either cheese or butter should receive more than its share of California's milk supply, that commodity will feel the effects of the over-supply and suffer accordingly.

For the past four or five years (as long as the writer is posted on the market) cheese has paid better than butter, and a great deal more than the relative difference in the feed values of skim milk and whey. So we feel justified in saying that cheese will pay the better.

## The Field.

### Spraying to Kill Weeds.

We have had some discussion upon killing weeds in grain and elsewhere by spraying while both grain and weeds are young with iron sulphate. The following account from the Maine station is interesting in its results; also because it discusses the different effects produced upon mustard and wild radish, both weeds widely spread in this State:

While it is generally recognized over the State that what is called wild mustard is one of Maine's worst weeds in some crops, it is rarely that it is known that there are two plants which differ but slightly in appearance, that most people call wild mustard. One of these is the wild mustard proper, *sinnapis arvensis*, which is also frequently and properly

called charlock. The weed which very closely resembles it and is sometimes called jointed or white charlock, is the wild radish, *raphanus raphanistrum*. The young wild mustard plants are readily killed by spraying with solutions of either copper sulphate or iron sulphate. The wild radish is very resistant, and in experiments made at the Maine Agricultural Experiment Station has even defied treatments with 20 per cent solution of iron sulphate reinforced with 5 per cent of sulphuric acid.

If one desires to kill wild mustard (not wild radish), it can be readily accomplished in seeded crops without injury to the grain or grass by spraying with a 20 per cent solution of iron sulphate. A power sprayer on the same general plan as a potato sprayer should be used.

The solution is readily made, as follows: Empty a 100 pound sack of granulated iron sulphate into an oil barrel (which will hold about 50 gallons). Fill the barrel up with water and stir vigorously for a few minutes until the sulphate goes into solution. The solution can be put into the spray tank and used at once, or it can be kept in the barrel until the desired time for use. Iron sulphate solution is not poisonous, and can be handled without fear; white clothing coming in contact with it, however, will be discolored by iron stains.

The spraying should be made on a calm bright day after the dew has disappeared. If rain follows within a few hours the spraying is not as effective. The grain fields should be sprayed when the mustard plants are in the third leaf, or before the plants are in blossom. If sprayed after the plants are in bloom, it will kill the leaves, but will not prevent the formation of seed.

The only discouraging thing about spraying for wild mustard in Maine is that so much that is commonly called wild mustard is wild radish, and while it has been claimed by investigators in Germany and France that they have killed wild radish by spraying with a 20 per cent solution of iron sulphate, it is more than probable that they were wrong in identifying the plant.

The two plants so closely resemble each other that it is not until they fruit and the seed pods form that they can be positively distinguished except by one who is thoroughly familiar with them.

Although little or no encouragement has been obtained in the experiments thus far made at the Maine Station, that wild radish can be controlled by spraying, trials will be continued in 1908.



## Poultry Chat.

By A. WARREN ROBINSON.

Comparatively few of our readers have an adequate idea of the magnitude of the poultry industry in this country, or of the very rapid progress being made in the development of many of the more noted varieties, and the remarkable interest which is taken, in different sections of the land, in the matter of breeding. Especially in many States to the east has this latter feature of the industry attained great prominence, the laws of breeding applied with all skill, the result of deep and prolonged study and experiment, until it would seem as if the topmost round of the ladder had been reached. Yet a continued effort is being made, and while we marvel at results already attained, we wonder what the ultimate efforts will produce.

Not only in our own land is much attention being paid to the betterment of the poultry industry, but in England, Canada, Australia, France, Denmark, and in other countries praiseworthy efforts are constantly making for the development of finer fowls and the building up of the industry, as a whole, on broader and more scientific basis.

A survey of the poultry situation in this and other countries impresses interested parties that at the present time more thought is given the business, more application, more determination to reach greatest results, more capital invested, and greater profits are reaped, than at any previous period in the history of the business. Fortunes have been made in poultry raising in many a section of our land, and when the business is wisely and shrewdly conducted none need fear that they may fail to be reckoned among the successful ones. The veteran in the business has won his position in the forefront ranks after much study, experimenting, patient work, and having a love for the business, a determination to overcome all obstacles. For in any business one must have some experience that is not at all pleasant, and the noteworthy examples of successful poultry breeders in several of our States are well worth the close study of the novice, and many a more experienced poultryman as well.

As we look over the field in our own favored State we come to the conclusion that there is a wonderful opportunity right before us to enlarge the business, never losing sight of the fact that quality and not quantity is the one great factor to be considered. As in most of the States of the Union, our flocks are on the whole comparatively small. Outside of the Petaluma region not many very large ones are to be found. Many flock owners, having a small number of birds, or possibly boasting of their thousands, strive to breed their fowls with all excellence. But very many, notably the farmer who has not yet awakened to the fact that the poultry he keeps may be so managed as to bring him greater returns for the capital invested than any other department of his labors, do not place sufficient value upon the matter of breeding in a way that will secure the best, the most satisfactory, results. Blood will tell. Too many, as they care for their fowls, lose sight of the undisputed fact that the laws of breeding are fixed and inexorable, and apply to the birds under our care as much as they do to the full development of horses and cattle. The more fully we realize this, and the more constantly we breed for best results, the greater satisfaction will be ours and the larger will be our profits.

"Success in the poultry business," says a far famed and successful poultryman, "depends, first, upon the man; second, upon his equipment." There must be adaptability, a love for the business that

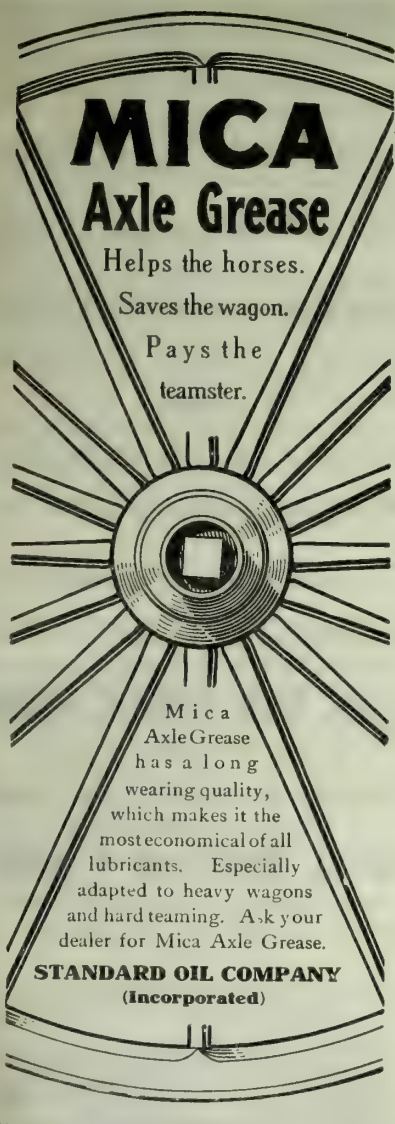
will urge one to press forward, overcoming all obstacles; and that close application which shall include time, labor, and constant mental effort. In too many cases there is a slipshod, unsystematic way of doing things, which we can scarcely call management, or system, or thoughtful working. A little more care, a determination to get out of the fowls all there is in them, would bring results that would surprise many a person who pays little heed to the wonders that now lie dormant in his fowls.

While we of California have made great progress in the matter of breeding and in the betterment of our poultry yards in general, much remains to be accomplished. The history of the business shows that many a breeder in the East has won laurels in the way of a national and more extended reputation, and fortunes that are by no means small. This has been the result of long and persistent effort to "make good," in the fullest sense of the term. Prices which some of these noted breeders receive for their birds are enough to stagger the small poultryman. But all may gather from the sales noted that the business has attained a wonderful prominence. Let all bear in mind, at the same time, that the average flocks of the country are small; that almost every farmer throughout the land, and many who make a specialty of raising fowls, are members of a numerous and worthy brotherhood, having a common interest, working toward a common end.

Madam Paderewski last February paid to an Eastern breeder for a pen of five White Wyandottes—one cock and four hens—the sum of \$7500. A noted poultryman whose specialty is White Plymouth Rocks, values one of his hens at \$5000. In March last 100 Houdans were sold for the tidy sum of \$5000. The demand for fancy stock was never before so great as at the present time. Five hundred dollar hens are selling every day. Farmers are learning that it pays to keep pure-bred poultry, and while they cannot afford to pay top-notch prices, it may be they should ever bear in mind that it will pay them to get the best they can afford.

It will be found sound policy to keep nothing but pure blooded birds, of whatever breed the owner may select, never losing sight of the end he should have, from the first, in view: To constantly keep his flock well bred. Spasmodic breeding, unsystematic management, will always prove unsatisfactory. The watchword every poultryman and poultrywoman in this State should have indelibly impressed upon the mind is "Better Poultry." More of it, if we can afford it. Quality first, numbers second.

Practical and far-reaching results may well be expected from the instruction to be derived from attending the farmers' short courses in agriculture, to be given free to all who may attend the meetings at the State farm at Davis next October-November. Eight days are to be devoted to the consideration of topics of much interest to all our poultrymen, lectures by experienced poultry-keepers, exemplified by practice, being scheduled for each day. We commend this program to all interested parties. This is the beginning of an awakening in poultry matters that augurs well for the future of the industry in California, the further enlargement of an industry that ought, as we are confident it will, attain a world-wide notoriety that shall bring still greater laurels to our beloved State. No climate excels ours for poultry raising. Few, if any, equal it. There is much money to be made in keeping fowls for the eggs they will lay. There will be a large and constantly increasing demand for fine breeders, both at home and in our northern



**MICA**  
**Axle Grease**

Helps the horses.  
Saves the wagon.  
Pays the teamster.

Mica Axle Grease has a long wearing quality, which makes it the most economical of all lubricants. Especially adapted to heavy wagons and hard teaming. Ask your dealer for Mica Axle Grease.

**STANDARD OIL COMPANY**  
(Incorporated)

## The Poultry Yard.

Poultry for the Home.

(Continued from Page 369.)

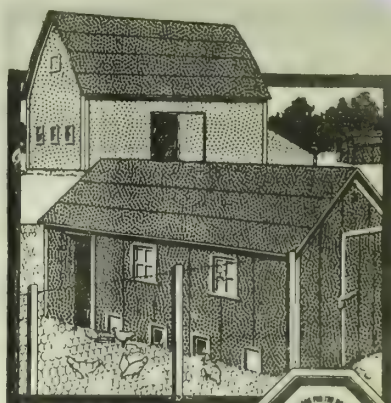
latter, when of a good strain, is a fair market fowl as well as a fine layer. The Brown Leghorn, like its White sister, is a born beauty, but is considered hard to breed true to color and markings. During the last ten years she has been to a great extent supplanted by the White in this State; in fact, the White Leghorn has captured the State, and might fittingly be termed the California Bird. This has not come about through specialty clubs and fanciers. She has been less pushing than the other breeds. Her appellation of the "Business Hen of America" has been honestly earned. Nearly all of the large market egg plants of the country are stocked with this breed. She would not be there if she was not pre-eminent in her line.

In choosing a breed, the matter of strain must not be overlooked. The strain is almost as important as the breed. A good strain of an inferior breed is more profitable than a poor strain of a superior one. Make sure of your strain; see that it comes from healthy yards; that it has been bred for utility and beauty—and most of all for stamina, for vigor!

"THE OLD RELIABLE"

**DIETZ**  
**LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS



## Dry, Tight Poultry Houses

Dampness and draughts are deadly to chickens. A dry atmosphere and an even temperature are absolutely essential to health and productiveness in poultry. Poultry houses roofed and sided with

# REX

FLINTKOTE  
ROOFING

have protection not only against wind and rain, but also against extremes of temperature, dampness and humidity.

REX Roofing is a non-conductor of heat and cold as well as being storm-proof and wind-tight.

REX Roofing has great durability because it is made of dense, long-fibre wool felt, thoroughly impregnated with weather resisting compounds. Any farm hand can put it on.

"Look for the Boy" on every roll and don't buy unless he's there.

**OUR FREE SAMPLES AND BOOKLET** will convince you on every point of roofing excellence. Sent for the asking. Send 4c. for our poultry booklet. Making Poultry Pay," which tells how to make your fowls profitable.

**J. A. & W. BIRD & CO.**  
91 India St., Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & CO.  
San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Portland,  
Seattle, Tacoma, Spokane

possession, and in the islands to the far west. Even Australia and Africa think it well worth while to patronize our progressive breeders, and the business is destined to attain much larger proportions.

He is wise who makes the most of the situation. The field is open to all.

Twin Lakes, Santa Cruz, Cal.

Healdsburg Tribune: L. Lewis, near El Verano, won the first prize with his flock of Leghorn hens in an egg-laying contest conducted by the Missouri Valley Farmer of Topeka, Kansas. Poultrymen from many portions of the Union entered the contest, and the result is another verification of the generally accepted fact that California, and especially Sonoma county, is the most suitable place in the world for poultry raising.

## POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffa excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**SANTA TERESA POULTRY FARM** for White Leghorns. **Wm. HAUSAM**, Eden Vale, Cal. Box 45.

**BRONZE Turkeys and Eggs**. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 81, 320 McAllister St., S. F.



**Warranted to Give Satisfaction.**

## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address The Lawrence-Williams Co., Cleveland, O.

## Sheep and Wool.

### The Future of the Merino.

"The future of the Merino, which means all of the fine wool breeds, for we are not now specifying any particular type or family, is and has been a live question of importance to many shepherds for many years," writes Roscoe Wood in the American Sheep Breeder. Mr. Wood then proceeds to sketch the outlook:

Fifty years ago the Merino breeders of the East talked of the future of the Merino in the West when Michigan and Ohio were then the West. Twenty years ago Michigan and Ohio breeders talked of the future of the Merino in the range country, more especially of the Southwest, and here we are still talking about the same old thing. How does his future look now? Is it any dimmer, or is it even brighter? In those times their breeders had unbounded faith in their favorites, and time and events have justified their faith. With the radically different conditions which have developed in the last 15 or 20 years and the process of evolution in which the entire sheep industry is even now involved, is the primal and foremost position of the Merino to be taken from him by some other breed? We can see no reason to think so, so long as sheep are run on the range under conditions at all similar to those now in vogue, and so long as man wears wool and eats mutton.

The reader of our remarks on Merinos at various times will recall that the conditions of climate and feed in Spain were very similar to the range conditions of a large part of our western country. The Merinos are more than all others accustomed to herding and running in large flocks, and have thrived and been profitably handled. They are hardy and particularly adapted to changing conditions, but especially are they able to live and thrive on short herbage and to live long enough to be of some use. And with his long life he ever carries a heavy fleece of fine quality, and maintains his weight even when old.

In Spanish times the Merino was noted around the world for his fleece, and that fame is still his, and it has reached its greatest height in his development in America. With the rapid rise of the de-

mand for mutton, some have thought that the Merino must lose his place among sheep, but his inherent characteristics make him peculiarly adapted to the general fundamental conditions of American sheep husbandry.

Especially to the general range industry is the Merino indispensable. We have yet to meet the sheepman who has had intelligent experience on the range who does not declare that the ewe band must carry a predominance of Merino blood to produce the most profit under general average conditions. Whether the owner may be so situated as to raise lambs fat for the market, or for feeders, or for carrying on the range, the ewe of Merino blood has demonstrated her superiority. She shears the most wool, lives the longest, herds the easiest, thrives the best, and produces a lamb the most satisfactory to the grower and the buyer, whatever the sire of the lamb may be. Long centuries of continuous breeding have so implanted in the Merino those characteristics of wool-bearing, of longevity, of superior herding qualities, or hardiness, that they are transmitted to the offspring of the ewe in such measure that the lambs are ever sought for. Mayhap a mutton lamb is wanted, fat for the market. Where is there a better range-grown lamb than that from a ewe strong in Merino blood? Where is there a better feeder, especially for large flocks, than the lamb from the Merino ewe? And as to the lamb destined to become a mature sheep on the range, show us the one that is more profitable than the Merino!

In all history there has been no time when men in a temperate and cold climate have not required wool to clothe their nakedness, and it is not reasonable to suppose that the time will come in this century when that article of man's comfort can be dispensed with. Instead, he demands finer and better clothes than ever, and fine Merino wool must enter into such; and none but Merino sheep produce that grade of wool. To the student of statistics it may be of interest to know that the percentage of fine wool produced both in America and the whole world has been and is decreasing. And it may be noted in passing that the price of fine wool in the grease is as much this spring as that of medium wools, and in better demand at that, a condition which has not obtained for many years. Fashion decrees the kind of clothes we wear, and her fickleness is well known. And when an article becomes comparatively scarce, for some unknown reason a demand for it arises, and oftentimes increases in proportion to its scarcity. It is possible that Fashion may demand clothes requiring fine wools, and this condition obtain as regards Merino wool. And when it brings a good price you may depend on it that there will be plenty of sheep growers who will raise it.

But many say that mutton is the important factor of sheep, and to a certain extent and in a sense this is true; but when many of these advocates continue to say that the Merino is worthless for mutton, they are wrong. In the evolution of the sheep industry and the development of the mutton market the Merino of some types has forcibly shown his adaptation to his growers' requirements by producing a good carcass of mutton with his fleece. The development of the Merino along mutton lines by the European breeders has demonstrated some of his possibilities, and there is no question but that this demand for mutton is helping to produce a type of Merino that takes due note of its importance. So that while he

is producing a superior fleece in both weight and quality, he is also producing a good marketable carcass, and the two combined products make him the most profitable sheep in the West.

Remembering these main factors which apply to general conditions, and many lesser points which govern local and individual cases, we can see no reason to consider the Merino's future in the West other than of the very brightest. And with all due deference to other breeds and their admirers, we think that the West is the country especially adapted to the Merino, and where he must ever maintain the dominant position in the sheep industry so long as he maintains his inherent characteristics and entity as a breed.

### The Persian Merino Cross.

The Persian, or fat-tailed sheep, have been in California for about fifteen years, and some crossing has been done. Mr. Otis Lockhart of Los Angeles county writes to the American Sheep Breeder about a band of 126 cross-bred lambs that he has grown, as follows:

The Persian ram is rather leggy, weighs 240 pounds, wool long, light, a slightly reddish tinge at base, shading to white. Sheared 13 pounds for eight months' growth. Ears long and drooping and Roman nose. The ewes bred to him were inbred Merinos, heavy woolled and good size. Sheared 14 pounds for the year's clip. They are not noted for prolificacy, nor are they specially good mothers, still, out of 80 ewes 126 lambs were dropped, one morning five pairs of twins out of six ewes. The lambs are all red-bodied with white faces and tails, unusually large and strong at birth and need no assistance.

The lambs were dropped beginning December 12, 1907. When four months old one ram lamb weighed 103 pounds, and two ewes weighed 96 and 91 pounds, respectively, not so bad for lambs that have not had any grain or special care at all.

In a test made at the ranch the result was as follows. Lamb weighed alive 69½ pounds, market-dressed it weighed 37½ pounds, hind leg 5¾ pounds.

These lambs are good to eat. The meat is whiter than that of any other mutton, the flavor most delicate, and the shrinkage less than any other sheep we have killed. For early hardy, strong growing lambs, lambs that will weigh 70 pounds at 90 days old, these are hard to beat.

### Los Angeles to New York by Goat Power.

A journey from coast to coast by goat team is planned by Capt. Vivian Edwards. From Los Angeles to New York city four goats will draw the diminutive buggy in which he will ride.

The start will be made as soon as the weather clears, and Edwards hopes to keep continually on the road until his strange trip has been completed, with the exception of Sundays, when the animals will be given an opportunity to rest.

"I expect to make the journey within one year's time," said the captain the other day to a reporter of the Los Angeles Times. "My goat team can cover 14 miles a day over good roads, and with favorable weather that speed can be kept up day after day without over-tiring the animals. The heavier articles of my outfit will be carried by the burros which will accompany me."

Edwards, who is a cripple and unable to walk, has already covered thousands of

## BREEDERS' DIRECTORY

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Hogs and Sows.

BERKSHIRE AND POLAND-CHINA HOGS.  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

FRANK A. MEHCAM, Prop.

Importer and Breeder of

## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.



### FRANK A. MECHAM

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MECHAM, Importer and Breeder

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1106-8 Merchants Exchange Bldg., San Francisco  
Established 1880.

## DON'T BUY GASOLINE ENGINES

alcohol engine, superior to any one-cylinder engine, revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



## FOR SALE

400 sheets corrugated galvanized iron, 30x96 inches, No. 26 iron, brand new. Price \$4.25 per square. Address

1308 Merchants Exchange Bldg.

miles with his goat team, which consists of four large Angoras. Last year he went to Hastings, Neb., in 200 days.

Edwards' companion will be John Johnson, who was a sailor of the U. S. S. Raleigh at the battle of Manila Bay. He will handle the burros and have general care of the camp equipment. The trip eastward will be over the southern route.

## The Range.

### Grazing on the Reserves.

The Government has just won its sixth important case concerning the validity of the regulations made by the Secretary of Agriculture to control grazing in the National Forests. In the United States Court at Denver, Colo., Judge Robert E. Lewis has overruled the demurrer of Fred Light, a wealthy stockman of Pitkin county, Colorado, which contended that the grazing regulations in force on the National Forests are unconstitutional.

The whole case revolved around the contention raised by some Colorado stockmen that the Government is no more than a private land-owner in the matter of State fence laws. A number of States have fence laws which make it impossible for a private person to collect fees or damages from owners of stock which stray upon his land unless the land is fenced. The National Forests are not fenced, and on this the stockmen based their refusal to pay grazing fees.

A friendly suit to test the regulations of the Secretary of Agriculture prohibiting the drifting of stock upon the forest. At the Public Lands Convention held in Denver last June the forest officers and representatives of the Colorado Cattle and Horse Growers' Association, of which Mr. Light is a member, agreed to a friendly suit. The case is practically the same as the famous Shannon case in Montana, in which the grazing regulations were also upheld.

The decision of Judge Hunt in this Montana case was affirmed by the United States Circuit Court of Appeals at the ninth circuit, sitting at San Francisco on February 3, this year. That decision stated without qualification that the grazing regulations are reasonable and valid, and that the State land laws do not apply to the National Forests, and that therefore the drifting of stock upon the forests in violation of the regulation is trespassing, notwithstanding the State law.

The Light decision simply affirmed the same principle in another jurisdiction. The attorneys for Mr. Light, under the agreements made before the trial, are bound not to dispute the facts, but will probably appeal the legal question for

decision by the Circuit Court of Appeals at St. Louis. Eventually it will be carried up to the Supreme Court.

The other suits attacking the grazing regulations won by the Government are the following cases: The United States versus Shannon, Montana; the United States versus Bale, South Dakota; the United States versus Deguirre, Northern California; the United States versus Domingo, Idaho; the United States versus Dent, Arizona.

## Forestry.

### Guarding Against Forest Fires.

As the time for forest fires is approaching the following warning has been issued by State Forester G. B. Lull, of Sacramento, against their ignition:

The attention of all persons who inhabit or frequent the forest or brush-covered areas of California is called to the following provisions of the State Forest Laws relating to forest fires.

Under Statutes 1907, Chapter 536, it is a misdemeanor, punishable by a fine of not less than \$25 nor more than \$500, or imprisonment not less than 15 days nor more than 6 months, or both, to commit any of the following acts:

1. To set fire on the lands of another, except camp fires, which may be built on unenclosed land if the owner has not forbidden it in any way, and provided the builder totally extinguishes the fire before leaving it.

2. To allow fires, lawfully set, to escape from the control of the person having charge thereof, or to spread to the lands of another.

3. To build a fire anywhere (except camp fires and fires set to facilitate redwood logging) without first securing written permission from a State Fire Warden.

4. To use any engine or boiler, burning fuel other than oil, unless the engine or boiler is equipped with adequate devices to prevent the escape of fire from any part.

5. To refuse to obey the summons of any State Fire Warden to fight fire. (For this the fine is not less than \$10.)

The light rainfall of last winter and the long spring drought makes the danger of fire this summer particularly great. On that account every precaution to guard against it should be taken. Your co-operation is sought to this end. If you have evidence that the State Forest Laws have been violated, place it in the hands of your district attorney at once, and notify me. All violations will be prosecuted whenever sufficient evidence to secure a conviction can be gathered.

G. B. LULL,  
State Forester.

### Wood Preservation for Horticulturists.

During the coming year the government will extend its experiments in wood preservation to cover an entirely new field—the work of treating greenhouse timbers.

Decay takes place very rapidly under the conditions of high humidity always found in greenhouses and horticultural buildings. The timber at present employed in the construction of such buildings consists for the most part of the naturally durable and relatively expensive kinds, such as select cypress and white pine. By a preservation treatment other cheaper and less durable species can probably be successfully substituted for them, and this can be done at a low cost.

In the treatment of greenhouse timbers several problems must be solved. For instance, it is desirable that the wood used in greenhouse construction be painted white in order that it will reflect as much light as possible. Consequently, a preservative must be used which will allow the treated timbers to hold a coat of white paint. Again, no

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4336.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

Important. The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

SORBY VACCINE CO. (Inc.)

(General Agents U. S. A.)

161 Randolph Street, Chicago.

SERWE & PRIEN

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.

PARIS  
TIME REVEALER  
ALEXANDRIA  
PIRELLA  
GOSWAMI  
CALCUTTA  
RIG JARVIS  
HASTINGS, N.J.  
LONDON  
BEALIN  
PEREGRINE  
BRIDGEMAN  
HONG KONG  
STONEY  
BUENOS AIRES  
PAGANA

**PASTEUR**

IN ORDERING  
SERO-VACCINS  
**VACCINE CO. LD.**

CONCESSIONNAIRES OF THE INSTITUT PASTEUR BIOLOGICAL PRODUCTS, PARIS

LONDON  
DO LOMBARD ST  
JOHN WILKINSON  
TUNIS  
GOSWAMI  
WHITFIELD  
MUSCAT  
SEUTICART  
SPRING  
VIENNA  
ST. LOUIS  
ALMA  
MONTREAL  
MONTREAL  
ST. LOUIS

When your animals are vaccinated be sure that it is with

**Pasteur Vaccine Co., Ltd.**  
Anthrax and Blackleg Vaccines

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by the discoverers, Profs. Arloing, Cornevin and Thomas. Furnished in powder, cord and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore. It is furnished only in our established blue tube and always bears our name, trade mark and expiration date for your protection. Do not accept any other.

**PASTEUR VACCINE CO., Ltd., 7 Rue Meyerbeer, Paris**  
NEW YORK 866-868 W. 11th Street CHICAGO 328-325 Dearborn Street  
Local trade supplied by Richardson & Ertin Co., 580 Mission St., San Francisco, Cal.

preservative can be used which will in any degree affect the growing plants. It is probable, however, that these difficulties can be overcome, and the completion of the investigation will be watched with interest.

The investigations in wood preservation by the use of creosote, which is nothing more than the dead oil of coal tar and of zinc chloride, is considered of such importance by the government that one branch of a bureau in the United States Department of Agriculture—the "Office of Wood Preservation" in the Forest Service—is given over entirely to the work of experiments in co-operation with railroad companies, mining corporations and individuals who desire to prolong the life of the timber which they use. Advice and practical assistance are furnished all who request it of the Forester at Washington.

### Additional Forest Guards.

The Forest Service has just announced the following appointments of additional Forest Guards on California National Forests:

Thomas B. East and Edwin G. Seamands on the Seamands Sierra (S) National Forest.

B. G. Woodruff, Julian Woodruff, and Ben Jones on the Tahoe National Forest.

Ira Fine on the San Gabriel National Forest.

J. W. Hurlbut and Alex. Collins on the Lassen Peak National Forest.

These appointments are made to meet the increased demands of the Forest Service work due to the opening of the grazing season, resumption of active lumbering operations on forests, and permanent improvement work.

The Sacramento Valley Sugar Co. will soon begin the construction of the three beet dumps which will be needed as soon as the shipment of beets begins. One will be at Davis, another at Pearl station, and the other at Yolo. These dumps will be 500 feet in length and must be constructed by the sugar company, as well as the railroad track or siding leading to them. Heretofore it has been customary for the railroad people to build the sidings for shippers. The railroad people will furnish the material but the shipper must lay the track.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

Imperial Press: Luther Burbank has made a hit with El Centro residents on his spineless cactus, to judge by the sights to be seen in Paul Boman's cactus patch. A few weeks ago Boman received from Luther Burbank a shipment of 300 pounds of spineless cactus of several varieties. The selection was left entirely to Burbank, as he knew the general conditions here. He notified Boman that the kinds sent he considered the best yet propagated. They were planted, and now every one of these leaves have large new shoots, some of them as large as a man's hand. In several cases the growth already attained is much greater than the original plant.

T. D. Morrin of Rumsey has two acres of navel orange trees, from which he harvests \$600 worth of fine fruit annually. Mr. Morrin irrigates the trees three or four times per season, running water for about six hours through furrows plowed between each row of trees. He also manures his orchard and takes pains to turn under a green crop as often as seasons will permit. It seems that the soil in Capay valley and the protected situation there offer opportunities for orange culture.

The Pacific Coast Trotting Horse Breeders' Association will hold its annual meeting at Chico, from August 19 to 22. Chico claims that the new track there is the widest and best in the State.

The Central California Agricultural Fair dates have been fixed as follows: Bakersfield, September 14 to 19; Tulare, September 21 to 26; Fresno, September 28 to October 3; Hanford, October 5 to 10.

## Nitrate of Soda

Nitrate Sold in Original Bags

**NITRATE AGENCIES CO.**

64 Stone Street, New York

Keyser Building, Baltimore, Md.

36 Bay Street, East, Savannah, Ga.

305 Baronne Street, New Orleans, La.

Holcombe & Co., 50 Clay Street,  
San Francisco, Cal.

Address Office Nearest You

Orders for All Quantities Promptly  
Filled—Write for Quotations



## The Home Circle.

### Cheer Up.

Cheer up, my friend, do not despair!  
Just say the sun is shining,  
Although the clouds are dark and drear,  
They have a silver lining.  
Dry up those tears and smile a bit  
And think of some sweet story  
That you can tell some lonely one,  
And fill their life with glory.

Go visit some stricken neighbor  
That is grieving for a loved one dear,  
Forget your own sorrow a moment  
In trying some dear friend to cheer;  
Scatter flowers while they are yet living,  
Sweet songs to brighten their life,  
For we know that sweet words of kindness  
Are better than anger and strife.

So bring all the sunshine and gladness  
To the lonely and stricken one,  
And when our lifework is ended,  
We may hear the words "well done."  
Keep doing for some one a kindness,  
(Cheering them on all the while;  
Give them courage to battle in life,  
By giving them always a smile.

### To Age.

Welcome, old friend! These many years  
Have we lived door by door;  
The fates have laid aside the shears  
Perhaps for some few more.

I was indocile at an age  
When better boys were taught,  
But thou at length hast made me sage,  
If I am sage at aught.

Little I know from other men,  
Too little they from me;  
But thou hast pointed well the pen  
That writes these lines to thee.

Thanks for expelling Fear and Hope—  
One vile, the other vain;  
One's scourge, the other's telescope—  
I shall not see again.

Rather what lies before my feet  
My choice shall engage;  
He who hath brav'd Youth's dizzy heat  
Dreads not the frost of Age.

—Walter Savage Landor.

### She Was the One Girl.

There isn't much in life for me any more. There might have been. I am pretty sure that if she had loved me it would have been different. She would have given a rose colored tint to the universe.

A four room flat with her would have been equal to a palace of jasper and sard — whatever that is — and brown stone. A canary in the front bay window would have been equal to a grove of nightingales. Twenty dollars down to an installment house would have given me all the luxurious velvet piled rugs, pictures, statuary, brie-a-brac, tapestries and hangings that I needed. A half pound of cold ham, a dime's worth of Saratoga chips and a bottle of milk in the icebox on the porch would have been a worthy equivalent of the larders, cellars and \$5000 chefs of the rich and great. But now!

She strung me. She did it to the queen's taste. She made me think I was all the table condiments and the after lunch mints. She did this for months. Then the little gong on the top of the clock breaks loose, and I wake up and rub my eyes.

It wasn't me. Not at all. I was regarded in the light of a very dear friend — who was willing to fall for the price 'most any old evening. Billy Chandler was the real bales of costly merchandise. Billy!

Am I sore? No, I'm not. I'm so pulpy on her that I can't even get sore. I wouldn't even undertake to herd Billy in a vacant lot and muss him up with the ashes, and I'm able to do it, at that. I'm down and out, that's all. Flowers are respectfully declined and friends will please refrain from writing obituary verses.

There's just one thing left for me to do, and that is to make good at the office and lay my pipes for an even break on the spoils of war and a buzzer on my

roll top desk for the stenographer. Bachelor apartments for me.

I haven't got it straightened out yet. It doesn't seem right. Why, it was a whole plumber's stock that she was built especially for me. For me! Not for Billy Chandler; that will be the worst misfit on Clark Street. Billy doesn't know anything about her eyes. They don't say the things to him they were always saying to me. Any old kind of hair would suit him just as well as another, and as long as a girl could talk and laugh at funny little gags he thinks he's getting off all the time what would he care about her having just that one particular kind of voice?

It was her eyes and her hair — just hers — her laugh and the way she moved that got me razzle-dazzled. There's somewhere in the neighborhood of 'steen billion girls floating around loose, but there isn't anything just exactly like her. That's what's the trouble with me.

Well, I've got to buck up and bear it. Guess I'll go around to the drug store and get a cigar and then stroll down to the sad lake waves and think some more large thoughts. A fellow can't think with ragtime playing in the room below. Not the kind of thinks I'm having.

Three days gone by. I'm still alive,

Wonder if Miss Kessick wasn't in the bunch. She isn't real horrid to look at, anyway.

It doesn't cut any ice with me, of course, but she certainly is the real Michigan specialty, sunripened and just as good with the red mosquito bar off as with it on. If I had only met her about six months ago there's no telling. But I'm spoiled for anything else now. The dull ache has set in, and unless I'm thinking of something else, it stays right with me, just like Miss Libby says.

Kessick! Funny thing I never took any particular notice of her until last week. I guess I must have been tolerably busy since I came here. She certainly isn't like the factory made article, isn't little Margaret. There's something to her. She's a mixer, all right, and she'll stand for a joshing and not linger at the come back. But there's more to her than that. I believe I sort of stand in, too.

And, while you're talking, that girl has got eyes that somebody ought to put smoked glass over in the interests of the public safety. I've seen eyes before, but — I don't suppose I ought to buy her candy on a short acquaintance, but the candy money I've been saving the last week or two certainly ought to have an

of ague in this country. A great drawback. It must unfit a man for work entirely."

"Generly it do," said the woman. Still, when my man, Tom, has a right hard fit of the shakes we fasten the churn dasher to him, and he brings butter inside of fifteen minutes." — St. Louis Globe Democrat.

### The Animal Mind.

Margaret F. Washburn of Vassar college has recently published a book on the "Animal Mind," which is quite a relief after some of the discussions that have been held on this subject of late. For this author gets down and studies the animal mind from an experimental standpoint, and begins, where any such study must begin, with an investigation of the senses. If the book errs at all, it is in having too great a confidence in the experimental method. For to experiment with an animal, you must nearly always put him under abnormal conditions; and not the most accomplished "nature faker" would contend that animals adapt themselves to new situations as readily as men.

Passing this, Dr. Washburn has collected some notable evidences on the



Under the Giant Oaks at Pasadena.

but I didn't expect to do the frog act anyway. It's going to simmer down to a dull ache after a little. I'll have a feeling like the parquet at five-thirty on a matinee afternoon, according to the best authorities, and that will stay with me for the rest of my days.

I wonder what that is they're playing now! It's a new one on me. Yes, it's going to be one great goneness for Willie. Some of these days when I can bear the pain I shall chase myself around to where Mrs. Chandler lives and see a golden-haired little child skipping the rope on the pavement outside or tripping a measure to the strains of the piano organ. She will have her mother's eyes.

I shall say, "Little one, tell mamma that an old friend would like to see her." And she'll come down looking as if she's just about all in and with only a pathetic suggestion of her former beauty. After awhile she will say: "And you never married?"

"Never once," I shall say. "There was only one woman in the world for me." Then she'll blush and —

I guess I do know what that is, too. They seem to be whooping it up down there. I wonder if I'd be considered fresh if I kicked in? I was to have the privileges of the parlor with the other boarders, so I don't see why not. Those drug-store cigars are pretty bum,

outlet somewhere. After a short while, when the bunch gets together, I must spring myself for ice cream at the drug store as a kind of starter. I've got to do something evenings.

That drug clerk is a wise boy. He's on to his job all right. "No, we haven't any of that in stock. We don't carry it any more, anyway. Here's something that doesn't cost as much and it's every bit as good. I think myself it's a little better. It won't hurt to try it, anyway. People get in the habit of taking some one thing and they think there isn't anything else will do, and that's where they're wrong. You try this. It won't be but a little while till you just swear by it."

I wonder.

I'm a little leary of 'em, but I don't believe she's the kind of girl that would string a fellow; and she could string 'em plenty if she wanted to. You can't beat her for looks.

Here goes for the candy, anyway.

### A Sort of "Milkshake."

A politician who was once making a canvass of a county of Arkansas stopped at a certain farmhouse for a drink of water. Said he to the woman who answered his knock:

"I observe that there is a good deal

senses of lower animals. She tells us that there is good reason to doubt whether insects hear, as we know the sensation, at all. The nearest approach to hearing that they have seems to be a very delicate sense of touch, like that which tells a deaf man that someone is walking near him. Some insects, however, have a remarkably keen sense of smell. It is this that guides the bees in their wonderful works in the darkness of the hive; and it is this which serves to identify members of the colony.

The dog, however, is the premier artist in smell. Not only can he detect odors totally imperceptible to men and to most animals; but he can, to use Dr. Washburn's phrase, analyze an odor as a trained musician will analyze a chord; separate it into its elements, and single out the one he is interested in to the exclusion of all others. The bloodhound is simply the dog with the most wonderful nose. Almost any cur can put human beings to shame in knowledge of smells.

It is interesting to note that as you climb the scale of animal life, you come more and more to a dependence on sight. The power to discriminate form, utterly lacking in many insects, becomes well developed in mammals, especially well developed in the higher apes; and best developed of all in man. Without the eye, and the training given the brain by the eye, human civilization would be ut-



terly impossible. Try to imagine carving a statue or laying a wall by the aid of the sense of smell and you will gain some notion of what our sight means. Try to imagine an animal with sight so developed that it could recognize the thousands of different symbols on this page at a glance; and you will find that you are simply thinking of a man disguised as an animal. Man is man largely by virtue of his eyes and his muscles. No doubt we have lost much in letting our sense of smell degenerate; but we have gained vastly more than that sense could ever give.

#### Brazilian Wilderness.

The mind can hardly grasp the vast tropical plains over which flows the Amazon, largest of the world's rivers. In the heart of South America are thousands of square miles of land that is practically unknown to the white man. Near the heart of equatorial Brazil, and 750 miles in a bee line from the Atlantic, one of the principal tributaries of the Amazon, the Madeira river, flows into the greater stream from the southwest. For 2,000 miles the Madeira extends to the south and southwest, first through tropical swamps and forests, and then across prairies on the borders of Brazil and Bolivia. The river reaches its sources close to northern Argentina. The unknown lands comprise the forests along the east of the Madeira and the more open plains to the southward.

In the southern region lies the dreaded El Gran Chaco, comprising the larger part of northern Argentina, western Paraguay, and small portions of southeastern Bolivia and southwestern Brazil. The area of this unknown land in Argentina alone is 52,000 square miles.

Through this unknown land wander savage Indian tribes who resist all attempts to civilize them. In the last 15 years several parties of explorers from Bolivia and Argentina have sought to penetrate this unknown region. The densely matted vegetation along the river has impeded their progress. Then they have been surrounded by Indians and killed to a man.

#### The Commencement.

The word "commencement" enables orators in frock coats to tell beautiful young ladies in white organdie that the extinction of the academic era marks the "commencement of their real lives." Maybe you have heard them and witnessed the thrill with which the notion was received by blushing maidenhood. It is a stupendous thought, bulging with originality, and I suppose it is mean to meddle with it, even though one knows how that use of the word commenced—or "began," if you prefer. In the old days degrees or diplomas were not granted in June. They were granted in September, and the seniors of yesteryear were forced to reinvade the academic shades to acquire them at the commencement of the new term. After awhile it dawned upon our institutions of learning that the arrangement necessitated undue bother, so they moved the "commencement" exercises back across the vacation and put them at the end of the year. However, they neglected to rechristen them, and oratory has gained much by that inspired oversight.—Boston Transcript.

#### A Universal Word.

One of the first words that a baby says is "mamma" or "mother," and it is not strange, therefore, to find it one of the first and simplest words in every language. There is no word easier for a child to say than "ma," unless it be "pa." In Hebrew and Arabic mother is "em" and "am." It is "mam" in Welsh and "moder" in Anglo-Saxon. In other languages it is slightly different, but near enough like our own word "mother" to make it an almost universal word, so that a child crying

in any language could be understood in almost any other language. Here are a few of the names: Meter in Greek; madr in Persian; matr in Sanskrit; mater in Latin; madre in Italian; mere in French; moder in Swedish; moder in Danish; moeder in Dutch; mutter in German; mater in Russian; mathair in Celtic.

#### Silence.

In silence mighty things are wrought—  
Silently builded, thought on thought,  
Truth's temple greets the sky;  
And, like a citadel with towers,  
The soul with her subservient powers,  
Is strengthened silently.  
Soundless as chariots on the snow,  
The saplings of the forest grow  
To trees of mighty girth;  
Each nightly star in silence burns,  
And every lay in silence turns  
The axle of the earth.

The silent frost with mighty hand  
Fetters the rivers and the land  
With universal chain;  
And smitten, by the silent sun,  
The chain is loosed, the rivers run,  
The lands are free again.

—Amy Gibson.

#### World's Most Costly Book.

Lionel Walter Rothschild, one of the richest men in the world, is having published the most costly book ever issued from a printing press. Already more than a million dollars has been spent in its preparation, and the end is not yet. The work will be descriptive of the earth's extinct birds.

The paper upon which the book is to be printed will cost 36 cents per pound, and the completed work will sell for \$125 per copy. It is Rothschild's purpose that the book, and especially the color plates, shall endure for all time; and with this in view, the publishers have spent years in obtaining a paper that is at once imperishable and will take color printing without coating and give perfect results.

#### Domestic Recipes.

**CARAMEL.**—Two cups sugar, 2 table-spoons of water, stir until it is browned but not burned and add one cup of boiling water.

**CARAMEL CAKE.**—One half cup of butter creamed with  $1\frac{1}{2}$  cups of sugar; add yolks of 2 eggs, 1 cup cold water, 2 cups flour, beat well and add 3 table-spoons of caramel and 2 teaspoons baking powder, in  $\frac{1}{2}$  cup of flour, and last the whites of 2 eggs well beaten.

**VEGETABLE PUDDING.**—One cup each grated carrot, grated potato, grated apple, chopped raisins, chopped suet, and sugar, 2 cups flour, 1 teaspoon of soda, and a little salt. Steam  $3\frac{1}{2}$  hours. Serve with lemon sauce, or any kind of sauce preferred. This is delicious.

**GINGER SNAPS.**—(Like those we buy) One cup each of brown and white sugar, 1 cup lard, one of sorghum, 1 of cold water, 3 teaspoons soda, two teaspoons ginger, flour to make a stiff dough. Don't roll, but make into little balls size of a walnut, and put them on a greased tin, allowing room to spread. These are fine.

**GOOD BREAD.**—When the potatoes are done at noon, have a cupful of flour ready in a jar and pour about  $1\frac{1}{2}$  pints of the boiling water from the potatoes in it, beat up well and set away to cool. Soak a yeastcake in a half cup of warm water and when thoroughly dissolved stir into the sponge. At night put the quantity of flour desired into the bread pan, warm it in the oven, push flour up around sides of pan to leave a hole in the center, stir in about one quart of warm water, 2 level tablespoons sugar and a level teaspoon of salt and mix in enough flour to mould in a large loaf. Cover this in pan. In the morning, knead down well, let rise again, make into loaves. Let rise and bake. This is very little trouble and one always has good bread.

## Plan for Summer Comfort

Don't add the heat of a kitchen fire to the sufficient discomfort of hot weather.

Use a New Perfection Wick Blue Flame Oil Cook-Stove and cook in comfort.

With a "New Perfection" Oil Stove the preparation of daily meals, or the big weekly "baking," is done without raising the temperature perceptibly above that of any other room in the house.

If you once have experience with the

## NEW PERFECTION Wick Blue Flame Oil Cook-Stove

you will be amazed at the restful way in which it enables you to do work that has heretofore overheated the kitchen and yourself.

The "New Perfection" Stove is ideal for summer use. Made in three sizes and all warranted. If not at your dealer's, write our nearest agency.



The **Rayo Lamp** gives perfect combustion whether high or low—is therefore free from disagreeable odor and cannot smoke. Safe, convenient, ornamental—the ideal light. If not at your dealer's, write our nearest agency.

**STANDARD OIL COMPANY**  
(INCORPORATED)

#### Still Time.

A long-haired man walking along the street met a little boy, who asked him the time.

"Ten minutes to nine," said the man, according to Hapgood's Opportunist.

"Well," said the boy, "at nine o'clock get your hair cut." And he took to his heels and ran, the aggrieved one after him.

Turning the corner, the man ran into a policeman, nearly knocking him over.

"What's up?" said the policeman.

The man, very much out of breath, said: "You see that young urchin running along there? He asked me the time, and I told him, 'Ten minutes to nine,' and he said, 'At nine o'clock get your hair cut.'"

"Well," said the policeman, "what are you running for? You've got eight minutes yet."

#### How to Rest.

To understand how to rest is of more importance than to know how to work. The latter can be learned easily. The former it takes years to learn, and some people never learn the art of resting. It is simply a change of scenes and activities. Loafing may not be resting; sleeping is not always resting; sitting down for days, with nothing to do, is not restful. A change is needed to bring into play a different set of faculties and to turn the life into a new channel. The man who works hard finds his best rest in playing hard; the man who is burdened with care finds relief in something that is active, yet free from responsibility. Above all, keep good natured and don't abuse your best friend, the stomach.

"Which is the cow that gives the buttermilk?" innocently asked the young lady from the city, who was inspecting the herd with a critical eye.

#### Chaff.

We want eggs and we want them bad, advertises a city dealer. It would seem that he would not have great difficulty in getting that variety.

"His property is all in his wife's name." "Well, if that were only all." "What do you mean?" "I have heard that a lot of other people's property is in his wife's name, too."

"I notice your daughter dances with such graceful, free movements." "They ain't free; she takes regular paid lessons."

"Janet has told me that you used a naughty word to-day, Flossie."

"Janet should be a little more definite in her charges, mamma, I use so many."

He—Are you putting away something for a rainy day?

She—Oh, I hope not! I'm saving up for an Easter bonnet, you know!

Passenger—Say, conductor, that man on the back platform just fell off.

Street Car Conductor—That's all right. He's paid his fare.

"My wife doesn't say 'boo' when I come home at midnight."

"Neither does mine, but she says nearly everything else in the dictionary."—Detroit Free Press.

"Maud graduated from your cooking school last spring, didn't she?"

"Yes, but she's going to take a post-graduate course next fall." "Going back to the same school again?"

"Oh, no; she's to be married to a poor young man."

"Paw, what is a philosopher?"

"He's a man, my son, who can eat saw-dust and make himself think it's ice cream."



## THE MARKETS.

San Francisco, June 9, 1908.

## WHEAT.

The San Francisco market has developed no new features. The drop in oats and barley made buyers very cautious, though there was no change in the quotations. The Government reports indicate that the grain yield of the United States will be considerably larger than last year, and the continued favorable weather has weakened the prices on the Eastern exchanges. This has not affected the local market further than to increase the dullness which has characterized it for some time. The reports of the crop on the Coast continue favorable, and a bigger yield than was conceded last month is expected.

California White Australian..	1.70 @ 1.72½
California Club.....	1.65 @ 1.67½
California Milling.....	1.67½ @ 1.70
California lower grades.....	1.40 @ 1.60
Northern Club.....	1.65 @ 1.67½
Northern Bluestem.....	1.70 @ 1.75
Northern Red.....	1.65 @ 1.67½
Turkey Red.....	1.67½ @ 1.75

## BARLEY.

Barley opened dull but without any change. During the week, however, some of the holders of the grain were compelled to unload. This, together with the favorable crop reports, caused a sharp decline in spot feed, which is practically the only stock being offered. The price of northern feed dropped 10 points and some of the local offerings more. Arrivals of barley have been somewhat light, but sufficient. The market at present is dull and weak at the lower prices. Offerings of the new crop for future delivery are being freely made at \$1.25. A few of the best lots of feed sold a little above the highest quotation, but the quantities were small. Eastern barley is lower and very weak, with prospects for a heavy crop.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.27½ @ 1.30
Common to Fair.....	2.25 @ —
Shipping.....	Nominal

## OATS.

On account of the appearance of the Government report of the season's crop, there was a decline in oats all over the country. This estimates the total crop at 1,044,250,000 bushels, the largest yield in the history of the United States. The market continues very quiet and weak.

Choice Red, per ctl.....	\$1.50 @ 1.55
Ordinary Red.....	1.42½ @ 1.47½
Gray.....	Nominal
White.....	1.50 @ 1.55

## CORN.

A large shipment of corn from the Middle West arrived during the week, relieving the immediate shortage for milling needs. The prices remain firm on light stocks over the country. Little buying is reported and the market is dull. The Government report indicates a somewhat better crop than last year, but considerably below normal. The present visible supply is dwindling fast, and there will be a bare market for the new crop when it arrives.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow, low.....	1.85 @ —
White, in bulk.....	1.76 @ —
Mixed, in bulk.....	1.74 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

The world's visible supply on June 6, according to statistics compiled by the New York Produce Exchange, was only 257,000 bushels. There is practically no rye on the markets of the Coast, and the quotation is nominal. The market remains unchanged.

California.....	\$1.47½ @ 1.50
-----------------	----------------

## BEANS.

The bean market is still all in the favor of the sellers. There has been a gradual advance from day to day in the favorite commercial varieties, and the market is strong and full of interest. There has come a report from New York that some Eastern interests have started to corner the Lima supply in California, and have succeeded in getting such a large proportion of it that they will try to run the price up to \$5.75 or more per

hundred. The price is already soaring in limas. The past few days has seen prices stationary but the market very firm.

Bayos, per ctl.....	\$3.20 @ 3.35
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.75 @ 3.10
Garvanzos.....	2.50 @ 3.50
Horse Beans.....	2.50 @ 3.00
Small White.....	4.30 @ 4.40
Large White.....	4.35 @ 4.40
Limas.....	4.90 @ 5.00
Pea.....	4.40 @ 4.50
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	2.75 @ 3.00

## SEEDS.

There was another uneventful week in the seed market, no change whatever occurring in the quotations of last week. The market keeps the dull aspect which is usual at this season of the year.

Alfalfa per lb.....	20 @ 22 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3¾
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4¾
Millet.....	2½ @ 3¼
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

There has been no change in the flour market or in similar mill products. The market remains dull and the reports of the San Francisco exchange, showing a larger amount of grain than was supposed on hand, has had a depressing influence on the market. There have been no changes in prices.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

The hay market was without much interest last week. The arrivals amounted to 2650 tons, the same as the week preceding. The dealers are buying from hand to mouth, as the uncertainty of the season's prices makes them very cautious of laying in large stocks. The producers are, for the most part, holding out for prices which the buyers at present refuse to consider. Consequently there is little buying except for immediate needs. The farmers seem to think that high prices will rule during the season, but the dealers here think that the general conditions of the money market will prevent such being the case. The prices will not be low, but an ordinarily good price will be established. The arrivals of the new crop have been so small and scattered that so far no quotation has been established. The old crop prices remain about the same.

Choice Wheat, per ton.....	\$16.00 @ 18.00
Other Grades Wheat.....	11.50 @ 15.00
Wheat and Oat.....	12.00 @ 16.50
Tame Oat.....	11.50 @ 16.00
Wild Oat.....	10.00 @ 15.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 95c

## MILLSTUFFS.

The decline of the barley market also brought with it a drop in the mill products. A drop of \$1.50 per ton occurred during the week, and the new price is somewhat weak. In other millstuffs the market remains the same, and is firm without a very large supply on hand. There is no very great demand except for immediate needs, but that is steady to brisk.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	32.00 @ 33.00
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	28.00 @ —
Jobbing.....	29.00 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	33.00 @ 36.00
Mixed Feeds.....	27.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 39.00
Roiled Barley.....	29.50 @ 30.00
Shorts.....	33.00 @ 35.00

## VEGETABLES.

The vegetable market has varied from day to day as the receipts were large or not. The market for the most part is lower than last week, but a few varieties have been coming in very small lots and prices remain firm. The scarcity of green peas in the market has made all

offerings which were at all marketable sell at the top quotation. String beans are also firm. Tomatoes are lower. The arrival of large shipments from Mexico and Mississippi have found a dull market. The tomatoes from Southern California have moved much more readily. Green corn is arriving in larger lots, and the Brentwood product sold well at the top quotation. Other varieties went slowly. All onions excepting the new red varieties remain weak; these are firm and in better demand.

Garlic, per lb.....	18 @ 20 c
Green Peas, sack.....	1.00 @ 2.25
String beans, lb.....	4 @ 6 c
Cabbage, per ctl.....	35 @ 50 c
Onions—	
Australian, per ctl.....	3.25 @ 3.50
Bermudas, per crate.....	50 @ 75
New Red, sack.....	90 @ 1.00
Summer Squash, box.....	75 1.00
Tomatoes, crate.....	1.00 @ 1.50
Carrots, sack.....	75 @ —
Rhubarb, box.....	60 @ 1.00
Asparagus, extra, lb.....	5 @ 6½ c
Asparagus, No. 1.....	4 @ 5 c
Asparagus, No. 2, lb.....	3 @ 4 c
Green Peppers, lb.....	10 @ 15 c
Cucumbers, doz.....	40 @ 65 c
Green corn, doz.....	20 @ 35 c

## POULTRY.

The arrival of three cars of poultry from Eastern sections overstocked the market for a few days, and the receipts from points in the State have been quite large. The demand for heavy young roosters and heavy fat hens remains strong and the arrivals are not sufficient to meet the demand. Other varieties are arriving in large quantities and are weak. There has been some inquiry for turkeys the past week. There have been practically no turkeys offered on the market for some months. The arrivals of geese and pigeons have also been small.

Broilers.....	\$3.00 @ 3.50
Small Broilers.....	2.00 @ 2.50
Fryers.....	5.00 @ 5.50
Hens, extra.....	7.00 @ 8.00
Hens, per doz.....	5.00 @ 6.00
Small Hens.....	4.00 @ 5.00
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	7.50 @ 8.50
Young Roosters, full grown.....	9.00 @ 10.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50
Ducks.....	4.00 @ 7.00
Geese.....	1.50 @ 2.00
Goslings, per pair.....	2.00 @ 2.50

## BUTTER.

The butter market has shown some fluctuation during the week, but the changes have been slight. At present the market is very firm, with both extras and firsts a cent higher than last quoted. There is comparatively little movement into storage this week, and the advance in prices is due largely to uneven distribution, some of the receivers being short of stock and willing to buy at quoted prices. The movement on the Exchange is active.

Cal. (extras) per lb.....	24 c
Firsts.....	23½ c
Seconds.....	22 c
Thirds.....	—
Fresh Packing Stock, No. 1.....	21 c
Fresh Packing Stock, No. 2.....	20 c

## EGGS.

Eggs are decidedly firm, showing a pronounced upward movement. Prices are higher on all grades, extras being 2 cents above last week. Arrivals have been light for several days, and supplies of extras are short, cleaning up very well from day to day. Firsts are more plentiful, but in strong demand, while the market for lower grades is very strong. The production is rather light in Sonoma county, and a good demand is reported there for storage purposes.

California (extra) per doz.....	24 c
Firsts.....	22½ c
Seconds.....	19 c
Thirds.....	18 c

## CHEESE.

Eastern and storage grades of cheese are unchanged, with supply and demand about evenly balanced. Fresh local grades are inclined to easiness. Trading is quiet and featureless, and with liberal arrivals there is some accumulation of supplies. Fancy flats and Young Americas are ½ cent lower.

Fancy California Flats, per lb.....	11½ c
Firsts.....	11 c
New Young Americas, Fancy.....	13½ c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	16 c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c

LILLY'S BEST

MEANS

## Comfort for Stock

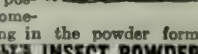


**FLY KILLER**  
applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A coat of

**LICE KILLER**  
applied to roost or board beneath the roost will positively kill lice. For something in the powder form



**INSECT POWDER**  
is sure death to all vermin and is positively harmless to chicks.



These remedies are Sold by Dealers

Manufactured by

THE CHAS. H. LILLY CO.  
SEATTLE and PORTLAND

Oregon Flats.....	13 c
Oregon Y. A.....	14½ c

## POTATOES.

There has been some speculation in potatoes during the week, and the bulk of the best old stock is now in strong hands. Good Oregon Burbanks are very firm at a considerable advance over last quotations. The best new crop river goods are in good demand, though undesirable lots are weak and receive very little interest.

Oregon Burbanks.....	1.20 @ 1.35
Burbanks, River, bag.....	40 @ 75c
New Potatoes, lb.....	1 @ 1½

## FRESH FRUITS.

Supplies of fresh fruits are liberal, and in spite of a good demand large lots are carried over from day to day. Prices tend to weakness, with reductions on most varieties of cherries. New apples are also lower. The offerings of peaches are of a much better grade than last week, but were not in great demand. There was a generous supply of all berries, with the exception of strawberries, which are higher and the market for them firm. Other varieties were lower, and all offerings could not be disposed of. Apricots are coming in liberal quantities and are lower. The canneries are taking all the cherries that are offered at their figures. The sizes of crates and boxes arriving vary greatly, and the quoted prices are for standard sizes.

Cherries—	
Black Tartarian, drawer.....	50 @ 75
Royal Anne, lb.....	5 @ 6c
Bulk, lb.....	2½ @ 6 c
Apples, fancy (old).....	1.75 @ 2.50
Apples, new green.....	40 @ 60
Strawberries—	
Longworths, chest.....	8.00 @ 11.00
Large varieties, chest.....	5.00 @ 7.00
Blackberries, chest.....	6.00 @ 7.00
Loganberries, chest.....	4.00 @ 6.00
Gooseberries, drawer.....	50 @ 75
Currants, drawer.....	50 @ 75
Apricots, crate.....	65 @ 1.00
Plums, crate.....	50 @ 1.00

## CITRUS FRUITS.

The orange market is unchanged and dull, but there has been an advance in lemons and they are in demand. The prices in all lines are very firm. The arrivals of the week have not been very large.

Choice Lemons.....	\$2.00 @ 2.50
Fancy Lemons.....	2.75 @ 3.00
Standard.....	1.00 @ 1.25
Limes.....	5.00 @ 5.50
Oranges—	
Navels.....	2.50 @ 3.50
Grape Fruit.....	3.50 @ 4.00

## DRIED FRUITS.

The dried fruit market is still extremely dull. There have been no changes in quotations, and the amount of selling for the past week was nominal. The Eastern dried fruit market is the same. No interest is taken in any varieties. Crop reports continue favorable on the Coast, but the prices will be more moderate than was supposed.

Evaporated Apples.....	5 @ 6 c
Figs.....	2½ @ 3 c
Apricots, per lb.....	11 @ 13 c
Peaches.....	7 @ 8½ c



Prunes, 4-size basis, 1907 crop..	3 @ 3 1/2 c
Pears .....	7 1/2 @ 9 1/2 c
RAISINS.	
2 Crown .....	3 1/2 @ —
3 Crown .....	4 @ —
4 Crown .....	4 @ 4 1/2 c
Seeded, per lb.....	6 @ 6 1/2 c
Seedless Sultanas .....	4 1/2 @ —
London Layers, per box .....	90 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

No new developments have occurred in the nut market. Prices remain the same on a short market.

Almonds, Nonpareils .....	13 1/2 @ 14 1/2 c
I X L .....	13 @ 14 c
Ne Plus Ultra.....	12 1/2 @ 13 c
Drakes.....	11 @ 11 1/2 c
Languedoc.....	10 @ —
Hardshell.....	7 @ 7 1/2 c
Walnuts, Softshell No. 1 .....	13 @ —
Softshell, No. 2 .....	10 @ —
Italian Chestnuts .....	10 @ 12 1/2 c

## HONEY.

The arrivals of new crop honey have not been sufficient to meet the demand as yet, and the prices remain unchanged. The market is bare of stock, the old crop having been about cleaned up before the first new honey arrived. It is too early to forecast the bulk of the new crop, but the prices will remain at their present mark for some time, according to the dealers.

Water White, Comb .....	16 @ 17 c
White .....	15 @ —
Water-white, extracted .....	8 @ 8 1/2 c
Light Amber, extracted .....	7 @ 7 1/2 c
Dark Amber and candied .....	5 1/2 @ 5 1/2 c

## WOOL.

There is but little wool being purchased on the Coast this season, according to some of the brokers' statements, and the price is very unsatisfactory to the growers. Most of the short clip of the Coast has been withdrawn from the market because of the low prices offered. No change has occurred in the quoted prices, but most of the sales of Nevada have been at 11 cents or lower.

Spring-clip, Humboldt, year's staple.....	15 @ —
Northern Humboldt and Mendocino.....	12 @ 13 c
San Joaquin .....	7 @ 9 c
Fall Clip, northern, free .....	6 @ 8 c
Southern Coast .....	6 @ 8 c
Nevada .....	9 @ 12 c

## HOPS.

The hop market was dull this week and prices remained unchanged. The following prices are quoted to growers:

1906 crop .....	1 1/2 @ 3 c
1907 crop .....	4 @ 6 1/2 c
1908 (contracts).....	8 @ 10 c
3 to 5 year contracts .....	10 @ 12 c

## MEAT.

The large dealers have ceased to quote live cattle and sheep "less discount for shrinkage," as heretofore, and now quote prices for "gross weight." This explains the change in the prices given below, which are about half the former prices, while in fact there has been no change in the value of cattle.

Beef: Steers, per lb.....	6 1/2 @ 7 c
Cows .....	5 @ 6 c
Heifers .....	5 @ 6 c
Veal: Large.....	6 @ 8 c
Small .....	8 @ 9 c
Mutton: Wethers .....	8 1/2 @ 9 c
Ewes .....	7 1/2 @ 8 c
Spring lamb.....	10 @ 11 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	4 @ —
No. 2.....	3 1/2 @ —
No. 3.....	3 1/2 @ 3 1/2 c
Cows and Heifers, No. 1.....	3 1/2 @ 3 1/2 c
No. 2.....	3 @ 6 1/2 c
Bulls and Stags.....	3 1/2 @ 4 c
Calves, Light.....	4 1/2 @ —
Medium.....	4 @ —
Heavy .....	3 1/2 @ —
Sheep, Wethers.....	4 1/2 @ —
Ewes .....	4 @ —
Spring Lambs, lb.....	5 1/2 @ —
Hogs, 100 to 200 lbs .....	6 @ —
200 to 300 lbs.....	5 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

IN THIS ISSUE of the PACIFIC RURAL PRESS the Alexander Pipe Co., of 1083 Howard St., San Francisco, advertise for sale 500,000 feet of second-hand pipe, at attractive prices. This company will appreciate your orders, and especially so, if when writing them you will say that you saw the ad. in the PACIFIC RURAL PRESS.

## Special Citrus Market Report.

At the present time the orange market is at its highest point for the season. The last run of navels are selling at exceptionally high prices where the fruit is sound and otherwise up to grade. While the navel season, so far as California shipments are concerned, is over, it will be from two to three weeks before all of the fruit is in the hands of receivers.

There is a very wide range of prices shown in the auction results from day to day. While the better class of fruit has been selling at an average of about \$3.80 per box, the weak and off-bloom stock brings but \$2.50 on the average, and some cars, showing considerable decay, have fallen below the \$2 mark. Navel prices will keep up until all are cleaned out, and every car will bring every dollar that it is worth.

The same might be said of the seedlings, sweets and mikes. When seedlings will sell for \$2.15 to \$2.35 f.o.b. for fancy stock, and fancy sweets run up to \$2.65, it means active markets and a splendid profit for all concerned. St. Michaels almost all go to the auctions, and on account of their small sizes they are much in demand and work off finely with the larger navels and other varieties.

The Valencia market is opening well. When prices for fancy stock started out at \$3 f.o.b. for future delivery, there were some buyers that predicted an early slump and held off. Some of these men are now paying \$3.25 for their fruit, and glad to get it. Shippers are finding some trouble in supplying standard grades at \$2.50, as they state that the fruit is exceptionally fine this year and nearly everything will pack as good as choice. Valencia shipments have commenced in earnest but as yet very few cars have appeared in the auctions, these however selling at prices that seem to justify the asking prices at this end.

Lemons are not doing so well. The absence of very hot weather in the East and Middle West has kept the demand down and prices have not been as high as in the past two years. The crop this year has not developed the usual keeping qualities. Then, too, the crop is at the very least 25 per cent larger than ever produced in California. The foreign crop is also large, and the outlook is not good for very big prices this summer. The very best grades of lemons with a good reputation are commanding from \$2.50 to \$2.75 f.o.b., while the poorer stock is selling from \$2.25 down.

San Francisco has this year developed into one of the very best markets in the country for high-grade oranges and lemons. It has always been customary to regard San Francisco as a dumping ground for the poorer grades of fruit. This year a new experiment was tried, and all of the direct shipments by rail have been of the very best stock. The demand for the poorer grades has been supplied by steamer shipments from San Diego. That San Francisco will hereafter demand only the best is proved by the sale of the entire output of one of the largest Valencia groves in California to merchants in this city. This grove will produce this year upward of 20,000 boxes of high grade Valencias, and the price was very nearly equivalent to \$3 per box f.o.b. California.

Shipments of citrus fruit to date have been over 24,000 cars, of which 3,000 cars are lemons. To the same date last season 22,500 cars had gone forward, of which 2,200 were lemons. There are yet to go forward almost the entire crop of Valencias, between 3000 and 4000 cars, and the remainder of the lemon crop, estimated from 2000 to 3000 cars.

Two new ads. in this issue. One offering galvanized, corrugated iron; the other a second-hand boiler. If you can use either of these, read the ads. and write the advertiser.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

SOILING CROPS AND THE SILO.—By Thomas Shaw, professor of animal husbandry at the University of Minnesota. How to cultivate and harvest crops; how to build and fill a silo; how to use silage. The newest and most valuable of all books for the dairyman. It tells all about growing and feeding all kinds of soiling crops that have been found useful in any part of the United States or Canada—climate and soil to which they are adapted, rotation, sowing, cultivation and feeding. Also about building and filling silos, what to use and how to fill and feed it. Illustrated. 264 pages. 5 by 7 inches. Cloth. \$1.50.

## Whitewash.

Of these recipes the first two are for outside work, the third for inside work:

Take twenty pounds of unslacked lime, three pounds of common salt, and one-half pound of alum. Slake the lime with boiling water until of the consistency of thin cream. To increase the antiseptic properties of the wash, add one-half pint of crude carbolic acid to each bucketful.

To half a bucketful of unslaked lime add two handfuls of common salt and soft soap at the rate of one pound to fifteen gallons of the wash. Slake slowly, stirring all the time. This quantity makes two bucketfuls of very adhesive wash, which is not affected by rain.

Slake lime with water and add sufficient skim-milk to bring it to the consistency of thin cream. To each gallon add one ounce of salt and two of brown sugar dissolved in water. The germicidal value of Nos. 2 and 3 may be increased by adding a quarter of a pound of chloride of lime to every thirty gallons of wash.

## A REAL NOVELTY.

A new roof covering which has recently been patented promises a satisfactory solution to the rather serious question of what to use in place of shingles. Shingles, as all prospective builders have found out, are not only scarce and costly, but seem to grow less satisfactory every year, owing to the tendency to use stumps and waste, instead of the prime lumber formerly used.

This new material, which is called ZO-LIUM, is composed of long tough fibres, solidly matted together, with heavy so-hesive gums into long sheets. Both sides are then tempered or hardened into an impenetrable skin which the atmosphere will not injure.

The most interesting feature of ZO-LIUM is that it has all the appearance on the roof of individual, diamond shaped tiles, each overlapping the one beneath. This effect is secured by laying one saw-tooth edged sheet over another, the points of the upper sheet just touching the upper angles of the lower. The color is a warm Indian red, adjoining tiles varying slightly in tone.

Full information regarding this important invention can be obtained of J. A. & W. Bird & Co., Boston, Mass., who are the patentees and makers.

## PIPE

500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft. black.	Price per 100 feet dipped.
3/4 inch	.84 lb.	2.25	3.25
1 " "	1.12 " "	3.35	4.35
1 1/4 " "	1.67 " "	4.00	5.00
1 1/2 " "	2.24 " "	5.65	6.90
2 " "	2.68 " "	6.50	8.00
2 1/2 " "	3.61 " "	9.00	11.00
3 " "	5.74 " "	15.00	17.50
3 1/2 " "	7.54 " "	18.25	21.25
4 " "	10.66 " "	28.50	32.50
5 " "	14.50 " "	41.00	46.00
6 " "	18.76 " "	57.00	63.00

## ALEXANDER PIPE CO.

1083 Howard St., San Francisco, Cal.

## FOR SALE

70 Horse Power Brownell Boiler in good condition. For sale only because enlarging plant.

1308 MERCHANTS EXCHANGE BDG.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Beckman, Geo. V.....	378
Bird & Co., J. A. & W.....	377
Blake, Moffitt & Towne.....	384
Breeders' Directory .....	377, 378
Byxbee, John F.....	383
Croley, George H.....	377
Clark Wise & Co.....	—
Cutter Laboratory, The.....	379
De Laval Dairy Supply Co.....	375
Deming Co., The.....	—
Dewey, Strong & Co.....	378
Dietz Company, R. E.....	377
Disbrow, F. H.....	384
Doak Gas Engine Co.....	384
Driver, Aber & Co.....	384
Driver, E. S.....	378
Fleming & Sons Mfg. Co.....	—
Fresno Agricultural Works.....	383
Galloway, A. J.....	384
German Kali Works.....	—
Hausam, Wm.....	377
Hart, Ed.....	377
Howard Cattle Co.....	378
International Harvester Co.....	—
Jackson & Co., T. W.....	384
Lawrence-Williams Co.....	378
Lilly Co., Chas. H.....	382
Lister, Henry B.....	383
Lynch, John.....	378
Meacham, Frank A.....	378
Mountain Copper Co.....	384
National Wood Pipe Co.....	384
Nitrate Agencies Co.....	379
Oakland Poultry Yards.....	377
Pasteur Vaccine Co.....	379
Pear Blight Remedy Co.....	384
Roeding, Geo. C.....	378
San Francisco Sulphur Co.....	379
Santa Teresa Poultry Farm.....	377
Sharples Separator Co.....	376
Silva & Bergtholdt Co.....	384
Simmons Hardware Co.....	—
Smith, Francis.....	384
Sorby Vaccine Co. (Inc.).....	379
Southern Pacific Railway.....	384
Standard Oil Co.....	377, 381
Stowe, C. A.....	378
Sullivan, W.....	377
Teague, R. M.....	384
Temple Pump Co.....	378
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Van Der Naillen, A.....	383
Vermont Farm Machine Co.....	376
Wagner, J. B.....	384
Waite, Thos.....	378
Woodin & Little.....	—

## Palo Alto—Stanford University

For Sale—40 acres with good improvements which will prove a profitable investment as a Summer and Winter resort or a gentleman's home. Only four and one-half miles out in low foothills. Fine views. Good roads. Write for circular.

JOHN F. BYXBEE,

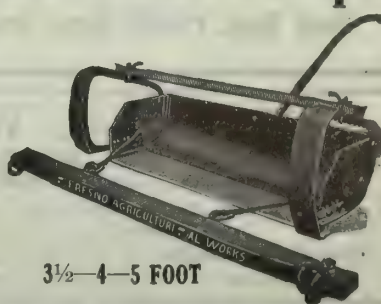
Palo Alto, Santa Clara County, California.

School of Practical, Civil, Mechanical  
Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.

5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Hutton and Chlorination  
Assay, \$25; Blowpipe Assay, \$10. Full Course of  
Assaying. Established in 1864. Send for circular

## The Fresno Scraper



3 1/2—4—5 FOOT

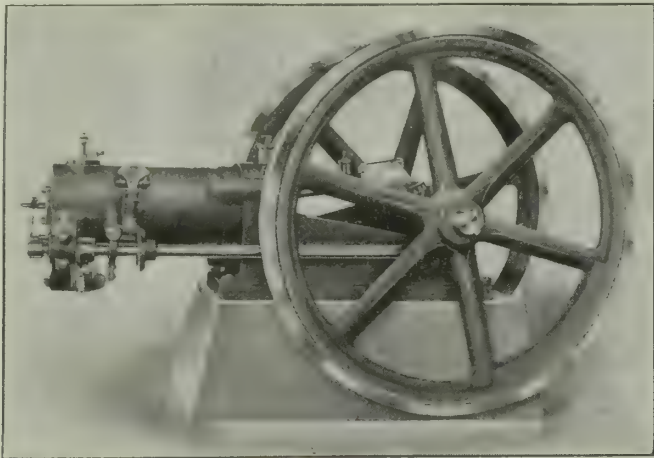
Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO, CALIFORNIA.



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

June 16, 22 to 28, inc.

July 2, 3, 6, 7, 8, 28, 29.

August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	. . .	\$ 60.00
Council Bluffs	. . .	60.00
Kansas City	. . .	60.00
Chicago	. . .	72.50
St. Louis	. . .	67.50
New Orleans	. . .	67.50
Washington	. . .	107.50
Philadelphia	. . .	108.50
New York	. . .	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00 593 pages Well Illustrated. \$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded **WOOD PIPE** Made from California Redwood  
Patent Continuous Selected Puget Sound Yellow Fir.  
404 Equitable Savings Bnk. Bdg. 318 Market St., San Francisco  
Los Angeles  
Olympia, Washington Dooly Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

The Mountain Copper Company, Ltd.

150 PINE STREET, SAN FRANCISCO.

## FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.



## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

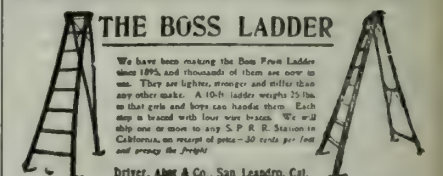
Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.



## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 25.

SAN FRANCISCO, SATURDAY, JUNE 20, 1908.

Thirty-eighth Year.

## California Peaches.

Until the great prune planting passion of a decade ago the peach was the greatest deciduous fruit of California, judged by the total number of trees in service. When the boom impression went forth that cured prunes could be put into sacks more cheaply than wheat, people took to planting prune orchards by the section all through the wheat districts of the great valley, and boom planters even carried the trees where no one would think of planting wheat—cutting up shallow-clay upland sheep pastures and even yucca sand wastes into prune-growing colonies. Under such planting propositions it is little wonder our nurseries sold prune trees for twice the normal prices and still could not fill the demand. Figures of prune trees in orchard rushed far beyond the peach figures. This overplanting of prunes naturally brought loss and disappointment, and interest turned again to peach planting, so that now there is little difference between the peach and the prune. The figures in 1906 were, peach trees in orchard, 7,405,740; prune trees in orchard, 8,305,856; apparently 900,000 more prunes than peaches. But during the last three years the peach has had the call, and nurseries have gone shy on peach trees, and the race is on, neck and neck, with our money all on the peach. The figures of peach products delight us. Take the last good year, 1905: Carloads of fresh peaches sent east, 1946; cases of canned peaches, 896,176; tons of dried peaches, 18,000. The gross value of this product of a year can be placed at about twenty million dollars. We therefore hold the peach to be great.

It naturally follows that the peach has a wide range in California, and finds many districts suited to it in the several ways in which the trade delights in it. As compared with the apricot, which we considered last week, the peach thrives in the sheltered valleys of the district north of the bay and west of the Coast range, in which the apricot is of little commercial moment; it yields those peerlessly beautiful "mountain peaches" from one to two thousand feet higher in the Sierra foothills than the apricot can be trusted; it goes everywhere in the lower foothills and over

the great valleys that the apricot will go, and beyond it also, because it is less restless in the spring and escapes

The peach delights in a deep free loam; neither its own seedling root nor the almond seedling, upon both



THE LOVELL—A CALIFORNIA SEEDLING.



PHILLIPS' CLING—A CALIFORNIA SEEDLING.

some frosts which injure apricots. Counted from trees in orchard the peach is about three times as great as the apricot.

of which roots it is largely grown, have much tolerance for heavy clay loams, which are apt to be waterlogged in regions of heavy rainfall.

In a deep loam, even if verging on the sandy type, the almond will descend twenty-five feet or more, seeking moisture, and the peach root also will show great penetration, and will carry a top of great fruiting longevity if the grower will do justice to the tree by regular shortening of the growth and forcing out new wood, upon which alone fruit is found. Not only does regular pruning do this, but it promotes longevity and vigor in the framework of the tree upon which these bearing shoots come. Left unpruned, the peach soon becomes bark-bound, and the bark itself becomes hardened and brittle. Lower shoots are apt to give out, and the tree becomes an umbrella of foliage and fruit held aloft by bare branches bark-burned by the sun, invaded by borers, exuding gum, covered with moss and lichens—a picture of distress and unprofitability because its owner does not give the tree a chance to re-invigorate itself with large fresh leaves from the new wood which alone can carry them.

There has been much discussion about how long a decently treated peach tree, on good soil and always with enough and not too much soil moisture, will profitably endure. No definite answer can be given because there are so many degrees of favor and disfavor in the natural and cultural conditions which surround the tree.

It may be taken as an approximation to the truth to say that twelve years can be safely given as the minimum longevity of a well-favored peach tree in California, and there are many profitable acres of peach trees which are twice, and a few are thrice, that age. We have, in fact, seen some peach trees which have gone along in thrift until they have a bark below which looks like that of a forest tree, and a framework of main branches sound and stalwart throughout because they have never been allowed to sunburn until protected by their own roughness, and have never been pruned with an axe, and never lost a large limb nor had a wound into which decay could penetrate and descend to the root. When the peach has a fair chance in its aerial parts and is in a soil which favors health of the roots, it shows itself to be very long lived in California. Where trees break to pieces and show decay wounds, they are in bad places or have suffered through natural stress or cultural error.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., June 16, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	...	35.83	45.73
Red Bluff.....	...	20.08	24.89
Sacramento.....	...	12.20	20.09
Mt. Tamalpais.....	...	24.65	22.80
San Francisco.....	...	17.35	22.26
San Jose.....	...	11.68	22.19
Fresno.....	...	7.64	9.68
Independence.....	...	5.29	9.53
San Luis Obispo.....	...	18.06	20.51
Los Angeles.....	...	11.72	15.64
San Diego.....	...	8.55	10.01

## The Week.

We hesitate to say it, because if the boomers get hold of it they will work it to death, but the fact seems to be that this year's barley crop has been made upon the air. It is in this way. From an agricultural point of view, when you stoop to pluck a head of grain in the usual way and find that instead of breaking the straw the whole stool lifts readily from the surface of the earth, the plant has no roots. The common horse sense of it seems to be quite the same, because when the animal droops his head, takes a grip at a few stalks and gives the usual twist to sever them, he finds that his head swings free in the air with the whole barley plant at the lower end of it. His ears fly forward in surprise: evidently the fool plant does not know enough to hang on to itself, or else, aha, it has no roots to hang on with! There is but one conclusion from such tests: the barley crop is growing in and upon the atmosphere.

The California air has always been credited with incomparable salubrity and is believed to literally bear healing on its wings, but its nutritive properties have evidently not been sufficiently exploited. The fact is that we are going to have a fair barley crop, when in April it looked like thirty cents per acre. It is very short in the straw, but the combined harvester can shave off ten or twelve sacks to the acre without lathering the field. It is good barley, too, possibly only a few pounds per sack below the fullest weight of the plumpest grain. It will make several millions of dollars difference in the agricultural output, and the growers are surprised. They can point to fields which have never been decently wet since seeding, making a crop which will pay something. This seems to be the case in many parts of central and northern California to which the cool ocean winds and fogs have had such free access during the last two months. As we have previously stated, the sort of weather we have had so much of is not good for the development of fruits, but it has been fine for prolonging pasturage, for postponing the yellowing of the plains and upland

slopes, and for carrying cereal plants to seeding which would have been impossible under dry heat. It has enlarged the horizon of the dry-farming movement. But all air will not do it: it requires California air, and air of the right sort, too.

The representatives of one great political party are hard at work this week in Chicago trying to declare strongly for tariff revision, which most of them do not want, and the representatives of another great old party will soon be tackling the same job at Denver. While these declarations are pending California producers are very properly getting together to make it sure that, whatever revision may be undertaken will be of the right sort from our industrial point of view. Congressman James C. Needham has written to the California Promotion Committee, calling attention to the advisability of the producers of California taking some action to protect their interests at the coming meetings of the ways and means committee of Congress. In pursuance of this suggestion the committee has sent out an invitation to all organizations and individual producers to meet in conference at the headquarters of the committee, in the California building, Union Square, San Francisco, on July 16. It is of vital importance that all of the industries of the State which are affected by the tariff, or which may be affected by it, be represented at this meeting, which it is expected will fully occupy two days.

Much regret is expressed by our local boards of trade and development societies in the announcement that the soil investigations and researches pursued by the Bureau of Soils of the U. S. Department of Agriculture in this State are to be discontinued. No very clear announcement of the reasons for this change of plans is given, and much disappointment is expressed by those who regarded the researches and the resultant maps and reports as of great advantage in making our soils and their possibilities more widely known. We have always taken the ground that in this great and varied State we would be greatly aided by the work of all the Government and State experts who could be maintained, and that though methods were not always above reproach, the publicity resulting was fine, and valuable in attracting much wider attention to California's opportunities for enlistment and investment. We are sorry it is not to go on.

Sonoma county is continuing to do good things in promotion of the marketing of local products. The Gold Ridge district of the western part of the county has chosen Mr. E. H. Madge, a prominent fruit grower, to manage their business in the "Free Market" now open in this city, and Mr. Madge has already entered upon the discharge of his duties. Fruits, garden truck of all kinds, poultry and eggs and a varied assortment of things will be sent by the Gold Ridge Association to be disposed of at the Free Market. Meantime the small fruit growers of Sebastopol, adjacent to the Gold Ridge district, have fully organized and appointed John J. Alves, William Hotle and Frank Plag, well known berry growers, a committee to handle the proposed pooling of the berry crop. A controlling interest in the entire crop is in the hands of the committee, and they believe they can swing bidders into line. The California Fruit Canners' Association, which handled the crop in previous years, decided they would keep out of their market this season. The declination to buy left the growers in a tight place until they organized, and now they claim to have the upper hand. It is not exactly a proverb, but it is nevertheless true, that trade helps those who help themselves.

The whole State ought to be full of co-operative efforts like those Sonoma county is developing.

Our readers ought to have some observations for us as to how pear blight affects different varieties in this State. It is true that the Bartlett is overwhelmingly prevalent, but there are others even in California. What have you noticed of the blight upon them? Colorado has had a serious run of blight and has been watching out. The Denver Field and Farm says that the Seckel will bear a heavy crop and show no dead twigs while varieties all around it may be badly blighted. In degree of resistance the varieties stand in the following order: Seckel, Kieffer, Tyson, Garber, Angouleme, and Flemish Beauty. Idaho and Clapp's Favorite, Bartlett and Clairgeau also became badly affected. The resistance of the varieties first named will avail us little, because none of them can be substituted for the Bartlett.

There is another thing from Colorado that is interesting. They seem to do more in warming all out-of-doors with California firepots than we do ourselves. The Field and Farm, speaking of these firepots, says: "The pot is made of ordinary stove-pipe sheet iron, with a draught lid of the same material, used to regulate the heat. It stands ten inches high and tapers from eight inches in circumference at the top to seven inches at the base. One gallon of crude oil is used in each pot, and one filling will last from midnight until morning. A test was made at Grand Junction by placing a pot in the middle of four fruit trees set 32 feet apart in a square. The temperature was 24 degrees and within ten minutes the mercury rose to 39 degrees, holding this temperature so long as the smudge was kept burning." That is certainly going some in frost fighting. We would like to know where the thermometer was and whether there was another thermometer out of the sphere of influence to show how the general temperature acted during the same period. A lift of 15 degrees is about twice as much as we ever heard claimed in this State, and far more than is usually necessary.

Pacific Coast State Fairs are now arranged in a circuit to include the State Fairs and other leading fairs of California, Oregon, Washington and Idaho. Dates have been so arranged as to make it convenient for exhibitors to go from one fair to another and thus, after getting their livestock or other displays in order, take in the entire circuit. This arrangement is going to be a great help to all western fairs. Already the California State Fair for 1908, which will open at Sacramento August 29, is promised some attractive features in the livestock department that otherwise it could hardly hope to secure. With these itinerant show herds and our own local displays there ought to be a great stock exposition this fall, and preparations are being made for it.

The agitation for the establishment of agricultural courses in our high schools continues with much interest. The Kings County Fruit Growers' Association recently had the subject under discussion and listened to an address by Mr. J. M. Hahn, principal of the Lemoore high school, who favored the proposition strongly. After discussion, a committee consisting of B. V. Sharp, C. M. Blowers and A. M. Stone was appointed to take steps to have a course in agriculture installed in the high schools of the county. That is the way to go at it. The farmers can get it by working for it. Teachers are usually awake to the desirability of having such an interesting line of teaching to do, and will prepare for it as best they can.



The trouble often is that the farmers discount the proposition and say they want their children taught something else. When such a position is taken one cannot expect to do much with a local school board. Fortunately, this attitude is less frequent than formerly.

## Queries and Replies.

### Wheat and Apples.

To the Editor: In what section of California can I get the best wheat land for the minimum initial investment? What would I have to pay for this land and on what terms? Would it be possible to hire your plowing, drilling, reaping and thrashing done? If not all, what operations must be done and what machines will be necessary? Would it be possible to grow apples or pears on wheat land?—Correspondent, Oregon.

You can get land which will grow wheat in all the valleys of California. The price will not depend upon the wheat which it will grow, but upon whether anything else can be done with it, and the general desirability of its environment. You can hire everything done in wheat growing as long as your money lasts, which will not be long unless you have a good deal to start with.

The Sacramento Valley is our great wheat producing region at the present time, although wheat is also grown, to a less extent than formerly, in the San Joaquin Valley. The great valley is not a distinctly good apple region, although early varieties are sometimes very profitable. Late and long-keeping apples are grown nearer the coast, and in the mountain valleys, where not much wheat is undertaken. Pears, on the other hand, succeed well on valley lands, but the planting has been largely stopped on account of the destruction by the pear blight.

We would not for a moment think of undertaking such an enterprise as you propose on the basis of correspondence. You should visit the country and look carefully into all conditions which are likely to influence results. Any cost incurred in this way would be many times compensated by lessened risk in such venture as you should conclude to undertake.

### Grape Pomace as a Fertilizer.

To the Editor: I would like to find out whether the pomace from the wineries is worth the hauling to apply to vineyards. I can get it for the hauling, and would like to know if it would be of benefit to do so.—Beginner, Fresno.

Winery pomace is of some value, providing it is not applied in too great quantities, and the moisture of the soil is such that it will decay readily. It is safest to apply to a heavy soil, for on a light soil this coarse material may increase its liability to dry out, and under such conditions it might do more harm than good. The fertilizing value is on the whole rather low, and whether you can handle it to advantage depends altogether on the cost of hauling, and that depends, of course, upon distance and other things. While, therefore, theoretically it is of some advantage, we are not aware of anyone who has made much use of it in practice. We would like to hear from readers who have tried it, with some accounts of the soils upon which they have used it.

### Crops With a But.

To the Editor: What can I do with any of the following plants in California: Hemp, ramie, jute, cotton, and flax? Are they a good basis for investment?—Reader, Stockton.

Flax is now not largely grown, because low prices have discouraged the production of seed during recent years. Conditions are now more promising. Flax growing for fiber is still under

experimentation. Jute cannot be grown at all, because it is a strictly tropical plant, for which we have not suitable conditions in California. Cotton will grow excellently all over the interior valley, but there is no labor supply for picking cotton in this State, except on the basis of an experiment, which is now projected in the Imperial Valley, where Mexican families are to be colonized on cotton plantations. This may furnish the necessary labor supply, as it does in some parts of Texas, but that has to be demonstrated. Ramie grows admirably, but the market for ramie is still conditioned upon the success of processes and machines for the cleaning and preparation of the fiber. What little hemp is grown at the present is on reclaimed lands adjacent to the Sacramento river. We are not sure about its financial standing. All the plants which you mention are either unsuited to California or still in the experimental stage. For this reason we cannot give you definite conclusions about them.

### The Business of Orange Growing.

To the Editor: Can you tell me about the Navel crop for the season just passed? Many conflicting reports are current. Some say the crop hardly paid expenses; others that it averaged over \$200 to the acre. Why do Valencias yield better returns than Navels?—Investor, Fresno County.

The Navel crop during the current year has been quite profitable part of the time, and very low priced at other parts. It is probably also true that some growers hardly pay expenses and others make over \$200 to the acre. Valencias have often paid better than Navels, because the production of oranges so late in the season has been small, but the recent large planting of Valencias is likely to overcome this difference. The practice of cold-storing oranges, which is now beginning briskly, may not help the Valencia any.

Orange growing, like any other business, is profitable or otherwise according to the situation in which it is undertaken, and the skill and business sense with which it is conducted. There is no general rule about it, any more than there is in any other line of production or trade. It would probably be true to say that it depends as much upon the man himself as upon anything which surrounds him.

### Bagging Grapes—Not for California.

To the Editor: Please tell me where I can purchase paper bags for bagging or sacking grapes? What size bag is required for Muscat grapes? I wish to put on the bags when grapes first set, so they will grow in the bags. What ought the bags to cost?—New Comer, Monterey county.

Sacking grapes is never practiced in California. At the East what is known as a 1 lb. paper bag is used. As for sizes to cover California grapes, no definite prescription can be given. The best way to proceed would be to get a few bags of different sizes from your groceryman and try an experiment for yourself. You will have to use flour sacks to hold some California clusters. We suppose you know that sacking grapes at the East is to escape the black rot; as this disease does not occur in California, we have not that need for sacking.

### Beaded Root Knot.

To the Editor: Enclosed please find root from a peach tree planted in 1907. It did not do well last year, but lived until about two weeks ago. I have several such trees. All are not dead yet, but the leaves begin to wither. The trees were inspected by the county inspector before I bought them, and pronounced free from disease.—Planter, Fresno County.

We find in the specimens which you send, eggs which seem to be those of the nematodes, or thread

worms, which cause swellings upon the roots of certain fruit trees, and other plants as well. Your specimen is dried up badly and is, therefore, not a thoroughly good one for examination, but so far as we can judge, your trees have been troubled with the disease known as "beaded root knot." We would not be willing to stand for this determination without having better specimens, and if you can find roots which are not yet dead, with these swellings upon them, we would be glad to make further examination. It is possible, of course, that these worms invaded the roots after the tree was planted, and they might not have been upon it at the time of the examination by the County Inspector which you mention.

### Late Potatoes with Irrigation.

To the Editor: I am in the south end of Tulare county, and have sandy, chocolate colored soil several feet deep, disintegrated granite, I am told. I have water for irrigation. I want to raise a crop of fall potatoes and would like to know how to prepare the soil, what variety to plant, and when, etc.—New Comer, Tulare County.

Potatoes sometimes make an excellent summer crop on such lands, and are sometimes grown after barley if the moisture is all right. You may succeed very well by growing the Burbank potato, thoroughly irrigating the land before plowing, then plant and get your first growth without irrigation, starting the field flat and furrowing a little between the rows when the ground seems to be becoming a little dry; but do not wait too long, because a second growth is liable to be started by watering after the plant is checked by drying, and that would be undesirable.

### Vetches on the Upper Coast.

To the Editor: Enclosed please find two kinds of vetches, one with broad leaves and the other with narrow ones. Please inform me of the names and properties of each and the one best adapted for hay purposes.—Farmer, Fort Bragg.

Of the two plants the broad-leaved one is the common vetch (*Vicia sativa*); it is one of the best species for green-manuring and for forage purposes. The narrow-leaved one is the tare (*Vicia angustifolia*); this has grown well at Berkeley and at other points where it has been tried as a green-manure plant. The vetches resemble each other closely in their suitability for forage and hay purposes, and which is best with you will depend upon the growth, ease of curing and other things which must be determined by local trial.

### Henrietta Cling and Root Knot.

To the Editor: Is it a fact that the Levi Late (Henrietta) peach trees are more subject to root knot than other peach trees? Some nurserymen tell me that they are, and I would like to have your opinion on the subject. If it is a fact, why is it so?—C. F. B., Ceres.

We have made no such observation, nor have we heard of it before. It could only be established by accurate test or by the conclusions from wide observation. If the fact is thus established it will be time enough to seek explanation. We would like to have all observations our readers have made.

### Roots for the Orange.

To the Editor: Is the grapefruit root held in favor at the present time in budding for Navels?—Planter, Imperial County.

The grapefruit root is largely used as a stock for the Navel orange, although the sweet orange seedling and the sour, or Florida stock, are more freely used than the grapefruit. The last mentioned is the orange of Seville, or bitter orange, of which plenty of seed can now be obtained in California.



## Horticulture.

### IRRIGATION AND FRUIT GROWING.

The relation of irrigation to fruit growing and the relation of vested water rights to the extension of fruit industries on lands which are not now entitled to have water from flowing streams are both subjects of particular pertinence to California. We acknowledge that we do not know how far these matters are capable of improvement under existing laws or by the enactment of new laws which shall conserve existing rights and attain greater development, but still the subject is a pertinent one for general consideration and all facts having relation thereto should be helpful in the way of increasing general information.

In a paper recently prepared for the Oregon Horticultural Society by Mr. John H. Lewis of Salem, state engineer of Oregon, there are facts and claims for Oregon which may have some suggestion for our own situation and we take the following therefrom:

**Irrigation and Rainfall.**—In Rogue River valley, the difference between fruit growing without water and with water for irrigation purposes is the difference between failure and success. There appears to be considerable difference of opinion among the fruit growers in Hood River valley as to whether better results can be secured with or without irrigation. For berries and small fruits irrigation, however, is admitted to be necessary. If the orchards of Hood River valley are benefited by reasonable irrigation, it would appear that the Willamette valley orchards in certain cases might also be benefited by the artificial application of a limited quantity of water, for statistics show the rainfall of these two valleys to be about the same. The average annual precipitation at Hood River, as furnished by the government weather bureau, is 38.2 inches, and that for Corvallis is but four inches in excess of this amount. The average precipitation at Hood River during June, July and August is 1.44 inches, while that for the same period at Corvallis is but 1.8 inches.

It will doubtless surprise many to know that the average precipitation during this same period at Roseburg, Ashland, Pendleton, Walla Walla, La Grande, Baker City, and Joseph is in excess of that for Corvallis, in the center of the Willamette Valley. Even at Phoenix, Ariz., the rainfall during the growing months of June, July and August is greater than that at Corvallis. At Denver, Col.; Cheyenne, Wyo.; and Santa Fe, N. M., the rainfall is respectfully 2.3, 2.7 and 3.7 times that for the same period at Corvallis. In the absence of definite scientific information from actual experiments as to the benefits of irrigation in the Willamette valley, it is difficult to understand how the average citizen can be so positive in his statement that irrigation is not necessary, when in other sections having two and four times the amount of summer rainfall the need is admitted.

The total amount of rainfall is not of so much importance in the growing of crops as in the distribution. It is true that the surplus spring rains can be conserved by proper methods of cultivation, but this method has its limitations. When the ground moisture falls below a certain point, plant growth is checked. Cultivation, together with reasonable irrigation at the proper time, will probably produce the best results.

It would appear, therefore, that the fruit growers of this State can not help but be interested in the securing of definite scientific information as to how much water is necessary for different crops, and at what time it should be applied for securing the best results. The foundation in law for titles to water is, of course, the basis for all irrigation development.

**Ownership of Water.**—Water is not inexhaustible, like the air we breathe. Our streams are becoming more valuable each day with the increasing use of water for domestic, power and irrigation purposes. Having value, rights to water must be protected by criminal law, the same as other valuable property, or the water will be stolen. As water can not be branded, or fenced, like other

property, laws governing its use are necessarily more complicated. Yet water can be measured as accurately as land, and mapped as intelligently, and the rights can not be established for more water than flows in each stream. To this day in Oregon we have no system of titles to water. Our great water resources have been left to the tender mercies of the mob, to be grabbed at will, without regard to the interests of the public. Disputes are settled in the courts, and the decrees, when rendered, are of no practical effect, because they are binding only on the parties to the suit and can be enforced only by subsequent suits or injunctions. New diversions can be made without considering the rights of lower appropriators, and these pioneer users must keep a lawyer almost constantly employed to protect their water supply. The many reservoir sites along our stream channels can not be used for conserving the winter flood waters, where the natural stream channel must be used to convey such water to the place of use, because our state grants no protection to this class of investments. It has not the necessary administrative machinery to prevent stored water from being stolen through the many ditches which perhaps divert water from the stream above the place of intended use. The present law does not provide for a reliable record of vested rights to the use of water. It is, therefore, impossible to ascertain whether any unappropriated waters remain in our streams to be applied to new uses. Oregon has not assumed control of its public waters by legislation similar to that of Wyoming, Idaho and other States. It is, therefore, impossible for an investor to secure definite title in advance of the construction of proposed works.

Under such conditions, how can the irrigator feel sure that he will get the necessary water when needed. The development of the State is greatly handicapped by the lack of a system of titles to water as definite as our system of titles to land.

**The Present Distribution.**—Some idea of the value of an unfailing supply of water to the fruit grower may be gained from the experience of the Walla Walla district in Oregon, where it is reported that five hundred thousand dollars' worth of fruit was shipped during 1907 from about two thousand acres. The low water flow of the stream which produced this crop, in addition to irrigating an equal tract of hay land not included in the above figures, was about 100 cubic feet per second. The gross income from one second-foot, of  $7\frac{1}{2}$  gallons per second, was therefore \$5,000 for one year. Without water in this section, no fruit can be grown. Many people along the Walla Walla river believe that water is free and can be diverted at will from the stream. Ditches have been gradually enlarged and the irrigated area extended so that at present there is not water enough for all. Litigation has been in progress for many years. Instead of their water rights being definitely settled, as one would naturally suppose, this district is now before the courts with about twenty-five lawyers to protect their rights. The confusion will grow greater each year until such time as the State assumes control of the distribution of water from its streams. This chaotic condition is typical of that existing along many streams in the arid portion of the State, and it discourages development. Constant litigation is an unnecessary drain on irrigated agriculture.

There are a number of ditches in this State which carry a larger volume than the low water flow of the Walla Walla river. The owners of these ditches, as well as water users under them, would not attempt to go through a single irrigation season without the employment of a ditch rider to control the diversions from the main canal, keeping each headgate under lock and key. You rarely hear of litigation among water users under a ditch, because their relative rights are definitely known and recorded. The litigation is always between ditches which divert water from the public canals—the rivers—where the relative right are unknown. The State can not employ water policemen or water masters to distribute the water until a definite record of all rights is provided. It is only a question of time when this must be done. The longer we delay in setting our house to rights the more difficult will be the task.

**What Would a Present Enterprise Come Up Against?**—If an irrigation company was formed

to divert the surplus waters of the upper Rogue river onto the fertile valley near Medford, it would doubtless be confronted with threatened litigation by the power interests at Gold Ray. If this company has any rights, they should be definitely recorded and protected by the State. If they have not a right to the entire flow of Rogue river, the public is entitled to know this fact.

It can perhaps be asked with propriety at this point why it is necessary for representatives of this company to appear at each session of the legislature to oppose the enactment of beneficial water legislation. Perhaps their right is not vested to all the water of this stream and they do not desire any legislation which will make it possible for the public to ascertain this fact. Under our present loose laws, this company practically owns Rogue river.

If one-tenth of the low-water flow of the Rogue river at Gold Ray was unencumbered, and definite title could be obtained from the State, capital would not hesitate to build a canal which would irrigate about twenty square miles of land or about half the irrigable area of the entire valley. The development of many other sections of the State is similarly retarded through lack of some method of definitely acquiring rights to unused water prior to construction of works.

## Citrus Fruits.

### MR. POWELL'S WORK IN HANDLING ORANGES.

One of the most popular topics presented at the Riverside Fruit Growers' convention was the report submitted by Mr. G. Harold Powell of the U. S. Department of Agriculture of his work during the current year in determining factors which make for success in commercial handling of oranges. Mr. Powell acknowledges that he has found a most gratifying spirit of co-operation among southern California citrus growers which has made his great work possible and we may add that he has found also a warm appreciation to which he is entitled by the masterly way in which he has done his work. Some of the significant points which Mr. Powell made in his Riverside address are as follows:

**The Handling of Oranges in 1908.**—The Bureau of Plant Industry since 1904 has been investigating the decay of oranges while in transit from California. It has shown by extensive shipping experiments and by tests of other kinds that the decay is caused by a blue-mold fungus which usually gains entrance to the fruit through an injury of some kind produced in handling the oranges in the groves and packing houses; that the decay is largely preventable; that a sound orange shipped quickly after picking and packing seldom develops decay; that the decay may be retarded temporarily in injured oranges if they are refrigerated quickly after picking and packing in warm weather, and that the fruit that keeps the best after it reaches the market is the fruit that is handled the most carefully in California.

It appears to be quite generally accepted by leading growers and shippers that the decay of oranges can be prevented by handling the fruit with enough care from the tree to the car to preserve the natural resistance which the orange has when it is severed from the tree; and by shipping the fruit quickly after picking and packing. It is probably not overstating the facts in saying that the methods of handling the orange in the field and packing house have been radically modified since 1904 with these ends in view. More effective progress has been made in this direction in 1908 than in the years preceding.

**The Changes in Handling the Orange in 1908.**—The changes of 1908 that have had a far-reaching effect on the industry have been (1) an effort to harvest the fruit by labor controlled by associations in order to avoid the uneven physical condition that formerly characterized the fruit when harvested by the growers; (2) the more careful handling of the fruit by growers and shippers not belonging to associations; (3) the substitution of



day-paid labor under competent supervision for box-paid labor, especially in the field; (4) the construction and remodeling of packing houses with machinery that handles the fruit carefully; (5) the cleaner condition of packing houses with special reference to decayed oranges; (6) the quick shipment of fruit after picking and packing; and (7) the adoption of better methods of grading and packing by a number of individuals.

**The Market Holding Tests.**—In the market holding tests of 1908 the fruit has been handled in different ways in California and the decay has been determined on the arrival of the fruit in New York, and at the end of each succeeding week after being stored at a temperature varying from 50 to 70 degrees. The decay is invariably least in the carefully handled fruit and greatest in the fruit that is more or less mechanically injured.

**Keeping Quality of Florida Oranges.**—The most striking effect of the method of handling the orange in relation to its keeping quality has been brought out in the investigation of Florida oranges by the Bureau of Plant Industry in 1908. The Florida orange has a thin skin and is easily bruised. The climate is warm and moist, making ideal conditions for the growth of the decay fungus. The labor conditions, and the conditions surrounding the culture and marketing of Florida oranges are such that the fruit is subjected to rough handling. The packing house equipment is of the crudest type and is one of the principal causes of the mechanical injury of the fruit.

Many of the growers and shippers of Florida, in common with those of California, have been convinced that it is natural for oranges to rot; that the decay is apparently one of the penalties that is inflicted on those who engage in the citrus fruit business. Many of them, in common with growers and shippers in California, have attributed the decay to the influence of the soil, of the fertilizer, of the location of the groves, or the section of the state in which the fruit is grown, while most of them believed that the conditions surrounding the fruit while in transit to market contributed largely to the decay.

It would not be safe to say that some weight should not be given to these explanations, as the investigation of the Bureau of Plant Industry has not extended beyond two seasons. The Florida orange, however, is acting in a manner similar to the California orange when it is handled in a similar manner.

This data gathered from another orange producing region indicate that the natural keeping quality of the fruit must not be injured in handling if the orange is to have good shipping and keeping quality. An orange that is handled in this manner brings the highest satisfaction to the producer, the shipper, and to the consumer. An orange that is made susceptible to decay by poor picking or poor packing is unsatisfactory to the producer or shipper, as it may rot while in transit to market. Or if it reaches the market in apparently sound condition and is likely to rot afterwards the dealer has to charge an excessive price as a protection against the loss of the oranges that may rot before the fruit can be sold. It is a fraud on the consumer to sell him oranges that are apparently sound, but which, as a result of the handling of the fruit received in the groves and packing houses, are likely to rot before they can be used.

**The Greatness of the Orange.**—There are few fruits that are naturally capable of entering more widely into commerce than the citrus fruits of California. It is a wise policy and in the broadest interest of the permanent prosperity of the industry that every effort be made by growers and shippers and by their associations and by the transportation companies to handle the fruit with enough care so that it may be distributed to the most distant markets of the world. It has been the aim of the Bureau of Plant Industry to co-operate with the various interests connected with the citrus fruit industry in working out the principles by which the products of the groves and orchards may be distributed in sound, wholesome condition over the widest geographical areas.

#### A TALK ON THE TARIFF.

Mr. A. G. Kendall of Los Angeles, secretary of the Citrus Protective League, writes to the Fruit Grower about the local dangers of tariff-revision,

to which we have several times alluded. Mr. Kendall says:

It seems to me that with the experience of a few years ago when those who hoisted banners for free silver in California, afterward found they meant gold instead of silver, that the press of the state, which is representative of the fruit interests largely, have been making a great mistake in shouting for tariff revision, when if we need it at all it is for the upward instead of a downward tendency. Some of the papers, at least in this state, seem to have lost sight of the fact that at the settlement of the Spanish war, Cuba, Porto Rico, and other of the Islands have been made habitable for our people, their energy and capital, and that as a result of that war millions of dollars of American money have been invested in those places in growing products that are in direct competition with the fruit and produce growers of California. The labor conditions of our competitors, coupled with the fact that their products can be landed in the principal markets of the country in two or three days by cheap ocean freight, while ours must be transported by railway from 2,000 to 3,500 miles at high cost for freight and twelve to fifteen days in time, make them exceedingly dangerous.

Isn't it about time we were taking an account of stock and seeing what interest we have that can be sacrificed in tariff revision, downward scale, that so much of our country now seems to be committed to? In my judgment when the fruit and produce interests of this state are consulted and their votes asked to continue this tariff craze, it will be found that some of our newspapers are as premature in 1908 as they were in 1896.

I am in touch with 1,600 or 1,700 fruit and produce associations and prominent growers in the country and from letters received from them, in my opinion, there is going to be something doing when the tariff is revised if the farmers' schedule is neglected, or sacrificed in the interest of foreign investment, half-clad and half-fed labor.

It is immaterial to fruit and produce growers what the concentration of capital and protecting patents have done for the manufacturer of the East, we know there can be no consolidation or patents issued that will relieve us of competition with one another, and the common enemy from abroad who ships his products to our markets that belong to the American farmer must be met by a tariff that protects or we must go out of business.

## The Vineyard.

### WHAT WINE GRAPES TO PLANT IN CALIFORNIA.

Readers who are thinking of extending their acreage of wine grapes during the next planting season should be studying up the matter at this time of year and not leave it to a rush for stock just when they need to use it. In a recent University Bulletin, Mr. F. T. Bioletti discusses policies and gives advice as follows:

The question is often asked: "What are the best grapes for California?" It is a very difficult question to answer. If we modify it and ask, "What wine grape is it most advisable to plant?" the difficulty is lessened but not removed. The answer will depend greatly on the point of view. For the grape-grower it is one thing, for the wine-maker another, for the consumer still another, and for the good of the industry at large a compromise of all three.

For the grape-grower who sells his grapes for so much a ton whatever the quality, the question resolves itself into, "Which is the heaviest bearer?"

For the consumer the question means either "What grape will produce good wine at the minimum cost?" or "What grape will produce the best wine irrespective of cost?" according to the kind of consumer he happens to be. As quantity and quality are to a great extent inversely proportionate, these views are widely divergent.

For the wine-maker the question is a little more complicated, but may be stated essentially as, "What grape can I handle with the most profit?" This profit will depend on the difference between the price he is forced to pay the grower for grapes and that which he can persuade the consumer to

pay him for wine. For one class of consumers he must get cheap grapes, for the other he can afford to pay almost any price, providing they are of the right quality.

For the good of the industry at large it is desirable that varieties should be planted which will produce as large a crop as is compatible with such quality as will maintain and extend the markets for our wine. These markets are varied in character. For some, cheapness is the essential factor; for others, quality. Cheap wines can be produced with profit only from heavy-bearing varieties grown in rich soil; wines of the highest quality only from fine varieties grown on hillsides or other locations where the crops are necessarily less. It is therefore unwise to plant poor-bearing varieties in the rich valleys where no variety can produce a fine wine. It is equally unwise to plant common varieties on the hill slopes of the coast ranges where no variety will produce heavy crops. The vineyards of the San Joaquin, Sacramento, and other valleys can not compete with the vineyards of the coast ranges in quality, and the latter can not compete with the former in cheapness.

Each region has its own special advantages which, if properly used, will make grape-growing profitable in all, and instead of competing each will be a help to the other. The danger to be feared by the grape-growers of the coast ranges from the production of dry wine in the interior is not competition, but lies in the bad reputation given to California wines by the production of spoiled and inferior wines. If the cheap wines of the valleys are uniformly good and sound the market for the high-priced fine wines of the hills will increase, and large quantities of the coast range wines will be used for blending with the valley wines to give them the acidity, flavor, and freshness which they lack.

In order to obtain these results it is necessary that varieties suited to each region and to the kind of wine should be planted. No variety which is not capable of yielding from 5 to 8 tons per acre in the rich valley soils or from 1½ to 3 tons on the hill slopes should be considered. On the other hand, no variety which will not give a clean-tasting, agreeable wine in the valley or a wine of high quality on the hills should be planted, however heavily it may bear. To plant heavy-bearing inferior varieties, such as Burger, Feher Szagos, Charbono, or Mataro on the hills of Napa or Santa Cruz is to throw away the chief advantage of the location. The same is true of planting poor-bearing varieties such as Verdelho, Chardonay, Pinot, or Cabernet Sauvignon in the plains of the San Joaquin.

With these considerations in view, the following suggestions are made for planting in the chief regions of California:

1. Vineyard for sweet wine in the interior valleys:

Red.	Proportion.	White.	Proportion.
Grenache .....	½	Palomino .....	½
Alicante Bouschet .....	¼	Boal .....	¼
Tinta Madeira .....	¼	Beba .....	¼

The Grenache and Alicante Bouschet are heavy bearers with short pruning. The former naturally takes a port flavor and the latter insures sufficient color. The Tinta Madeira, when pruned properly, bears well and will increase the quality of the port wine.

The Palomino is one of the heaviest and most regular bearers grown in California and is peculiarly suited for sherry making. It is the principal grape of the Spanish sherry district. The Beba bears nearly or quite as well as the Palomino and is of rather better quality. Both bear with short pruning. The Boal bears good crops and gives a sweet wine of high quality.

2. Vineyard for dry wine in the interior valleys:

Red.	Proportion.	White.	Proportion.
Valdepeñas .....	½	Burger .....	½
Lagrain .....	¼	West's White Prolific .....	¼
St. Macaire .....	¼	Vernaccia Sarda .....	¼

The Valdepeñas has been growing for nearly twenty years at the Tulare Experiment Station, and has always given regular and good crops with short pruning. The dry red wine made from it has been in every way satisfactory and much superior to that made from Bouschet, Zinfandel, or any of the varieties usually grown in the valley, and approaches more nearly than any other variety the wines of the cooler localities. This variety has been planted to some extent in the



cooler localities, where it is completely out of place. In Napa its bearing is unsatisfactory and its wine harsh. The vine needs a hot climate to bring out its best qualities. The Lagrain and St. Macaire are valuable on account of their intense color, which at Tulare is equal to that of the Bouschets and is more stable. The St. Macaire is particularly recommended on account of its high acidity, which is extremely useful for the region. The Gros Mansenc retains its acid even better than the St. Macaire, and is also deeply colored, but it has not borne quite so well.

The Burger has, fortunately, been planted extensively in the hotter parts of the interior, and probably no better choice could be made for the production of a cheap, light, neutral dry white wine in that region. Its acidity, which is excessive in the coast counties, is normal or even low in the interior. For this reason, and in order to give a little more character, it should be blended with such grapes as the West's White Prolific and the Vernaccia Sarda, which retain their acidity at Tulare better than any other white grapes tested.

### 3. Vineyard for dry wine in the coast counties:

Red.	Proportion.	White.	Proportion.
Petite Sirah .....	$\frac{1}{2}$	Semillon .....	$\frac{1}{2}$
Beclan .....	$\frac{1}{4}$	Colombar .....	$\frac{1}{4}$
Cabernet Sauvignon .....	$\frac{1}{4}$	Sauvignon blanc .....	$\frac{1}{4}$

The conditions of soil and climate in the hills and valleys of the Coast Ranges are so varied that it is much more difficult to give recommendations that will be of general use than in the case of the interior valleys. In some parts of some of the valleys the soil is so rich and productive that it is possible to grow grapes as cheaply as in the interior. The grapes recommended for the interior, however, would not in most cases be suitable on the coast, owing to the difference in climate. As a rule, the grapes which are suitable to the hill slopes will do well in the valley, making up in quantity what they lose in quality.

Of the many scores of red varieties which have been widely grown in this region, the Petite Sirah has undoubtedly given the most generally satisfactory results. Some growers are dissatisfied with its bearing, but most report that it produces as much as the Zinfandel. Ungrafted, it requires long pruning. Its wine is of excellent quality, but apt to be somewhat harsh. This harshness can be avoided by careful wine-making and by blending with a smooth variety such as the Beclan. The finest red wines which have ever been made in California are the product of the Cabernet Sauvignon. This variety, unfortunately, has been rejected almost everywhere on account of its light crops. Very satisfactory crops, however, can be obtained if care is taken in selecting cuttings for planting and a suitable system of pruning adopted. This variety, like most others, moreover, bears better when grafted on a suitable resistant stock. It is very much to be desired that a certain proportion of this variety should be planted in all the coast vineyards which are capable of producing a dry red wine of high quality.

No white grape has given better results in both crop and quality than the Semillon. The Colombar (sometimes called the Sauvignon vert) has also proved itself a regular bearer, and, while not of such high quality as the Semillon, it blends very well with that variety and serves to modify its aroma, which is sometimes excessive. The Sauvignon blanc increases the quality of the wine, but like the Cabernet Sauvignon requires careful cutting, selection and pruning to give satisfactory crops.

### 4. Vineyard for dry wine in the cooler parts of the coast counties:

Red.	Proportion.	White.	Proportion.
Beclan .....	$\frac{1}{4}$	Franken Riesling .....	$\frac{3}{4}$
Blue Portuguese .....	$\frac{1}{4}$	Johannisberg Riesling .....	$\frac{1}{4}$

In certain parts of the coast counties, owing to the frequent occurrence of ocean fogs, many varieties of vines do not ripen their fruit properly. By a careful selection of variety, however, good crops of well ripened grapes may be obtained. It is in these localities that the finest light wines, those most nearly resembling the wines of the Rhine, can be produced.

The Beclan has shown itself especially suited to this region, and has the great advantage of being resistant to mildew. The Blue Portuguese is a good bearer, ripens easily, and blended with Beclan gives a good wine of Burgundy type. The best Riesling wines are grown near the coast, and,

undoubtedly profitable vineyards of the Rhine varieties can be grown in this region if proper methods of grape-growing and wine-making are adopted.

Undoubtedly there are many excellent varieties of grapes that could be grown with profit which are not mentioned in the foregoing lists. The varieties mentioned are simply those which have given evidence of being most generally adapted to the more usual conditions. Under special conditions other varieties should be added to or substituted for those named. In planting a new vineyard it would be well often to choose those varieties which are best able, by blending, to correct the defects of the varieties already growing in the district. If the bulk of the red grapes are deficient in color, it would be well to plant a larger proportion of deeply colored varieties. If most of the white grapes of the region are of poor quality, lacking in character, flavor, or acidity, a larger planting of the finer varieties might be advisable. It is good policy to plant something that has not already been planted in too large quantities, providing it is something suitable and for which there will be a demand. Moreover, a large number of kinds ripening at different times would be a great convenience in a large vineyard, by allowing the gathering of the grapes to extend over a longer period.

## The Field.

### EXPERIMENTS WITH FERTILIZERS FOR ONIONS.

Mr. Fabian Garcia, horticulturist of the New Mexico College of Agriculture, has prepared an outline of his experiments with fertilizers in onion culture, which may be helpful to California growers who are working under somewhat similar conditions:

The onion, which is a surface feeder, needs a light, rich and moist soil. If the soil is too adobe it cracks open and loses too much moisture, and, when irrigated, it bakes and packs around the bulb and reduces the size of the onion.

Practically all the onions now grown in New Mexico are grown according to the "old method" or from seed sown in the field. This method is not as satisfactory as that of transplanting from a seed-bed, because of the tendency of the soil to run together and pack when irrigated. This often tends to produce a slow and somewhat uneven germination. In field culture from 4 to 6 pounds of seed is enough to the acre. The seed germinates better when sown not deeper than an inch and irrigated immediately afterward. The thinning of onions in the field is not entirely satisfactory because of the expense. The poorer the germination and the more the irrigation during the winter the more laborious and expensive the thinning is. The cost of thinning onions in the field was \$41.00 per acre. Better results may be had if the seed is sown during September or the first of October, and thinned during March.

Sowing onion seed in seed-beds or cold frames and later transplanting to the field was found to be more satisfactory. When a good germination is secured 3 to 4½ pounds of seed will produce enough plants for an acre. If the seed is started in open seed-beds it should be sown in the fall, and kept irrigated during the winter. It was found that better results can be had by transplanting during the latter part of February or earlier part of March, even if the onions were not half as large as a lead-pencil, than to wait until later in the season when the onions are larger. Later transplanting tends to produce too many scullions. It was also found advisable to do the work quickly and to have a boy drop the onions in the row for three planters. A quick planter can transplant 5,000 onions a day.

With hand cultivation the rows should be from 12 to 15 inches apart and the onions 4 to 4½ inches distant in the rows. With horse cultivation the rows should be 30 inches apart. The average estimated cost for transplanting where hand cultivation was practiced, for a period of three years, was \$29.33 per acre. This amount was considerably less than the cost of thinning onions in the field.

Immediately after the onions are transplanted they should be irrigated and this should be followed by a second irrigation 6 to 8 days later. The subsequent irrigations will vary more or less, depending on the soil and climatic conditions, but good results were obtained by irrigating every 10 to 15 days with a cultivation between every two irrigations. Light and frequent irrigations do more good to the crop than heavy ones at long intervals. The water should not be allowed to stand too long in the plats, as this is detrimental to the onions. Good results were secured when very muddy water was used for irrigating purposes, even after the bulbs had formed.

No especial cultivation was necessary and very satisfactory results were secured by simply keeping the surface soil clean of weeds and loose close to the onions. With horse cultivation it was impossible to get any closer than six inches on each side of the row. This made necessary the use of the hand Planet Junior Wheel hoe, practically the same as with hand cultivation. Hand cultivation is preferable to horse cultivation, since twice as many onions can be grown to the acre with very little additional cost. Irrigation should stop when the ripening begins. The onions should be harvested when the tops have turned yellow or have died. Do not remove the tops until the onions have been pulled and sunned for a few days. An ordinary pair of pruning shears are preferable to a knife for removing tops.

The yield of different varieties in 1903 without fertilizers was at the rate of 32,000 pounds per acre for the Red Victoria and 29,000 pounds for the Prize Taker. In 1904, the Gigantic Gibraltar, a variety which resembles the Prize Taker, without fertilizers produced at the rate of 31,250 pounds per acre. This same variety, when sodium nitrate was used as a fertilizer at the rate of 600 pounds per acre, applied at four different times, yielded considerably more, due to the sodium nitrate.

The following shows the yield from the fertilized and unfertilized plats:

	Fertilized.	Unfertilized.	Difference.
Area .....	$\frac{1}{25}$ acre	$\frac{1}{25}$ acre	.....
Fertilizer applied ....	24 lbs.	.....	.....
Actual yield .....	1,618 "	1,250 lbs.	.....
Actual difference .....	.....	.....	368 lbs.
Estimated yield per acre.....	40,450 lbs.	31,250 lbs.	.....
Estimated dif'ce .....	.....	.....	9,200 lbs.
At 2 cents per lb. ....	\$809	\$625	.....
Estimated dif'ce .....	.....	.....	\$184

As may be seen from the table, the unfertilized plat yielded at the rate of 31,250 pounds of onions per acre; while the fertilized plat yielded at the rate of 40,450 pounds per acre, the increase in yield being 9,200 pounds or 29.6 per cent. If the onions had been marketed at two cents per pound, the increased value would have been \$184.00 to the acre. Since 600 pounds of nitrate of soda cost \$32.40, and its cost of application to the soil was \$2, there remained a net increase in the profits of \$149.60.

It was found that the cost of production was less in New Mexico than in the East and South. The cost of growing an acre of onions varied from \$107 to \$111.75 without fertilizers and rent of land.

Of the varieties tested the Red Victoria gave the largest yield in unfertilized soils. The Prize Taker and the Gigantic Gibraltar are also heavy yielders in addition to being good keepers. The Gigantic Gibraltar is preferable to the other two mentioned. The Australian Brown proved especially satisfactory as a small and late keeping variety. Neither insect pests nor fungous diseases have as yet been observed to seriously affect the onion crop in New Mexico.

It was observed that if onions received a check in growth when the bulb was forming and then started into a second growth, as a result of an irrigation, there was a tendency for the onions to divide into two or more parts, which injured the bulbs for commercial and keeping purposes. If the growth is checked when the crop is near maturity it should not be irrigated after that.

Experiments were made to show the keeping qualities of 28 varieties. It was found that the best keeping varieties lose less in weight than the poor keeping kind. Small specimens keep better than large ones of the same variety. The best keeping and commercial varieties were the Australian Brown, Prize Taker, Red Victoria, Gigantic



Gibraltar, and Philadelphia Silver Skin. The first four mentioned varieties were grown on a somewhat large scale.

The Spanish type of onions grew better and larger and were milder than the American type. The old El Paso onion, which was long grown to perfection in the Rio Grande valley, is a Spanish onion.

## Agricultural Science.

### THE UNIVERSITY FARM AND SCHOOL.

On another page we give an outline of the courses to be first given at the University Farm at Davis, Yolo county. We trust many readers will find it feasible to attend them.

Judge Peter J. Shields of Sacramento, whom we have frequently mentioned as a most valuable friend and promoter of this effort for extending and improving agricultural education in the State, writes a few paragraphs for the Great West, a bright journal largely devoted to the advancement of the Sacramento valley, which we desire to reproduce as showing Judge Shields' idea of the influence which the University Farm Schools will exert. He writes:

This institution promises to become one of the chief factors in the prosperity of the Sacramento valley and in the growth of Sacramento, its leading city. The farm is located about twenty miles west of Sacramento and contains over seven hundred acres of typical Sacramento valley land. The school will be located upon the farm, which will be used for purpose of experimentation and instruction. Every problem known to Western agriculture will be investigated here, and every crop and product will be experimented with.

The school will be a center of marvelous, intellectual and industrial stimulation. It will give short courses of instruction to mature men and women, where they can learn of the latest developments in dairying, in irrigation, in viticulture, in livestock breeding, and general agriculture. It will give two and three year courses for the farm boys and girls of the State, where they will be brought in touch with the wonderful work of the station, and where they will be taught the reason for things, and to know the nature with which they are to live and in the midst of whose wonders they are to work. They will be taught practical agriculture of the highest type; how to breed and select the most perfect and profitable animals; how best to cultivate the soil, to irrigate and fertilize it. They will be trained in farm management; how to make a farm home, and how best to live a farm life.

These young men and women will go back to their farm homes all over the State, and most of them, because of the location of the school, to the Sacramento valley. And wherever they go they will take new ideas and impulses, and with their new powers they will change agricultural conditions and give to the old life a new and better meaning. And while this class of education will greatly increase the earning powers of its fortunate possessor, and add to the wealth of the State, its best product, like that of other types of education, will be to make of him or her a better man or woman. It should enable them to live their lives upon a higher level; to be better citizens and to better support the institutions of their country. And better, too, than any wealth which this training will bring, will be the happiness which should follow it. It will relieve toil from drudgery and make of it intelligent industry; it will infuse that enthusiasm into farm labor which will mean its better execution, and enable the farmer to find his best happiness doing his day's work. Wherever such a man or woman goes will be the center of a fine influence, which will reach out and lift up all within its radius.

From natural reasons, but largely through the work of this school, Sacramento will become the center of a more highly developed, varied and efficient farming activity than has ever before nurtured a city. The influences of this Experiment Station and School, and the trained and cultured young men and women which it will send

out in constantly increasing numbers will work a great progress in this valley. The young people will found refined and wholesome country homes; they will maintain schools and churches and constitute an intelligent and independent electorate. They will grow more crops and grow them better and make better use of them. They will have the range of a liberated intelligence; they will discern hidden opportunities, and call neglected agencies to their aid. They will have the far vision of the man of science and the constructive optimism which follows the faith that nature rewards with unfailing justice, her faithful servitors. Can you doubt that such a people will help to make of Sacramento a city of the type we wish? They will pour into her lap the vast and varied harvest which will make her rich, and their moral purpose and industrial spirit will hold her up to a high place among the rare and fortunate cities, which find their chiefest support in the soil; which are founded upon inexhaustible industry, and which derive their growth from perennial nature rather than from commercial exploitation; from production rather than through destruction; from the things which live forever rather than from those which feed upon and exhaust themselves.

### FERTILIZER FOR LAWNS.

To the Editor: I recently wrote to Prof. Hilgard regarding the use of a fertilizer for lawn spaces, and enclose a copy of his reply, which may be of interest to some others of your readers who desire to keep up the greenness of their front yards.—Carmelita, San Francisco.

In response to yours of the 6th regarding the use of Thomas phosphate on lawns, I state that when the soils are of a sandy nature the use of Thomas phosphate will answer very well. If, however, it is more of an adobe character it will be more desirable to use superphosphate. In heavy soils it is necessary for the Thomas phosphate to be worked in by means of tools. Under these conditions Thomas phosphate is freely used in Europe for the dressing of meadows, especially such as are periodically flooded, and as meadows as well as lawns are apt to become acid in the course of time, the Thomas phosphate is better intrinsically than the acid phosphate. It is, of course, understood that lawns are watered frequently and rather abundantly, since otherwise the phosphate powder might remain inert on the surface.

The amount of phosphate powder per acre should be from four hundred to five hundred pounds of the finest grade; and of the superphosphate of say 15% soluble, about three hundred pounds can be applied per acre.—E. W. HILGARD, University of California.

## Good Roads.

### THE SANTA CRUZ CONVENTION.

To the Editor: That intense interest is taken, by all classes of our population, all over the State, in the matter of good roads, was plainly indicated at the late meeting of the counties committee of the California Promotion Committee, held in Santa Cruz. Delegates from most every county were on the floor.

Excellent papers were read and entertaining speeches made. Sentiment as to the need of better roads and the more economical making of them and their maintenance, is widespread. If more talks of a practical nature were given at the good roads meetings so frequently held of late, more would be accomplished. Sentiment for better roads is well developed all over the State. We should be entering upon an era of very earnest, practical work.

Ever since the State was organized our legislature has, very frequently, made and altered laws governing the care of our highways. After all this experience we are far from having a perfect law that applies to road construction and maintenance. The prevailing thought as to one important feature of the road law, as manifested by the delegates at the convention mentioned, seemed to be that, in the various counties, the office of

road commissioner, or road master, or whatever title might be designated, should be taken from politics and made an appointive office. In too many counties, under the prevailing custom, the care of roads is given to persons who are far from being fully qualified for the positions they hold.

It is appalling to think of the vast sums of hard-earned money that are yearly thrown away upon our roads. A better system, a more faithful and economical expenditure of moneys appropriated, constant lookout as to repairing, are what are called for, not only in one county, but in all.

Where all this particularly interests the farmer is that he, for the greater part, pays the taxes that are expended upon our roads. To be sure he derives much benefit therefrom; he might, he ought to have, more. The farmer pays for the roads, in greater part, but he thinks that the very many who travel over the highways who reside in towns and cities, especially the automobilists who now are always on the country roads, taking outings from the larger cities, should help, more than they do, in the matter of meeting necessary expenses. This is just. Country roads are more and more being used by residents of the towns and cities within our borders. It is now demonstrated the autos upon our roads wear and tear more than our old-time vehicles.

Governor Gillett was in favor of constructing a fine highway from one end of the State to the other at the expense of the commonwealth, the main artery to be joined by roads in the different counties built at county expense. Other features that will appeal to the consideration of our taxpayers will be embodied in the Governor's message to the legislature.

In several counties money has been raised by subscription to supplement the appropriations made by the boards of supervisors for building and repairing highways. Alameda county has made a splendid showing in this particular. Napa county is making experiments that will, without the least doubt, be for the betterment of other roads and has taken steps that other counties will do well to follow. Long ago this latter county acquired a wide-spread reputation for constructing more and better stone bridges than any county in the State, if not in any State west of the Rockies.

The farmer, the merchant of town and city, the automobilist, is interested in the matter of which we write. There has been enough talk upon the subject. Let the coming five or ten years be known in the future history of our State as a period of intense, practical road building, repairing and maintenance. If we cannot build ten miles of good roads this year, build five, and follow up the practice in succeeding years. Had we adopted this method ten years ago, even, in all our counties, California would now justly boast of unexcelled highways, which would, as the Governor said, in the course of his remarks, induce many an eastern traveler who now spends his summers in Europe, to explore the numerous beauties of our State. With State aid, with county assistance, with individual help, our roads could soon be the envy of our sister States.

A. WARREN ROBINSON.

Twin Lakes, Santa Cruz, Cal., June 8, 1908.

There seems to be some discrimination in our laws against weed pests, and some think the worst have not been outlawed while the outlawed ones are not so bad after all. The Kings county fruit growers, for instance, seemed to agree, in a recent discussion, that Johnson grass was not so much of a pest after all, and that it could be gotten rid of by cultivation and it really enriched the soil when plowed under. It was also pointed out that Bermuda grass and some other troublesome plants were not mentioned by the law, and most of the members seemed inclined to think that the law was unnecessary in Kings county. We believe there is truth in the position taken. The especial enactment against Johnson grass was probably secured by someone who had a particular grudge against Johnson. It is bad enough when in the wrong place, truly, but it can be killed out, which is more than we can claim for Bermuda. By the way, Bermuda is not a bad thing when it is in the right place, but it will not stay there.



## AGRICULTURAL REVIEW.

### ALAMEDA.

Hay cutting is rapidly progressing and from the present outlook the hay crop is much better than was expected in the early part of the season.

### BUTTE.

Vineyards in vicinity of Biggs will yield heavy crops this season.

A large fruit packing and shipping house is to be erected at the town of Hume, near Biggs, to handle fruit crops of that locality.

State Horticulturist Jeffrey has had a rigid inspection made of the citrus orchards of Butte, Yuba and Sutter counties and reports made to him indicate that the white fly pest has been thoroughly eradicated, there being no trace of it found.

The Butte County Citrus Association met and elected directors. J. A. Lawrence was elected president; Wesley Dial vice-president and J. H. Anderson secretary. In the reports submitted it was shown that the association experienced a successful season and realized very good prices, having, as usual, the cream of the market, as the Oroville oranges are first to be shipped to the East.

### COLUSA.

Harvesting is in full blast at Maxwell, and the yield of barley is almost double what was expected. Barley is running from fifteen to eighteen sacks to the acre and of splendid quality. This is proving a banner grain year for this section.

### IMPERIAL.

It is estimated that close to 1,000 young men from the high schools and colleges of the state will be employed in the melon industry in the Imperial valley this summer.

Riverside Press: The Imperial valley onion crop comes pretty near getting a frost this year. First shipments brought good prices, but Texas has rushed 1500 cars of onions to market in the past six weeks and has 600 cars more that will go forward at once. The northern points, San Francisco, Seattle and Portland are buying at Stockton and so the fellow from Imperial is shut in from all sides. The total production is about 175 cars, of which 75 cars have been shipped.

### KERN.

Echo: The 40,000 silkworms are passing into the cocoon stage and a very large percentage of them are now winding their silken shrouds. The worms passed the forty-odd days of their growth in a wholly satisfactory manner. The silk, so far as can be seen from the cocoons, is of good quality.

### KINGS.

Sentinel: Buyers are offering to contract for \$60 per ton for the coming crop of raisins. In view of the conditions that have been affecting the raisin market during the past few months this is considered a very good start by the growers, but not many of them are inclined to accept that price at the present time.

### MERCED.

The farmers in the vicinity of Merced say the weather has been cool and just what was needed to give the barley and wheat an opportunity to mature. In some places the grain may not be heavy, but it will be of an excellent quality. In fact the grain buyers are better pleased than they would be if the yield were heavier and the quality not so good. From information gathered the grain crop this year will be surprising in the right way. The summer-fallowed grain is the grain that is standing the test this year. Harvesting will soon commence, especially on early barley, of which there will be a good yield.

### MONTEREY.

A fire that raged for five days over the pasture land of the Coast range of hills on the west side of the San Joaquin valley was extinguished after 20,000 acres had been burned over and damage of \$100,000 done. Stock corrals, barns and houses were burned.

Salinas Index: A black beetle recently made its appearance at Spreckels, and it has been doing destructive work in the beet fields. This species is practically unknown to the university men, who had never made a study of it.

### NEVADA.

Chicago Park fruit growers think this will be the banner year in the history of that section. Pears, plums and prunes passed through the winter without damage. Last year the highest price paid for Bartlett pears in California was received by Chicago Park growers, and they expect to do as well this time.

### RIVERSIDE.

Among the exhibits at the chamber of commerce is orange blossom honey. Four sections of choice honey are arranged in a glass case that shows off to splendid advantage the clear and transparent product made from the fragrant orange blossoms.

### SACRAMENTO.

Fruit shippers and the railroad company held a conference to arrange plans whereby shipping time between Sacramento and Sparks is cut one-half, or to fifteen hours.

Deputy Carnes is fitting up rooms in the State Insectary for the parasites to the mealy bug, which George Compere has brought from Japan. Plants have been placed in the Insectary and the propagation of the insects will begin. Some beneficial insects now in cold storage at San Francisco will be given quarters in the Insectary.

### SAN BERNARDINO.

Bee men report a bumper honey crop for this year. It is expected that the shipments will be not less than 50 cars, and they may run as high as 60 cars. The season has been a most favorable one in every way for the honey industry, the weather having been right for the bees. The same is true nearly all over this part of the State, the crop of southern California amounting to not less than 300 cars.

### SAN JOAQUIN.

Work is commenced on a large plant at Lodi for the manufacture of a new beverage, unfermented grape juice.

Eastern San Joaquin county will harvest a splendid yield of wheat this season. Samples of plump grain taken from a three hundred acre field near Clements were shown by a farmer who says they are evidence of the yield throughout that entire section. More grain will be harvested this year than for a number of years.

### SAN LUIS OBISPO.

Tribune: Indications point to a bumper crop of English walnuts being harvested in southern California this year. Weather conditions have been more favorable than ever before to the growing crop, and unless something unforeseen happens the production will be the largest in the history of California.

### SANTA CLARA.

Almost every county in the State is represented in the quarterly meeting of the California State Veterinary Medical Association, which is being held in San Jose. The annual meetings of the association are held in San Francisco in December. The organization is now in its 20th year. The past quarterly meetings have been held in Hanford, Fresno and Sacramento.

### SANTA CRUZ.

A special berry train between Santa

Cruz and San Francisco has been placed in commission by the Southern Pacific. The train leaves Santa Cruz daily (excepting Sundays) at 3:30 p. m. and arrives at San Francisco the following morning.

### SHASTA.

There is a good crop of hay this season. The late rains brought the yield up to the usual amount. Fruit trees are loaded and every variety bearing this year in abundance.

A pest of grasshoppers has caused a failure of the first attempt made to farm former swamp lands at McArthur. Levees had been built and many acres of swamp had been reclaimed. This season grain and other crops had been planted and were doing nicely until the grasshopper scourge appeared. In a short time some of the grain had been eaten down to the ground. The farmers decided to turn the water back on the land from which it had been removed. This was done, and the grasshoppers were got rid of, but it is supposed the crops also have been destroyed.

### SISKIYOU.

Contract was let at Dorris to break and plant 100 acres of ground to potatoes. An average yield is from ten to twelve tons of potatoes to the acre. They are grown without irrigation.

Some sheepmen of Montague will be put to great expense by the new State law which compels them to dip their sheep. When they got ready to dip there was no inspector near, nor could they get one to come. They went ahead and dipped their sheep and followed the rules of the new dipping law as nearly as they could, and then started their sheep to the mountains. Later a state inspector came up from Sacramento and ordered them to bring the sheep back and dip them in his presence.

### SOLANO.

A carload of California cherries, grown in the Vacaville district, sold in Chicago for \$4,500.

Pear growers in Green valley have taken steps to have fruit shipping facilities established at Cordelia.

Reports from Vaca valley and Pleasant valley are to the effect that the apricot crop is not what it was expected to be. The trees have all they can carry, but the fruit is small and not at the present time growing. Where it is ripening it does not fill out like fine healthy fruit does. Some think the early frosts, while they did not kill the fruit outright, stopped the proper development of the pit and turned the shell brown.

The recent meeting of the fruit growers of Suisun and Green Valleys to consider the labor question may be set down as a failure. The growers could not get together. The majority of them feared to agree on any scale of wages. The growers who called the meeting have expressed the fear that the Japanese in the valley would attempt to hold the growers up for very high wages in the height of the season. If this is the plan of the wily Orientals, they bid fair to be able to carry them out without much trouble.

### SONOMA.

Secretary J. A. Filcher of the State Agricultural Society is visiting the various counties of the State in regard to getting them in line for an exhibit at the State Fair in Sacramento this fall. He will visit Sonoma county. Last year's exhibit made by this county at the fair attracted much attention, and in view of this success it was decided that this year's display should be far ahead of what was then attempted.

### STANISLAUS.

On June 1 the Grange Co. received at their warehouse in Keyes the first grain of the season. It consisted of a large

consignment of barley, which yielded 18 sacks to the acre. This grain was raised near Keyes. This is considered a remarkably good showing, owing to the lack of rain this season.

### TULARE.

T. B. Ferguson is putting in 470 acres of Egyptian corn in the Tulare Lake region. The corn is being planted at the water's edge, where the land is in fine condition.

Porterville Enterprise: The grain crop in this part of the county will be surprising, and in the right way. Many of the growers will harvest more grain than they dreamed of a few weeks ago. The crop will not be a big one, but it will be much better than was anticipated. The acreage this season is much greater than it was last in this part of the county. The yield will not be heavy but will be of excellent quality. The summer fallowed grain is the grain that is standing the test this year, as it has always done in this part of the State, while the winter sown wheat will not be worth harvesting.

### VENTURA.

A full crop of apricots is reported from the Simi valley. Other sections state that apricots will be short, owing to the damage done by severe winds.

The harvesting of beets will begin about the Fourth of July, and grinding will begin a little later in the month, as the beets accumulate. The cold weather has the same effect in the beet crop as in the beans, and is holding the harvest back. The beets are in the best condition, however, and several thousand acres will be ready for the plow as fast as they can be taken care of.

### YOLO.

The barley harvest is now in full swing and a half crop is a conservative estimate. The hay crop is quite large, and practically all of it will be saved, but the farmers are holding for prices. Dealers say present prices can not be maintained much longer.

Arthur Scott, near Woodland, planted wheat so late that there was not sufficient rainfall to start the grain to growing. Recently he irrigated the field and started it nicely. The harvest will be late, but the prospects are that the yield will be good. This is the first grain field to be irrigated in western Yolo.

### YUBA.

Marysville racetrack grounds are being improved and will soon take their former place among the best in the State.

Nearly six tons of wool changed hands at the sale conducted by the Yuba and Sutter County Wool Growers' Association in Marysville last Saturday. The largest lot was 5585 pounds, and it brought 10½ cents per pound. The lot to bring the highest price was 645 pounds, and brought 12½ cents per pound.

### NEVADA.

A State sheep inspector announces that in the northern part of Humboldt and Elko counties the snow has fallen to a depth of more than four feet, and that thousands of sheep have perished. Many bands, unable to reach the valleys, are slowly starving and freezing to death. Many of the owners are having trails made by horses and are putting forth every effort to drive their sheep from the deep snow.

### OREGON.

Klamath Falls advices state that, despite the fact that this has been a cold and disagreeable spring, farmers from all parts of the county report that crops are in good condition and that the hay crop will be nearly up to the average. Alfalfa will not be as good as usual, but the second cutting, it is thought, will be up to the average. The open range is very good and stock of all kinds is looking well.



## The Dairy.

### Kale as a Winter-Growing Dairy Feed.

It is an interesting fact that some of the various tall collards have been grown in a small way in California for the last quarter of a century or more. They have never attained wide distribution, although individual growers have always been very enthusiastic over them for cows and poultry. The same thing has prevailed in Oregon, except that within the last three years they have risen to wide recognition and prominence. Mr. Byron Hunter of the U. S. Department of Agriculture recently made a study of this movement and gives a very interesting account of it as follows:

Thousand-headed kale or cow cabbage (*Brassica oleracea*) has been grown in the Willamette valley for nearly thirty years. Since 1878 Richard Scott of Milwaukie, Ore., has grown this crop to provide succulent winter feed for his large dairy herd. It attracted very little attention among dairymen for many years. In fact as late as the summer of 1905 when the writer made a study of forage crops west of the Cascade mountains, not over a dozen farmers in the Willamette valley were found growing kale. At that time it was practically unknown to the dairymen of western Washington. A few days spent recently in driving through the country about Hillsboro, Cornelius and Forest Grove, Ore., reveal the fact that practically every dairyman in Washington county is now growing kale for winter feed. Although kale is very popular in certain sections of the Willamette valley at the present time, many have yet to learn of its value. When its true worth as a succulent winter feed for sheep, hogs, poultry and the dairy herd is fully appreciated, kale will unquestionably be classed as one of our most valuable forage crops west of the Cascade mountains.

Kale stands the mild winters of western Oregon and western Washington admirably, and is hauled from the field and fed as needed. It is so easily grown, the yield is so large, and its value as a succulent feed so satisfactory that it easily takes the place of ensilage and roots. Some of the best dairymen of the Willamette valley, who formerly used ensilage, have abandoned their silos and are using kale instead. The dairyman who feels that he is not able to build a silo and buy the necessary machinery to operate it, will find kale a more than satisfactory substitute for ensilage. Kale is very much like rape, but the plants are larger and the leaves are broader and longer. When grown under favorable conditions on well manured, rich, fertile soil the yield is enormous, it often running as

high as 30, 40 and even 50 tons per acre.

There is just one objection made to growing kale, and that is the difficulty of getting it out of the field when the ground is wet and muddy. For this reason well-drained land is usually selected for the production of this crop. Peaty soils, beaverdam land, and sandy loams—soils that are injured but little by getting on them when wet—are also suitable for kale. Any land that produces cabbage will grow good kale. It is usually grown on well-manured land near the stable, where it will be handy to haul. It is a good plan to grow kale in long, narrow strips, beside a road or fence. It can then be carried to a wagon without getting a team on the land when it is too wet. When taking it from the field during wet weather it is best to wear a gum coat and gum boots. The plants are cut off at the surface of the ground, thrown into piles and loaded onto a wagon with a pitchfork. Wagons with low wheels and broad tires are best suited to hauling kale from the field when the ground is wet. Some prefer to use a sled.

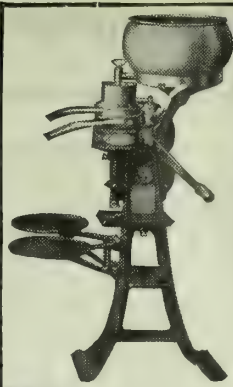
**METHODS OF GROWING.**—Kale is usually sown in drills from the 15th of March to the last of April, and then transplanted when the plants are from 8 to 12 inches high. For planting in drills well-manured, well-drained soil that warms up early should be selected. The seed is sown rather thick in the drills so that the plants will grow tall. They are then suitable for transplanting by plowing them in as described below. When transplanted by hand it is not desirable to have tall, slender plants. When grown for transplanting by hand, they are not grown so thick in the row. The land used for transplanting should also be well-manured and rich, for the richer the soil the greater will be the yield. The land used for this purpose is plowed early and cultivated several times during the spring to have it mellow and in good tilth at transplanting time, in June or July. The preparation of the soil before transplanting is a very important item and should not be slighted.

There are at least three methods used by farmers in transplanting kale:

1. A very common method is to replot the land with a 12-inch plow at transplanting time. The plants are removed from the rows in which they were grown and dropped into every third furrow about three feet apart. This places a plant on about every square yard. If the soil is poor they may be closer together. The roots of the plant are placed where the next furrow will cover them. The tops are leaned back to the plowed ground so that the single-tree will not knock them down. If the weather is hot and the soil rather dry, the plants are set deeper than they are if the weather is damp and the soil moist. The plants that are plowed in during the day in this way are rolled in the evening of the same day with a heavy roller to pack the ground. Two or three cultivations are all that can usually be given, for the plants will soon touch between the rows if they do well.

2. Another way of plowing the plants in is to lay off a furrow every three feet. The roots of the plants are placed in the furrow three feet apart with the tops leaning to the unplowed side of the furrow. The roots are covered with the plow by throwing back into the furrow the soil just turned out.

3. With the soil mellow and in good tilth as described above, some prefer to transplant by hand. A shovel is set into the ground at the point where the plant is to be placed. The handle is then pushed forward enough to permit the root of the plant to be slipped in behind the shovel. The shovel is then removed and the soil tramped around the plant. Some growers transplant kale just as they would cabbage. Any plants that fail to



## EVERYBODY BUYING DE LAVAL CREAM SEPARATORS

That's very nearly the case this year—from Maine to California and Canada to Florida. The New Improved 1908 DE LAVAL machines are simply "Sweeping the Field."

If you have seen and tried a new 1908 DE LAVAL separator you know WHY. If not you have but to see and try one to know WHY.

A new 1908 Catalogue—as interesting and superior as the machines themselves—is to be had for the asking.

### DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

### Western Gas and Power Company OAKLAND, CAL.

### SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4336.

grow when transplanted by either of these methods may be replaced in this way. On rich soil there should be a plant every square yard. On poor land the plants may be thicker.

Some kale growers prefer to prepare the seed bed and plant the seed in hills in May. When the plants are large enough they are thinned to one plant in a hill and cultivated in the usual way.

**FEEDING.**—As previously stated, kale stands in the field during the winter, and is hauled in and fed as needed from about the 1st of October to the 1st of April. If the growth is forced in the spring, and the transplanting done early, it can be used during the last of August or the first of September. For late fall and winter use, late transplanting is usually preferred. When put out early the lower leaves begin to die in the fall, and unless these are used early, there is considerable loss. To avoid tainting the milk, kale is fed just after milking, at the rate of 25 to 50 pounds per day, in two feeds. Some let it wilt before feeding. Enough may

be hauled in at a time to last four or five days. It should not be thrown in heaps and allowed to heat. Neither should it be fed when frozen. On the approach of freezing weather, a supply sufficient to last several days may be placed in the barn.

Kale grows a great deal during the fall and winter, and much is lost by feeding the whole plants in the early part of the feeding season. By using only the lower leaves it is possible to begin feeding quite early without stopping the growth of the plants. With the thumb and fingers of the hand extended, one can break off all the lower leaves of a plant with three or four downward strokes of the hand. This is not practicable, however, during rainy weather, for the leaves would be too wet to handle in this manner.

**THE SEED CROP.**—An excellent quality of kale seed is produced in the Willamette valley. Like rape, it is a biennial and does not produce seed until the second year. There is considerable variation in

**To Make  
Harness Last**

Wisdom says "Save the harness." Experience says "You can only do it by using

**EUREKA  
Harness Oil**

to keep it always soft and pliable." Nothing harmful in Eureka Harness Oil. Benefits the harness—saves money for the owner.

MADE BY  
**STANDARD OIL CO.  
(Incorporated)**







## The Poultry Yard.

### POULTRY FOR THE HOME.

#### Part II.—The Housing of Poultry.

By M. R. JAMES.

Proper housing is the corner-stone of success with poultry. The belief still largely obtains that trees are the best shelter for fowls. This, with the fallacy that fowls can take care of themselves, dies hard, especially among the farming class. They quote the hardness of the wild fowl, overlooking the fact that thousands of these perish every year in the storms and stress of weather. Comfortable housing is essential and quite as much so in our mild coast climate as in the severe weather of the East, dampness being more trying on fowls than dry cold, however severe. Poultry houses should be simple in construction, free from drafts, dry and well ventilated. The lay mind is apt to get the subject of ventilation and drafts badly mixed. Ventilation is vital; drafts are fatal. A part or even the whole of one side of the house may be kept always open and there will be healthy ventilation without drafts provided the other three sides together with the roof and floor are perfectly tight; but if there are openings on two or more sides, or cracks, knotholes and other holes on all sides, we have the deadly draft as well as ventilation and disease lurks in every crack. On the other hand, if the house be tight but with insufficient opening for ventilation and the proper coolness, especially when well-filled or crowded, it becomes a veritable sweatbox; and when the fowls come out in the mornings, the chill air strikes them, and colds with all the diseases in their wake are the consequence. This is why the open-front poultry house, when properly constructed, has done more than any other one thing to check the scourge of roup on this coast.

Simplicity of construction is another important point in poultry houses. Even if one has coin to "throw at birds" it is well to avoid ornamentation and complex arrangements. They are difficult to keep clean and they harbor insects. After many years' experience with all kinds of poultry houses, from the elaborate affairs with hallways, bedchambers and basements to "any old thing," the writer has found the following style of house the most satisfactory in every way, and it is equally well adapted to the town lot or the large ranch. Something of the same general plan is being used on most of the successful poultry plants in this section: A colony house facing east and set at least two feet above the ground with the sidings extending to, or into, the ground on the north and west sides and also on the south side if desired. This space beneath the house makes an ideal scratching shed; it also prevents the harboring of mice, rats and other vermin under the poultry quarters, and adds the number of square feet contained in the floor to the general space, a consideration in limited quarters. It should be kept dry and sanitary by banking and ditching about the house and by raking out and sprinkling with lime each time before furnishing with fresh litter for scratching purposes; if the ground is kept mellow it answers for a dusting place in wet weather. In fact it will fill every requirement to the fowls' entire satisfaction, for they delight in a low shelter for a loafing place. The dimensions of the house may be some six by eight feet to accommodate from twelve to thirty fowls on the town lot, or it may be from eight to ten feet in depth and twelve or more in length for larger requirements. The elevation above the floor should be some seven feet front and five back; with a shed roof extending from four to six

inches beyond the siding, front and back. The house may have an open front protected only by wire netting with a canvas curtain to be let down in beating storms; or it may have a wide door and a three by two foot window to every twelve feet or less of front, the windows to be protected by wire netting. Personally, I prefer the second style of front, especially for young fowls and for winter layers. The large window or windows allow of plenty of fresh air and ventilation in winter, while the house is protected from much dampness and cold; in warm weather the wide doors may also be kept open and the fowls made secure by wire netting tacked on a frame to fit the opening. In our coast climate, an eastern exposure is the best, as few storms come from that direction. The winter rains are from the south, and in summer our fowls require protection from the hot afternoon suns and from the fogs and trade winds which sweep in from the west. On some ranches, the poultry houses are faced north, but we sometimes have sharp "northerners," and though these are usually dry winds and less hurtful than the damp winds and drifting rains from the south, they often prove severe upon the fowls. An east front faces the fewest storms, catches the morning sunshine and protects the fowls from the afternoon suns and the west winds. The floors of poultry houses should be made of matched lumber that they may be tight and easily cleaned. The cracks between the siding of the walls should be covered with four-inch battening; and in exposed situations it is well to have a strip of tar paper or thin planking back of the roosts. The perches or roosts should be made of three-inch scantling, rounded on the edges and placed on a level in the back part of the house and eighteen inches above the floor. A strip of the scantling to be nailed across each end of the house and the perches laid loosely upon these rests so that they may be readily taken out and cleaned and sunned. Dropping boards are unnecessary in this climate where the fowls are not confined to the house; they add to the expense and work and clutter the quarters. An inch of clean sand or dust should be kept over the entire floor, then the droppings may easily be removed with a rake by a few minutes' work each morning. The nests should never be stationary. They can beat anybody's make of incubator for hatching—insects. They need to be frequently taken out into the sunshine, cleaned, sprayed and whitewashed. Grocers' boxes some twelve by eighteen inches in size, set on the side and a four-inch strip tacked across the lower edge, make cheap and satisfactory nests, and they may be replaced by new ones at little or no cost. It is wise to give the poultry quarters a thorough whitewashing at the very start; it fills up tiny cracks and prevents the industrious mite and louse from getting a foothold. It is so much easier to keep free from insects than to get free from them. In any case, the entire poultry quarters should be whitewashed once a year on the advent of warm weather; this with cleanliness and the frequent sprinkling of air-slacked lime under and over the perches and loafing places of the fowls will keep them free from lice, mites and fleas—if there were none to start with; where they have once got a foothold is another story. An excellent whitewash for general purposes is prepared by covering strong, unslacked lime with boiling water; when it is slacked thin it down with boiling water to the consistency of thin cream and add a heaping teacupful of fine salt to each bucket of whitewash. If rock salt is used it must first be dissolved in boiling water. Keep boiling water on hand to thin as needed and apply the wash hot. This makes a smooth, durable and snow-white wash.

The above plan of building houses and

the general methods can be carried out in making over and care of the piano box, dry-goods box or the common coop. Any and all housing for poultry should be simple, tight, dry and well ventilated and the openings protected from varmints by inch-mesh wire. If rats and the like gnaw through the floor of chick houses and coops, tack the wire underneath across the entire bottom or at whatever point they attack. It is inhuman as well as unprofitable to leave the fowls exposed to the raids of these blood-thirsty prowlers.

The proper yarding of poultry may be considered a part of their housing. To those not familiar with the subject, it is surprising in how small a space fowls may be kept with excellent results, when properly managed. In Berkeley the past winter, a dozen young Leghorn hens occupied the back part of a lot on a fashionable avenue. They had a yard just fifteen by twenty-five feet; but they were housed and cared for as indicated in this article, and were rather an attraction than an offense to the naturally fastidious neighbors. In such limited quarters, these dozen hens have kept in the pink of condition and averaged seven eggs per day the past six months. In fact, for market egg purposes hens should be limited in range as well as separated from the males. With breeding stock it is different; they need exercise, muscular development to insure highly fertilized and vitalized eggs. We require eggs strong in stamina and naturally they will be fewer in number. The smaller quarters demand the greatest care; they must be kept sanitary by cleaning, draining and spading; all grain must be fed in litter or covered lightly with mellow soil to provide the fowls with the necessary exercise. Poultry should be fenced off from the house, lawn and garden, and from the tool houses, carriage and wagon sheds, etc.—and, by all means, from the neighbors' premises! It is carelessness in these matters that give people a disgust for poultry around the home, and the fowls a bad reputation generally. Clearly, the owner's fault and an injustice to the fowls. Wire netting is comparatively cheap and easily put up and there is no excuse for letting fowls over-run places where they do not belong. In making ordinary wire fencing, four-inch scantling answers for the posts except at the gates and ends, where four by four inch posts are required. The narrow scantling will also do for the baseboards; no top board should be used. Five-foot wire will confine even Leghorns if there are no top boards and every post and gate is guarded by pointed lath. Poultry yards should be kept free from trash; old bones, decaying vegetables, rags, strings and bunches of hair are unwholesome and even dangerous for fowls, and awful for general contemplation. Keep the yards sanitary by spading. The hard-baked surface reflects the hot sun while it retains the filth. Foul yards and food, foul or otherwise, thrown down into them, together with the foul water that naturally

accompanies such conditions, will cause gapes, canker, limberneck and cholera.

Poultry may be a profit and a pleasure to the home—or just the opposite. It all depends upon their housing and care.

The largest single shipment of live chickens ever sent into Alaska went from Tacoma recently. It consists of 1500 live birds, mostly White and Brown Leghorn hens. The birds were shipped to Fairbanks, and it will be 22 days before they arrive. The freight amounts to approximately \$500, and it will take three tons of grain to feed the chickens on the trip. The same parties made a shipment of 1000 chickens to Fairbanks last season, and the venture was successful. Only a few of the birds died last year. They found quick sale in the far north among those who desired to go into the business. While live chickens are frequently sent to southeastern Alaska, it is only occasionally that they are shipped to Fairbanks.

The John Crouch Land Co., of Chico, Cal., advertises in this issue several tracts of land in the counties of Colusa, Glenn, Butte, and Lassen. These places embrace some of the finest agricultural and stock lands in the State, and any of our readers who are looking for such openings should read the ad. carefully. When writing, please mention that you saw the ad. in the PACIFIC RURAL PRESS.

Two new ads. in this week's PACIFIC RURAL PRESS, to which we invite our readers' attention, are: Henshaw-Bulkley Co., of San Francisco, and the Western Gas & Power Co., of Oakland. Both these firms are responsible, and they will appreciate your business, especially if you mention this paper.

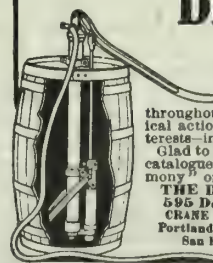
## Nitrate of Soda

Nitrate Sold in Original Bags  
**NITRATE AGENCIES CO.**  
 64 Stone Street, New York  
 Keyser Building, Baltimore, Md.  
 36 Bay Street, East, Savannah, Ga.  
 305 Baronne Street, New Orleans, La.  
 Holcombe & Co., 50 Clay Street,  
 San Francisco, Cal.  
 Address Office Nearest You  
 Orders for All Quantities Promptly  
 Filled—Write for Quotations

### Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." Glad to send our Nineteen Eight catalogue and "Expert Testimony" on request.  
**THE DEMING COMPANY**  
 695 Depot St., Salem, Ohio.  
 CHASE CO., Pacific Coast Agents,  
 Portland, Seattle, Spokane, Tacoma,  
 San Francisco, Salt Lake City.

### POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
 Importer and Breeders of all Varieties of Land and Water Fowls  
 Stock for Sale Dept. 31, 320 McAllister St., S. F.

### "THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
 WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
 MADE BY **R. E. DIETZ COMPANY** NEW YORK  
 Largest Makers of Lanterns in the World  
 ESTABLISHED 1840  
 PIONEERS AND LEADERS

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

### DEWEY, STRONG & CO.,

1106-6 Merchants Exchange Bldg., San Francisco  
 Established 1860.



## The Home Circle.

### The Ultimate Good.

To suffer woes which hope thinks infinite;  
To forgive wrongs darker than death or  
night;

To defy power, which seems omnipo-  
tent;

To love and bear; to hope till Hope creates  
From its own wreck the thing it contem-  
plates;

Neither to change, nor falter, nor re-  
pent;

This, like thy glory, Titan, is to be  
Good, great and joyous, beautiful and  
free;

This alone Life, Joy, Empire and Victory!  
—Percy Bysshe Shelley.

### A Matrimonial Awakening.

(Bohemian)

She vowed before I married her  
My wish her law should be;  
That there was nothing in the world  
She would not do for me;  
It was a man's place to decide,  
A woman's to obey,  
And all she asked was to be loved,  
And not to have her way!

But somehow she has changed her mind  
Since we two were made one;  
She wants most ev'rything she sees,  
With askings never done;  
As for my wishes being laws,  
I've only this to say:  
Experience has taught me that  
She orders—I obey!

Alas! that women dif'rent see  
When once a man is theirs!  
Alas! that marriage should change so  
The aspect of affairs!  
In courtship's days she said that Love,  
Not she or I should rule,  
But if I mention that to her,  
She cries: "Oh, you're a fool!"

### Beasts and Men.

Some red revolutionist once said that  
the test of royalty is the ability to kill.  
If this be true, then the Indian tiger is  
surely one of the most royal of beasts;  
for in the year 1906 he killed 24,938 na-  
tives of the great peninsula.

But one is inclined to think that two  
factors have combined to produce this  
grim total. One is undoubtedly the  
strength, the ferocity and the cunning  
of the tiger himself. Next to the grizzly  
bear, the tiger is the strongest of the  
beasts of prey. A male tiger in fair con-  
dition weighs from 400 to 550 pounds;  
a female perhaps 100 pounds less. This  
is somewhat larger than the African  
lion, and decidedly larger than any  
others of the cat family. The tiger has  
all the stealth and cunning of the cats;  
he can crush a man's head with one  
blow of his paw, and finds not the  
slightest difficulty in murdering the na-  
tive cattle. And yet, it is more than  
likely that the helplessness of the natives  
is more to blame for the loss of life than  
even the prowess of their striped enemy.

For the native of India has a number  
of qualities which totally unfit him for  
struggle against such a beast. Save for  
the fighting tribes of the northwest, the  
Hindu (using that term to mean all the  
inhabitants of Hindustan) is a good deal  
of a coward. He is divided from his  
kind by a caste system which not only  
destroys the power of co-operation, and  
therefore fosters cowardice, but is fatal  
to all natural human sympathy. The  
"gentle Hindu" is one of the most ut-  
terly callous creatures on earth, and one  
of the most superstitious as well. If a  
man of another caste than his own is  
killed by the striped marauder, why,  
he was only a reptile, anyway, and had  
doubtless displeased the gods in some  
manner. "His teeth are like iron  
rakes," declares a tracker in describing  
a tiger marked down for a hunter;  
"his eyes blaze like bonfires, and the  
spirits of those whom he has devoured  
ride upon his head to guide him." Su-  
perstition, cowardice and caste would  
make any people an easy prey, to ani-  
mal or human enemies. They have had  
their natural and proper effect in India;

and all the efforts of the English lords  
of the land cannot keep down the striped  
pests while the natives wait supinely to  
be murdered.

The number of humans killed by the  
beasts of any country is less an indica-  
tion of the character of the beasts than  
that of the men.

### Food for Thought.

When the years have slipped by and  
memory runs back over the path you  
have come, says an exchange, you will  
be glad you stopped to speak to every  
friend you met, and left them all with a  
warmer feeling in their hearts because  
you did so.

And you will be glad that you were  
happy when doing the small, everyday  
things of life, that you served the best  
you could in earth's lowly round.

You will be glad that men have said  
all along your way: "I know I can  
trust him; he is as true as steel."

You will be glad there have been  
some rainy days in your life. Clouds  
and storms are not the worst things in  
life. If there were no storms, the foun-  
tains would dry up, the sky would be  
filled with poisonous vapors, and life  
would cease.

You will be glad that you stopped  
long enough every day to read care-  
fully, and with a prayer in your heart,  
some part of God's message to those he  
loves.

You will be glad that you shut your  
eyes tight against all the evil things  
men said about one another, and tried  
the best you could to stay the words  
winged with poison.

You will be glad that you brought  
smiles to men, and not sorrow.

You will be glad that you have met  
all the hard things which have come to  
you with a hearty handshake, never  
dodging one of them, but turning them  
all to the best possible account.

### An Old Rose Tree.

A Marechal Neil rose tree 30 years  
old and six inches in diameter at the  
base, being the largest of its kind in this  
part of the country, will be transplanted  
when the old greenhouse is removed to  
its new site to make room for the new  
agricultural building which is to be be-  
gun this summer. The greenhouse will  
be moved to a point south of where it  
has stood for the last half-century. It is  
said that this notable old rose tree was  
planted more than 30 years ago when  
Prof. S. M. Tracy was professor of bot-  
any in the university, and has experi-  
enced many hardships of wind and  
weather, but in spite of them all has  
yielded its crop of roses faithfully, and  
is still a sturdy bloomer. It is claimed  
that as many as 500 blooms have been  
taken from it in one day. — Columbia  
(Mo.) Statesman.

### Cow vs. Milkman.

A Philadelphia lawyer maintains an  
admirable stock farm on the outskirts of  
the Quaker City. One day this summer  
some poor children were permitted to go  
over the farm, and when their inspec-  
tion was done each of them was given  
a glass of milk.

The milk came from a \$2500 cow.

"How do you like it, boys?" asked an  
attendant, when the little fellows had  
drained their glasses.

"Fine! Fine!" said one youngster,  
with a grin of approval. Then, after a  
pause, he added:

"I wisht our milkmen kept a cow."

Some newspaper men are terrible  
liars. In writing of a cyclone in Kan-  
sas recently one of them said that it  
turned a well inside out, a cellar upside  
down, moved a township line, blew the  
staves out of a whisky barrel and left  
nothing but the bung hole, changed the  
day of the week, blew a mortgage off a  
farm, blew all the cracks out of a fence  
and knocked the wind out of a politi-  
cian.

### Pith, Point and Pathos.

Sometimes the things that hurt the  
most are the greatest kindnesses.

A woman enjoys herself a lot more at  
a meeting where she can keep her hat  
on.

The world pays the most attention to  
the man who pays the least attention to  
it.

The unexpected is generally nothing,  
after all, except the penalty of lack of  
foresight.

If your friends are so many that they  
worry you, try making efforts to borrow  
from them.

It is funny how people will mourn  
over a man dead when they forgot all  
about him when living.

Considering how many are advising  
about the secret of success it is funny no  
one has found it out.

It would be mighty interesting to  
know just what the heathen thought of  
our missionary societies.

When a man tells you you are lucky  
it is an admission that he knows you  
are a better man than he is.

When a man says he is doing some-  
thing only because he feels he ought to,  
it is a sign all other excuses have failed.

There would be more good apparent  
in this world if people looked for it  
somewhere outside of their own selves.

### Salt Is a Necessity.

"Salt is a most necessary article of  
food," says a well-known scientist.  
"All races of mankind, either civilized  
or in a savage state, have the same re-  
gard for salt."

"In parts of central Africa the na-  
tives regard salt as a luxury, and will  
willingly do much to obtain it. So  
much do they like the taste of salt that  
the ashes of the burned veldt grass are  
used to season their meat. These ashes  
contain saltpetre, which imparts the  
coveted flavor to food."

"Animals, too, are fond of salt. In  
a wild state they will readily go to a  
spring the water of which has been  
salted. Sportsmen know this, and use  
it as a bait."

"Salt exists in all the parts of the  
body. So omnipresent is it that even  
the tears taste of it—hence the 'salt,  
salt tears' of the poet."

### Paying Debts in Japan.

Foreigners in Japan find a great op-  
portunity to purchase curios at the be-  
ginning of each new year. Every one  
in Japan is expected to clear up his  
books and pay his debts by the last day  
of the old year. The tradesmen send in  
their yards—more often miles—of bills  
to "the honorable lady of the house,"  
and presents are politely exchanged all  
around. Shopkeepers hold bargain sales  
to enable them to pay the wholesale  
houses; and if a man cannot raise suf-  
ficient money to pay his creditors, it is  
not an uncommon thing for him to sell  
off sufficient or even all of his property  
at a sacrifice to enable him to meet the  
new year with a smiling face. The  
only other honorable way out of his  
difficulties is for him to commit suicide.

### How to Keep Juice in a Pie.

Any one who has ever had the juice  
from an apple, rhubarb or other pie run  
all out of the oven while baking knows  
just how annoying it is. I have over-  
come the difficulty by taking a strip of  
clean white cloth, about an inch wide  
and long enough to lap when put  
around the edge of the pie plate,  
wringing it out of hot water, doubling  
together lengthwise, and pinning tight  
around the edge of the plate. When  
the pie is baked, take off the rim, and  
you will find the juice in the pie instead  
of in the oven. — Woman's Home Com-  
panion.

### Suggestions Worth Trying.

It is quite difficult to arrange the jelly  
bag when making jelly so that it is  
easily managed. A very good plan is  
to hem the edge of the bag over a large  
embroidery hoop. Sew a tape firmly to  
the hoop by which to hang it when put  
to drain. With this arrangement, the  
hot fruit may be poured without spill-  
ing and there is no danger of the bag  
slipping or burning oneself. A jelly  
bag should always be made with a point  
or angle at the bottom to insure the  
maximum of pressure.

For those who fit buttered papers in  
their cake tins it is a good plan to leave  
small projections of the paper on two  
opposite sides which can be used as  
handles in removing the cake.

In cutting hard butter into even slices  
or tiny squares fold a piece of waxed  
paper over the blade of the knife used.  
In this way a smooth cut may be made  
without breaking or crumbling the  
butter. A piece of the paper which  
comes around the butter may be used  
for this purpose.

When covering an ironing board,  
make it on the principle of a pillow  
slip, making it the shape of the board  
and very tight, to prevent wrinkling.  
It is a good plan to have several of  
these covers, so that they can be fre-  
quently changed and laundered.

During damp weather salt shakers  
are apt to become clogged. By placing  
a few rice grains in each shaker and  
adding the salt last the delivery is better.

A clean, dry sponge is the best thing  
to use in removing lint from woolen  
material.

When doing stencil work dip the  
stencil, after the design is made, into  
hot melted paraffine and let it harden.  
This prevents the blurring of the colors,  
and the stencils wear much longer.

When cutting fudge when cold, or  
any candy, if it does not cut nicely, try  
heating the knife and it will cut much  
easier.

If by some misfortune your cake  
should burn, an effective instrument for  
removing the burned crust is a flat  
grater. It is far better than a knife in  
that it does the work more evenly and  
leaves a smoother surface for the icing.  
—Lotta I. Crawford.

### Cooking Cabbage.

Do you know that cabbage may be  
boiled without emitting that objection-  
able odor which so often causes us to  
drop that vegetable from our menu?

The method is a very simple one and  
well worth trying. Into the midst of  
the cabbage place a good-sized onion  
which has been peeled; then on top  
place slices of stale bread, cut thick.

Do not add too much water to the  
cabbage at one time or it will soak the  
bread and cause it to separate and mix  
with the cabbage, but rather add water  
from time to time in course of the boil-  
ing process.

Upon the back of the stove, where it  
will just simmer, set a small vessel con-  
taining vinegar and sugar.

The bread and onion absorb the odor,  
and the vinegar and sugar are a precau-  
tion to make assurance doubly sure.

An Italian scientist believes that day-  
light alone determines bird migration.  
The summer migrants, he says, come  
north to take advantage of the long days  
and go south again to avoid the short  
and dark ones. They require all their  
time to get sufficient food for themselves  
and their voracious young. Hence the  
extra daylight of north in the summer  
is an advantage to them. In winter the  
short days do not allow them time to  
get sufficient food. Most birds prefer  
daylight for feeding. The scientist does  
not credit the old explanation that mi-  
gration is due to cold and want of food.

Annually 75,000 barrels, or 7,500,000  
pounds, of horse-radish are shipped from  
St. Louis to the Atlantic Coast, to the  
Pacific Coast, to the lakes and to the  
gulf.



## Agricultural Education.

### Instruction on the University Farm.

The Agricultural Department of the University at Berkeley has just issued a special circular concerning instruction in practical agriculture, which will be open this fall upon the University Farm at Davis, California.

Announcement is made of the following Farmers' Short Courses for 1908:

Dairy Manufacture.—Eight weeks. October 5 to November 25.

Irrigation, Soils, Forage Crops, and Cereals.—Three weeks. October 12 to 31.

Poultry Husbandry.—Eight days. October 12 to 20.

Animal Industry and Veterinary Science.—Four weeks. October 21 to November 18.

Horticulture and Viticulture.—Three weeks. November 4 to 25.

The aim of the short courses is to give the latest and best knowledge in a condensed and concentrated form to farmers and creamery operators who can spend only a brief period away from their business—to put into a nutshell, as it were, what is now known of the principles underlying the agricultural processes and their application to farm practice. The dominant feature of the courses will be their emphasis of the practical aspect of the farm operations and the actual participation by the students in the work under consideration.

EVERYBODY MAY COME.—The Farmers' courses are open to all persons who are at least seventeen years of age. No entrance examinations will be given nor any requirement imposed except an earnest desire to learn and to make the best use of the opportunities freely offered by the State through its University. Each person is at liberty to choose the course he or she desires, and will be expected to continue with the course registered for, though opportunity will be given to pursue parts of two or more courses simultaneously if the student desires, and the hours are convenient. Enough work is given in each course to occupy the entire time of the student, and each has been so outlined as to best meet the needs of most individuals, so far as those needs may be foreseen.

EQUIPMENT.—The farm covers an area of 780 acres of first-class valley land chiefly a sandy loam and very productive. It is upon the irrigation system of the Yolo Consolidated Water Co., and water rights covering the whole acreage accrued to the University by donation from the citizens of the vicinity. It is all capable of irrigation, and main canals connecting with this system now traverse the farm. It is well equipped with work stock, chiefly mules, and with a full complement of farm wagons, tools, and machinery. Portions of the farm have been set aside for distinctly experimental work e.g., 40 acres for fruits and vines, of which one half is planted; 40 acres for improvement of cereals; 30 acres to irrigation to show results of different types of ditches and different methods of applying water; 30 acres of growing alfalfa are on the farm, and about 60 acres more have been planted this season. Variety and culture tests of sugar beets and legumes are under way on some 20 acres; the remainder of the farm is in hay, grain and summer fallow.

BUILDINGS.—The creamery is a two-story building, 60 by 80, and has rooms for separators, churning and cheese-making. A 40-horsepower boiler furnishes steam for heating, for power to operate the creamery machinery, and the eight-ton refrigerating machine. On the second floor are two class rooms, a laboratory, and four offices. This building is for the

present the administrative center of the farm and school.

The Pavilion is a one-story octagon shaped building, 60 by 80. It serves in the double capacity of a place for stock judging and a general auditorium. The seating capacity is about 500, and here are held evening lectures and other meetings of general interest.

The Dairy Barn consists of a main hay and feed portion 41 by 168, and two wings at right angles thereto, each 41 by 105. The east wing has stanchions for 52 cows, while the west wing has small stanchions for calves and 10 box-stalls for cows at calving and for bulls. The central part of the main barn is reserved for hay storage, while the ends are occupied with feed rooms, machine room, driveways, and three sleeping rooms for attendants. The barn has a concrete floor throughout, with concrete gutters and mangers.

The Seed House is located on the cereal experimental tract, and is especially designed for the needs of the department. It is a one-story building, 35 by 46, and in addition to office and small seed room has three larger rooms: one a tool room, one for student laboratory, and one for general work room.

The Shop is of one story, 30 by 70, and is divided into three apartments: one 20 by 30 for blacksmithing, one of the same size for carpenter work, while the remainder, 30 by 30, is a general workshop in farm machinery. It is the plan when more funds are available to extend this to 70 by 100, and it will later become a portion of the more completely housed department of rural engineering.

A water and sewer system has been installed, at a cost of about \$18,000. The domestic water supply is pumped from a deep well into a 25,000-gallon tank at an elevation of 60 feet. Six-inch pipes carry the water to all present buildings and on lines to feed many future buildings, and to fire hydrants at necessary points. The disposal of sewage is by means of septic tanks, from which it is pumped over an aerator and then applied to the land for irrigation. Six and eight inch sewer pipes lead from the buildings to the septic tank, with concrete manholes at convenient intervals. This system has been planned and constructed with extreme care, to the end that future occupants of the farm and attendants upon the school may be assured of sanitary surroundings.

A Dormitory System of commodious dimensions has been planned. The first unit in the system is a building 36 by 150, having two full stories and sufficient attic space for nine more rooms. The dormitory contains in all fifty single rooms in addition to two suites consisting of sitting and sleeping room and private bath. Every convenience in the way of bathing facilities, heating, lighting, large living room, and furnishings has been provided to make the life attractive and homelike.

The original ranch buildings, consisting of a one-story cottage, horse, mule and hay barns, wagon and tool sheds, are used by the University in the same manner as by their former owner. Two cottages for the occupancy of instructors or employees were constructed in 1907 near the new buildings.

INSTRUCTORS.—In addition to a full corps of instructors from the staff of the College of Agriculture, at Berkeley, the following non-resident instructors will take part in the short courses: F. T. Biolletti, Hollister, Viticulture; W. B. Mack, University of Nevada, Veterinary Science; Charles Keane, State Veterinarian of California, Veterinary Science; F. H. McNair, Berkeley, Poultry Diseases; Mrs. M. E. Sherman, Fresno, Horticulture and Viticulture; Mrs. A. Basley, Los Angeles, Poultry Husbandry; Frank T. Swett, Martinez, Viticulture; G. H. Hecke, Woodland,

Horticulture and Viticulture; Earl Morris, County Entomologist, Santa Clara, Entomology; W. H. Volck, County Entomologist, Santa Cruz and Monterey, Entomology; J. S. Hunter, County Entomologist, San Mateo, Entomology; V. G. Huntley, Petaluma, Poultry Husbandry.

Details of all the courses which are offered, cost of living, etc., can be had by sending to the College of Agriculture at Berkeley for copies of the circular.

## Patrons of Husbandry.

### Tulare Grange Meeting.

To the Editor: Tulare Grange convened in its hall on Saturday, the 6th. There was a good attendance, but there was a better lunch, and that promoted kindly greetings and sociability, so the lunch part of the meeting was a success.

After reading the minutes of the last previous meeting Bro. Henry, representative to the good roads meeting held in Visalia, the county seat, on Tuesday, the 2nd, reported.

There was much discussion at the meeting as to what would be good roads, how much they will cost to make, and who will make them. A resolution was offered by a grange representative that a committee of seven, to include the chairman of the Board of Supervisors and the secretary of the Board of Trade, be appointed to consult and report back to the meeting as to the construction and cost of good roads. It was voted down.

A resolution was offered that the county issue \$200,000 in bonds to build good roads, \$40,000 for each supervisorial district to be spent on such roads in the district, as later determined. The resolution was carried by a vote of 15 to 12.

The convention was made up of representatives of six boards of trade, three granges and the Merchants' Association of Visalia, three votes to each.

Afterwards a series of resolutions was offered: that the nation, the state and every county in every state, are interested in good roads and of right each should participate in their construction and in their maintenance; that all roads should be laid out and constructed on road engineering plans and under supervision of qualified road engineers; that our representatives in Congress, House of Representatives and Senate, be and they are requested to vote for the bill now before Congress providing for the appropriation of \$50,000,000 towards the building of good roads in every state.

The bill covering these points has been prepared by and introduced at the request of the National Grange; the appropriation is to be for five years, \$10,000,000 each year, not less than \$500,000 any year to any one state.

It was also resolved that no matter of what material built or what the cost of the road, narrow tired freight-carrying vehicles are destructive thereof and wide tired vehicles aid in the smoothing and maintenance of the road, and this Good Roads Convention approves of the wide-tire law of the Legislature of 1897, as prepared by the then State Bureau of Highways, Messrs. R. C. Irvine, Marsden Manson and J. L. Maude.

These resolutions were, without discussion, adopted unanimously, but, by some mistake or oversight, not included in the published report. A committee of two from each supervisorial district was elected to consult with the Board of Supervisors, to provide for the issuing of the bonds and the building of the roads.

The subject of the day, "Will co-operative marketing bring better returns than individual selling," was opened by reading an instructive paper thereon by

Worthy Master Lawson. The subject was very generally discussed, the sentiment being all in favor of co-operation in selling.

It was agreed the next meeting, June 20, should be Children's Day and a committee on program was appointed.

J. T.

The twentieth annual session of the State Grange of Washington was held at Vancouver recently. The report of the secretary shows that there are at this time 123 subordinate granges in the State, with a total membership of 6,500, showing a net gain for the year of nearly 2,000. The report of the treasurer shows the total receipts for the year to have been \$3,789.18.

A Redondo seed farm expects to produce over 800,000 pounds of seed this year on the 350 acres planted.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico. That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company.

### Palo Alto—Stanford University

For Sale—40 acres with good improvements which will prove a profitable investment as a Summer and Winter resort or a gentleman's home. Only four and one-half miles out in low foothills. Fine views. Good roads. Write for circular.

JOHN F. BYXBEE,

Palo Alto, Santa Clara County, California.

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying. 5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA. Open all Year. A. VAN DER NAILLEN, Pres't. Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular.



## THE MARKETS.

San Francisco, June 17, 1906.

### WHEAT.

The latest reports from the crop on the Coast indicate that it has been slightly damaged by the late rains. The Oregon crop has been attacked by rust, a thing very unusual for the crop in that State. The reports in the East are not quite so favorable as they were last week, but the market there still remains weak. The San Francisco market remains dull, with no change from last week's quotations. There has been little activity in futures.

California White Australian..	1.70 @ 1.72½
California Club.....	1.65 @ 1.67½
California Milling.....	1.67½ @ 1.70
California lower grades.....	1.40 @ 1.60
Northern Club.....	1.65 @ 1.67½
Northern Bluestem.....	1.70 @ 1.75
Northern Red.....	1.65 @ 1.67½
Turkey Red.....	1.67½ @ 1.75

### BARLEY.

During the week there have been samples of bright new feed shown on the market, but there are very few buyers for it. The same condition holds in the market for old feed. The prices of spot feed took another slump during the week, good feed going for \$1.25. The receipts of the week have been moderately large, with the stocks neglected. On account of the lack of offers for the new feed, no prices were set for it. The following quotations ruled at the end of the week:

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.25 @ 1.27½
Common to Fair.....	1.22½ @ —
Shipping.....	Nominal

### OATS.

The market in oats is still unsettled and different opinions are held as to its future movement. Some of the dealers think that the market has reached its lowest mark in the present prices, and there will be an advance in the near future, while others look for it to go still lower. At present there is practically no buying going on and the market is easy at the following quotations:

Choice Red, per ctl.....	\$1.45 @ 1.50
Ordinary Red.....	1.35 @ 1.40
Gray.....	1.37½ @ 1.42½
White.....	1.45 @ 1.50

### CORN.

The corn market remains firm, with trading quiet. No important shipments have arrived from the East, and the market here is not very heavily supplied. Buying for milling purposes comprises the whole of the trading now being done in corn.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow, low.....	1.85 @ —
White, in bulk.....	1.75 @ 1.76
Mixed, in bulk.....	1.73 @ 1.74
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

### RYE.

In sympathy with the Eastern market, the quotation on rye was raised slightly during the week. The market here remains quiet and firm at the new quotation.

California.....	\$1.50 @ 1.52½
-----------------	----------------

### BEANS.

Beans will go still higher, is the belief of the dealers. The visible stock of beans is quite small, some estimating that it is the smallest that it has been at this season for many years. The report of the San Francisco Merchants' Exchange gives the stock of beans on hand in the State of California on June 1 at 237,989 sacks, of which amount 97,000 sacks are in San Francisco. The following estimate of the amounts of the different varieties has been made: 100,000 sacks of limas, 60,000 pink beans, 20,000 sacks of Bayos, 30,000 sacks of whites, and 30,000 sacks of vari-

ous kinds. Reports from the new crop are favorable, although the frost in some places made replanting necessary.

Bayos, per ctl.....	\$3.25 @ —
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.75 @ 3.10
Garvanzos.....	2.50 @ 3.50
Horse Beans.....	2.50 @ 3.00
Small White.....	4.30 @ —
Large White.....	4.30 @ —
Limas.....	4.75 @ 4.90
Pea.....	4.40 @ 4.50
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	2.75 @ 3.00

### SEEDS.

The same prices rule in the seed market, which retains its characteristic summer dullness.

Alfalfa per lb.....	20 @ 22 c
Broomcorn Seed, per ton.....	\$22.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

### FLOUR.

The flour market has made no change during the week, and remains dull with prices firm.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

### HAY.

The shipments of hay for the past week have been somewhat larger than those of the week just preceding, showing a total of 3150 tons, as compared with 2650 tons on the week before. The market remains uninteresting from every standpoint. The trade here is quiet, and neither dealers nor consumers are showing any disposition to go after the new crop. The farmers are for the most part holding out for figures above the ideas of the buyers, and little trading has been done as yet. The dealers believe that the price cannot be maintained at the producers' quotation, but everything indicates that prices will not be very low. The arrivals of new hay are still coming in in scattered lots and are going at widely varying figures, making it impossible to set a quotation on any grade of the new crop. The market is very sensitive to over-stocking, owing to the unsettled condition of future prices, and an over-supply immediately creates a weakness in prices. There was little change in the prices of the old crop, although there were slight fluctuations.

Choice Wheat, per ton.....	\$16.00 @ 17.00
Other Grades Wheat.....	11.50 @ 15.00
Wheat and Oat.....	12.00 @ 16.00
Tame Oat.....	11.00 @ 15.50
Wild Oat.....	10.00 @ 14.50
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 95c

### MILLSTUFFS.

There were several changes in prices of millstuffs during the week, the general tendency being to decrease the margin between the extreme quotations. Rolled barley again dropped, following the spot grain, while cocoanut meal was slightly lower. The market is steady at the new figures.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	31.00 @ 32.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	27.50 @ —
Jobbing.....	28.50 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	34.50 @ 35.00
Mixed Feeds.....	25.00 @ 29.00
Oil Cake Meal, per ton.....	37.50 @ 39.00
Rolled Barley.....	28.50 @ 29.50
Shorts.....	33.00 @ 34.00

### VEGETABLES.

The supply of the vegetable market remains excessive, and prices have had a

general downward tendency during the week, with short arrivals of some varieties keeping the price varying from day to day. String beans have arrived in larger quantities than could be disposed of. Asparagus remains weak and large quantities went to the canneries, although most of the extra-grade found buyers in the regular trade. New red onions are weaker again and arriving freely. Cucumbers, summer squash, and tomatoes arrived in large quantities and the prices on them ranged lower. The light demand for green peppers, corn and egg plant kept these varieties firm, but in most varieties the merchants were willing to make reductions to effect clearances. There was some shipping on outgoing steamers toward the end of the week, but not enough to restore firmness to the market.

Garlic, per lb., new.....	5 @ — c
Green Peas, sack.....	1.75 @ 2.25
String beans, lb.....	2½ @ 5 c
Cabbage, per ctl.....	40 @ 50 c
Onions—	
Australian, per ctl.....	2.75 @ 3.25
New Red, sack.....	65 @ 75 c
Summer Squash, box.....	50 @ 75 c
Tomatoes, crate.....	50 @ 1.00
Carrots, sack.....	75 @ —
Rhubarb, box.....	65 @ 1.00
Asparagus, extra, lb.....	4 @ 6 c
Asparagus, No. 1.....	3 @ 4 c
Asparagus, No. 2, lb.....	2 @ 3 c
Green Peppers, Bell, lb.....	15 @ 17½ c
Green Peppers, Chile.....	7 @ 10 c
Cucumbers, box.....	65 @ 90 c
Green corn, doz.....	20 @ 35 c
Egg Plant, lb.....	7 @ 10 c

### POULTRY.

With a holdover of native stock from last week and a car of Eastern poultry which was offered for sale, the market opened weak and the over-supply has continued. Two more cars of Eastern stock have arrived, and the shipments of California stock have been larger than the average. While there is no change in the prices of the lower grade stock, choice young roosters are a little weaker, the supply of these having increased to some extent and sufficient stock being offered to meet the demand. The market is weak in all lines at present, but there appears to be a better demand for small broilers, and the price for them is likely to advance. There is still a demand for turkeys, though there are none offering on the market.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.00 @ 2.50
Fryers.....	5.00 @ 5.50
Hens, extra.....	7.00 @ 8.00
Hens, per doz.....	5.00 @ 6.00
Small Hens.....	4.00 @ 5.00
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	7.00 @ 8.00
Young Roosters, full grown.....	8.40 @ 9.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.50
Ducks.....	4.00 @ 7.00
Geese.....	1.50 @ 2.00
Goslings, per pair.....	2.00 @ 2.25

### BUTTER.

The butter market remains firm on receipts a little below those of last week. The demand is again good with the cool weather and the movement into storage which is common to this season of the year is taking all offerings which are not needed for the regular trade. The prices which are below those of last week have increased the storage movement. The market is kept well cleaned up, though the demand is not strong enough to advance prices at present. The following prices are those established by the sales, prices bid and asked on the floor of the San Francisco Dairy Exchange, and are recognized as the official quotations of the market.

Cal. (extras) per lb.....	23 c
Firsts.....	22½ c
Seconds.....	22 c
Thirds.....	—
Fresh Packing Stock, No. 1.....	21 c
Fresh Packing Stock, No. 2.....	20½ c

### EGGS.

Eggs are firm at the quoted prices and there is a still further falling off in the

**LILLY'S BEST**  
MEANS

## Comfort for Stock

**ONLY FLY KILLER**  
applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A coat of

**ONLY LICE KILLER**  
applied to roost or board beneath the roost will positively kill lice. For something in the powder form

**ONLY INSECT POWDER**  
is sure death to all vermin and is positively harmless to chicks.

These remedies are Sold by Dealers  
Manufactured by  
**THE CHAS. H. LILLY CO.**  
SEATTLE and PORTLAND

receipts from Sonoma county points. The demand for lower grades still holds, and some sales have been made outside the quotations. The supply of extras has been generous and that grade went down to 23 cents per dozen.

California (extra) per doz.....	23 c
Firsts.....	22 c
Seconds.....	20 c
Thirds.....	18½ c

### CHEESE.

The cheese market remains unchanged, with the California products arriving in large quantities and weak, while other grades hold their firm condition. The movement into storage remains brisk and takes the large surplus of daily arrivals.

Fancy California Flats, per lb...	11½ c
Firsts.....	11 c
New Young Americas, Fancy.....	13½ c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	16 c
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c
Oregon Flats.....	13 c
Oregon Y. A.....	14½ c

### POTATOES.

The potato market is in a rather weak condition, and stocks of all kinds are on hand in plentiful supply. There have been few large arrivals of Oregon Burbanks, but the supply now in storage in this city is sufficient for the trade until the arrival of the new crop. The supply in Oregon is limited and few will be shipped from that State until the new crop is harvested. The supply of new potatoes is large. The harvesting of the potato crop in southern California is progressing and there will be a good yield in that part of the State.

Oregon Burbanks.....	1.15 @ 1.25
New Whites.....	90 @ 1.20
Early Rose.....	90 @ 1.10

### FRESH FRUITS.

While the demand for all fruits was good, the large arrivals of the week made it hard to maintain prices, and most varieties on the market were lower. Cherries were the only exception to the rule, they being higher on light receipts. The demand for cantaloupes has been dull and the market dragged for want of buyers. Peaches, plums and apricots were in plentiful supply and the quality of most of the fruit was good. Some crates of Prunus Simona were offered and grapes from the Coachella valley arrived. Berries of all kinds were rather weak, with some prices lower.

Cherries—	
Black Tartarian, drawer...	50 @ 75
Royal Anne, lb.....	5 @ 7 c
Bulk, other grades, lb.....	2½ @ 6 c
Apples, fancy (old).....	1.75 @ 2.50
Apples, new green.....	35 @ 50
Strawberries—	
Longworths, chest.....	7.00 @ 9.00



Large varieties, chest.....	4.50 @ 6.50
Blackberries, chest.....	4.00 @ 6.00
Raspberries.....	5.00 @ 12.00
Loganberries, chest.....	3.50 @ 4.50
Gooseberries, lb.....	4 @ 8 c
Currents, drawer.....	50 @ 75
Apricots, crate.....	40 @ 65
Plums, crate.....	40 @ 65
Peaches, crate.....	40 @ 65

## CITRUS FRUITS.

The citrus crop of the State has gone well and the market is holding up well at the end of the season. The marketing of Valencias is now at hand and the fruit is of fine size and color for commercial purposes, and is very juicy. There has not been any change in quotations during the week.

Choice Lemons.....	\$2.00 @ 2.50
Fancy Lemons.....	2.75 @ 3.25
Standard.....	1.00 @ 1.50
Limes.....	5.00 @ 5.50
Oranges—	
Navels.....	2.50 @ 3.50
Valencias.....	3.00 @ 3.50
Mediterranean Sweets.....	2.75 @ 3.25
Grape Fruit.....	3.50 @ 4.00

## DRIED FRUITS.

The market in dried fruits here remains inactive, and there has been no change in prices. There have been no sales of any importance to set prices, and the ones quoted below are those set by the large packers as their nominal figure. From the East there comes a report that some little interest is being taken in dried apricots, but other lines are as lifeless there as they are on the Coast. It is doubtful if there will be much buying done until after the prices for this year's crop have been fixed.

Evaporated Apples.....	5 @ 6 c
Figs.....	2½ @ 3 c
Apricots, per lb.....	11 @ 13 c
Peaches.....	7 @ 8½ c
Prunes, 4-size basis, 1907 crop.....	3 @ 3½ c
Pears.....	7½ @ 9½ c

## RAISINS.

2 Crown.....	3½ @ —
3 Crown.....	4 @ —
4 Crown.....	4 @ 4½ c
Seeded, per lb.....	6 @ 6½ c
Seedless Sultanias.....	4½ @ —
London Layers, per box.....	90 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

Recent estimates of both the almond and walnut crops of the State point to a large crop. The stock of walnuts on hand is extremely small, and the new crop will come in on a bare market. There has been no change in the prices of the old crop of nuts.

Almonds, Nonpareils.....	13½ @ 14½ c
IX L.....	13 @ 14 c
Ne Plus Ultra.....	12½ @ 13 c
Drakes.....	11 @ 11½ c
Languedoc.....	10 @ —
Hardshell.....	7 @ 7½ c
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12½ c

## HONEY.

It appears now as though there would be a very short honey crop in the West this season. The season for honey-making was much delayed by the cool weather and so far very little of the new crop has arrived. The feeling of the market on these reports is very firm, and the prices are expected to advance rather than drop.

Water White, Comb.....	16 @ 17 c
White.....	15 @ —
Water-white, extracted.....	8 @ 8½ c
Light Amber, extracted.....	7 @ 7½ c
Dark Amber and candied.....	5½ @ 5½ c

## WOOL.

There has been no new development in the wool market, the raisers are not selling freely at the low prices, and the amount of interest displayed by the buyers is small. The following quotations still rule:

Spring-clip, Humboldt, year's staple.....	15 @ —
Northern Humboldt and Mendocino.....	12 @ 13 c
San Joaquin.....	7 @ 9 c
Fall Clip, northern, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 11 c

## HOPS.

As far as prices are concerned there has been no change in hops. There will be good crops in the California districts, but the acreage will be considerably smaller. The Brewers' Association of the Coast has decided, since a majority of the hop and barley raising districts of Oregon went dry, that they will not buy Oregon hops or barley for brewing and malting. The big Eastern association is expected to take similar steps at its next meeting, and the Oregon hop growers will find their principal market, the breweries, shut off. No change in quotations is noted.

1906 crop.....	1½ @ 3 c
1907 crop.....	4 @ 6½ c
1908 (contracts).....	8 @ 10 c
3 to 5 year contracts.....	10 @ 12 c

## MEAT.

There has been little change worthy of note in the meat or stock market this week. The market holds firm for both. The following prices for livestock are gross, on foot, in San Francisco:

Beef: Steers, per lb.....	6½ @ 7 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7½ c
Small.....	8 @ 9 c
Mutton: Wethers.....	8½ @ 9 c
Ewes.....	7½ @ 8 c
Spring lamb.....	10 @ 11 c
Hogs, dressed, heavy.....	7½ @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	4 @ —
No. 2.....	3½ @ —
No. 3.....	3½ @ 3½ c
Cows and Heifers, No. 1.....	3½ @ —
No. 2.....	3 @ —
Bulls and Stags.....	1½ @ —
Calves, Light.....	4½ @ —
Medium.....	4 @ —
Heavy.....	3½ @ —
Sheep, Wethers.....	4½ @ —
Ewes.....	4 @ —
Spring Lambs, lb.....	5 @ 5½ c
Hogs, 100 to 200 lbs.....	6 @ —
200 to 300 lbs.....	5½ @ 5½ c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL CITRUS MARKET REPORT.

LOS ANGELES, June 16.—The orange market is very strong on good sized fruit that is up to grade in every particular. The auctions showed a slight weakness in the latter part of last week, but this was wholly on account of the influx of weak, over-ripe navels. This was fruit that had been rejected, off-bloom stock or else stuff that had been "tramping" and had at last wound up in that natural outlet, the auction.

The better grade of navels and good grades of seedlings, sweets and mikes held strong at top prices. This created a wide range of values, and fruit is selling all the way from \$1.50 to over \$4 a box in the same market and on the same day. Every box sold is bringing full value and the market was never stronger than at the present time.

All Valencia shipments for the holiday trade have gone out. There will be but little shipping until this stock has been cleaned up. Packing houses are practically closed and nothing is being packed unless on orders for immediate shipment. So far very few Valencias have appeared at the auctions. These are being very well received, but shippers are showing good judgment in not bringing Valencias into active competition with the other varieties.

We hear of very little of the summer fruit being offered at less than \$3 f.o.b. Of course there are some oranges that are not worth this figure and that are selling for less, but the fancy fruit from recognized districts easily commands the best prices.

The lemon man is feeling a little encouraged by the warmer weather in the East. So far this warm weather has only appeared in streaks, a day or two at a time, and has not so far created a steady demand. However, conditions have been better the past few days, and this is evidenced by the fact that 80,000 boxes of foreign lemons were absorbed in New York City last week at good prices. This week 80,000 boxes more will be offered. This amounts all told to 520 cars, and is a big lot of fruit to be disposed of in one city in the brief space of two weeks.

Up to the beginning of this week there had been shipped from California 24,792 cars of oranges and 3074 cars of lemons. Shipments have been running at about

100 cars of oranges and 25 cars of lemons a day. At this time last year 23,085 cars had gone forward, 2251 cars being lemons, and in 1906, 22,757 cars, of which 2709 were lemons.

## DIVIDEND NOTICE

The German Savings and Loan Society  
526 California Street.

For the half year ending June 30, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

GEORGE TOURNY, Secretary.

## FOR SALE

400 sheets corrugated galvanized iron, 30x96 inches, No. 26 iron, brand new. Price \$4.25 per square. Address

1308 Merchants Exchange Bldg.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

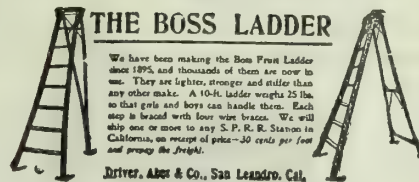
One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.



## HENRY B. LISTER,

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

## BOOKS FOR THE FARM

## For Sale by PACIFIC RURAL PRESS

THE NEW ONION CULTURE.—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and experiment stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth.....\$0.50

THE BOOK OF CORN.—By Herbert Myrick, assisted by A. D. Schamel, E. A. Burnett, Albert W. Fulton, B. W. Snow, and other most capable specialists. A complete treatise upon the culture, marketing, and uses of maize in America and elsewhere, for farmers, dealers, and others. Illustrated. Upwards of 500 pages, 5 by 7 inches. Cloth.....\$1.50.

AMERICAN GRAPE GROWING AND WINE MAKING.—By George Husmann, of California. New and enlarged edition. With contributions from well-known grape growers, giving wide range of experience. The author of this book is a recognized authority on the subject. Illustrated. 269 pages. 5 by 7 inches. Cloth.....\$1.50

FARM DRAINAGE.—By Judge French of New Hampshire. The principles, process, and effects of draining land with stones, wood, ditches, open ditches, and especially with tiles; including tables of rainfall, evaporation, filtration, excavation, capacity of pipes, cost and number to the acre. 384 pages. 5 by 7 inches. Cloth.....\$1.00

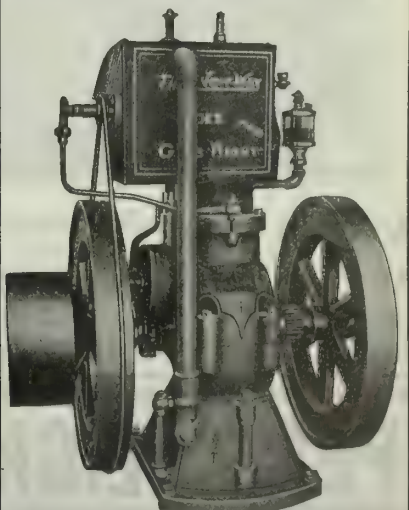
THE NEW RHUBARB CULTURE.—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the well-known Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fluke. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 59 pages. 5 by 7 inches. Cloth.....\$0.50

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	—
Beckman, Geo. V.....	394
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	399
Breeders' Directory.....	394, 395
Byxbee, John F.....	397
Croley, George H.....	395
Clark Wise & Co.....	—
Cutter Laboratory, The.....	394
De Laval Dairy Supply Co.....	393
Deming Co., The.....	395
Dewey, Strong & Co.....	395
Dietz Company, R. E.....	395
Disbrow, F. H.....	399
Doak Gas Engine Co.....	400
Driver, Aber & Co.....	399
Driver, E. S.....	394
Fleming & Sons Mfg. Co.....	400
Fresno Agricultural Works.....	—
Gallaway, A. J.....	399
German Savings & Loan Society.....	399
Hart, Ed.....	395
Henshaw-Bulkley Co.....	399
Howard Cattle Co.....	394
International Harvester Co.....	—
Jackson & Co., T. W.....	400
Lawrence-Williams Co.....	394
Lilly Co., Chas. H.....	398
Lister, Henry B.....	399
Lynch, John.....	394
Meacham, Frank A.....	—
Mountain Copper Co.....	400
National Wood Pipe Co.....	400
Nitrate Agencies Co.....	395
Oakland Poultry Yards.....	395
Pasteur Vaccine Co.....	394
Pear Blight Remedy Co.....	400
Robinson, John R.....	397
Roeding, Geo. C.....	394
San Francisco Sulphur Co.....	393
Sharples Separator Co.....	394
Silva & Bergholdt Co.....	400
Simmons Hardware Co.....	—
Smith, Francis.....	—
Sorby Vaccine Co. (Inc.).....	394
Southern Pacific Railway.....	400
Standard Oil Co.....	393
Stowe, C. A.....	394
Sullivan, W.....	395
Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Van Der Naillen, A.....	397
Vermont Farm Machine Co.....	394
Wagner, J. B.....	399
Waite, Thos.....	394
Western Gas & Power Co.....	393
Woodin & Little.....	400

THE NEW WAY  
AIR COOLED ENGINES

The first and only SUCCESSFUL, AIR COOLED Gasoline Engine manufactured.  
**HENSHAW-BULKLEY & CO.**  
Distributors for California, Nevada & Arizona  
San Francisco Los Angeles  
Cor Fremont and Market. 335-337 E. Th rd

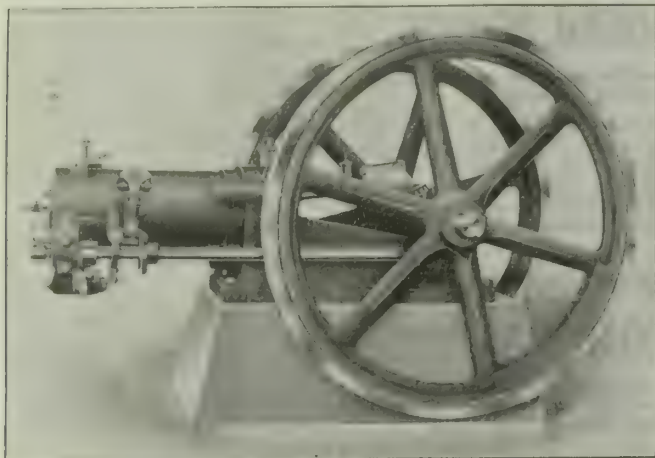
## Blake, Moffitt &amp; Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.

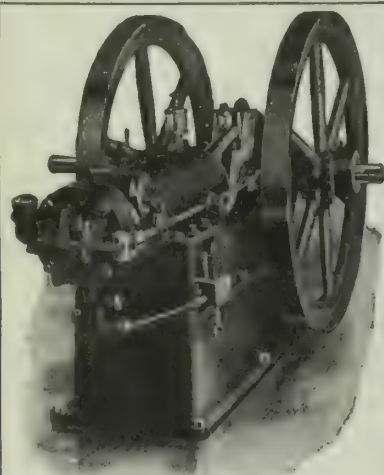


If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

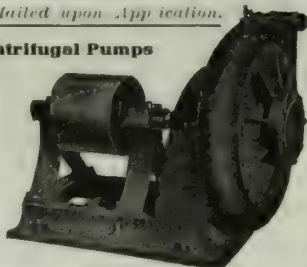
Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



### FAMOUS Stover Gasoline Engines BUILT UPON HONOR

They develop more than the rated horsepower. Simple, Durable, Easily Operated, Economical in Fuel Consumption and Guaranteed. We carry in stock from 2 to 50 horsepower.  
*Catalogue Mailed upon Application.*

**Gould's Centrifugal Pumps**  
are more efficient and take less power to operate them.  
All sizes from 1 to 10 inch in stock.



WOODIN & LITTLE PUMP HOUSE, 70-72 Fremont Street SAN FRANCISCO, CAL.



## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

### NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.  
SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooley Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## PEAR-BLIGHT

We can CURE IT  
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## Put Up 145 Acres Heavy Hay in Seven Days

The Horse Swings the Load as He Raises it, which makes the Fleming the Only Automatic Swinging Stacker Made.

Will Build a Stack 20 Feet Wide by 50 Feet Long, 25 to 30 Feet High. Made in 3 Sizes.



Field view from photo on D. R. Love's farm, Falmouth, Ill., with Fleming Automatic Swinging Hay Stacker and 3-Wheel Rakes.

This Rake is built 12 ft. wide and has 14, 16 or 18 ft. Metal-pointed Teeth, Sliding Steel Seat, 18 or 20 in. Drive Wheels, Self Tongues or Hinged Tongues as desired.

In order to introduce our machines to every hay raiser we will sell direct from Factory to user a limited number of machines at prices to suit you. Write for circular.

Manufactured by FLEMING & SONS MFG. CO., Huntsville, Mo.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY Newcastle, Cal.



## SUPERPHOSPHATES (PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

The Mountain Copper Company, Ltd.  
150 PINE STREET, SAN FRANCISCO.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

June 22 to 28, inc.

July 2, 3, 6, 7, 8, 28, 29.

August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha	\$ 60.00
Council Bluffs	60.00
Kansas City	60.00
Chicago	72.50
St. Louis	67.50
New Orleans	67.50
Washington	107.50
Philadelphia	108.50
New York	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXV. No. 26.

SAN FRANCISCO, SATURDAY, JUNE 27, 1908.

Thirty-eighth Year.

## California Prunes.

The precedence of the prune over other deciduous fruits in California was incidentally discussed last week, in connection with the glorification of the peach. We now have a few points to make about the prune as such. And first it may be desirable to state, for the benefit of our newer readers, what we mean by the word "prune." All prunes are plums, but all plums are not prunes. A prune is a plum which can be dried without the removal of the pit without fermenting; the result being a fleshy pulp with a high degree of sweetness. All plums which will not do this are not prunes, even though the word may appear in their common names.

The California prune product was obviously undertaken in emulation of the globe-trotting French prune, which had attained position as the leading commercial dried fruit of the world long before California arose on the horticultural horizon. Naturally, French settlers in California thought themselves of transplanting this great industry to their new home, and Mr. Louis Pellier introduced scions from the district of Agen to his place near San Jose in 1856. The product was good, and planting for a large output was entered upon, though slowly at first. There was disappointment over the fact that, while all fruits came surprisingly large in California, the dried prunes were smaller than the great French prunes in cartons and canisters which sold for great prices. Had we secured the true French prune: did they not have larger ones which they were holding back from us? This was the great question of four decades ago. Some nurserymen of that day had spirits of enterprise larger than their consciences. If the people demand larger prunes they must have them, surely. Because of the small average size of the prunes of Pellier's introduction, they christened that variety "petite prune d'Agen," which was subsequently corrupted into "petty prune"—a free translation and a mispronunciation at the same time, for a prune which was small and inferior. The dear people must have something large, and they happened to mix a little German into the title which they manufactured, and offered trees of the "gros prune d'Agen." When shown that the French had such a fruit it would be called "grande" and not "gros," because the French word "gros" is not a complimentary term, the propagators simply changed their geographical base and declared: "This immense prune, just what you need to beat the French, is really German, and if you desire you may call it Hungarian

prune." It of course did not matter much what it was called, because it did not come from either France or Hungary, but was the fine, old, large, light red, English plum, properly called Pond's Seedling, re-christened in California to meet a long-felt want. But it did not meet such a want; it would not dry sweet nor fleshy, but became merely a skin and pit, with a sour streak between. Still the question persisted: Have we the true French prune? It was definitely settled by the late W. B. West of Stockton, who visited France in 1878, and after close examination of the trees, announced that the variety grown in California was really the prune d'Agen, and that we had made no mistake so far as getting the main, standard variety of French prune was concerned.



THE PRUNE D'AGEN AND ROBE DE SERGEANT.

But still we needed a variety which would run more to large sizes, and how to get it, with sweetness and flesh characters which would resemble the best French product, was, and even now is, still a question. One of the early introductions to meet this end is now generally known as Robe de Sergeant. Here again confusion attends the name. Robe de Sergeant is one of the synonyms of prune d'Agen, and yet the fruit we secured was different. Much discussion was given to the elucidation of this problem, and the conclusion seemed to be that the variety is grown in France, but in another district, and is generally considered inferior to the prune d'Agen. Still it runs larger, and has sold well, even though of distinctly different quality, and would probably have cut a much larger figure in California prune production if it had shown itself to be more free and regular in bearing. The same is true of the prune d'ente, or Imperial epineuse, which has been quite widely planted, but because of shy bearing, especially when attacked by the thrips, as discussed upon another page of this issue, and because of the difficulty in drying such a large prune which

ripens rather late, this variety, of which so much was expected, has fallen into disfavor, and many which were grafted in have been grafted out again. Other introductions made much earlier, like the German and Italian, also fell out of the race very early, for shy bearing and for different flesh characters. Although the latter leads in Oregon and other States north of us, it is out of California calculations. The conclusion of the whole matter now is that we have never secured from abroad a better than the one which came 40 years ago—the true prune d'Agen. We have learned to grow it better, to seek places where it comes larger and in full quality; to use irrigation when it is needed by the tree to do its best; to guard against over-bearing by reducing the

amount of bearing wood and excessive branching; to strengthen the soil by fertilization, and to grade the fruit into sizes which commend themselves to different demands. Here we are again, doing our main business at the old stand, but knowing how to do it better. Have we anything more to expect? Probably nothing from old varieties, for we have prospected them all from a prune-making point of view, taking Coe's Golden Drop plum, or its seedling for the Silver Prune, and cancelling all others as possibly good plums for various uses, but not for prunes.

Probably our only expectation lies along the line of plant breeding, although nothing to supplant the prune d'Agen has yet been attained. Mr. Burbank's Giant prune is a large red plum; several Oregon prunes are simply large red plums. The standard of sugar in the prune d'Agen as grown in California is from 15 to 23% of sugar in the fresh juice, according to degree of ripeness and localities in which the fruit is grown. The sugar in Pond's Seedling and in the large red plums just named is less than 10%—sometimes very much less. But percentage of sugar in the juice is not the whole story; there are tissue or flesh characters which are essential also. Mr. Burbank's Sugar prune answers the sugar requirement; it is a free bearer and early ripening variety, and it dries easily though large; but it has not the fine grain nor the distinctive flavor of the prune d'Agen, and unless it shows value for market plum purposes it must roll down the plank into prune forgetfulness. But Mr. Burbank has many of the plum family in training, and it would not be surprising if he should announce at any time a variety educated fully up to the very definite California requirements, which he fully understands. Others are also working at the problem, and the next generation of California prune growers may attain what the last and present have striven for.

(Continued on Page 403.)



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS  
E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., June 23, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka.....	.16	35.99	45.96
Red Bluff.....	T	20.08	24.96
Sacramento.....	T	12.20	20.09
Mt. Tamalpais.....	.34	24.99	22.80
San Francisco.....	T	17.35	22.27
San Jose.....	...	11.68	22.20
Fresno.....	...	7.64	9.68
Independence.....	...	5.29	9.53
San Luis Obispo.....	...	18.06	20.51
Los Angeles.....	...	11.72	15.64
San Diego.....	...	8.55	10.01

The Week.

There is a way in which California can claim to have made a most unique and significant contribution to the advancement of agriculture. The International Institute of Agriculture which was formally opened in Rome early in the current month is a California product. The project was born in a California brain, warmed and nourished in a California heart and led into a world's favor by a California hand. It might be held that the State cannot claim its origin because its author was allowed to go forth alone to command recognition for his great idea on the other side of the world. That contention will not hold. The talent which came to David Lubin from the Creator was put to use in California, the spirit and breadth of view which have ruled here since 1849 ministered to its development, while California experience in commercial and agricultural lines pointed out the direction of its action. Then, too, Californians rallied to the support of the undertaking, after it had won in the outside world but still was not adequately understood or appreciated in the greater area of the United States. California then will honor as an esteemed citizen the founder of the institute, and will claim his work as a work of the State.

But what is the use or the significance of the affair that justifies the making of a claim? It strikes us that the establishment of the International Institute of Agriculture, in the way it came about and in the character of its acceptance by the world at large, is one of the most significant signs of the world's higher and truer appreciation of the agricultural industry that has ever been manifested. Never mind what it may or may not do. We believe it has the potentiality of lifting agriculture commercially and economically in a notable degree. We expect that it will have a formative influence upon a world's fruit trade and production. We anticipate that it will assist notably in increasing real prosperity among those who keep the world alive, either by their products or by their enlightened traffic and transportation

in connection with such productions. But that is not at all what we think of emphasizing. All that relates to the future of the institution and its scope of action which are still to be wrought out. What we do regard as significant in the successful opening of the institution in Rome is the influence it has already exerted and will continue to exert upon the recognition of agriculture as a science and art of fundamental importance to the race, and a declaration that the promotion of agricultural prosperity is fit to be zealously striven for by the world's greatest men and women.

Of course we have always had such recognition and declaration in a way. The poets have praised the tiller of the soil and idealized his lot. The artists have drawn from his life and work some of their most profound suggestions of human emotions. Orators have glorified his patience and energy as secrets of a world's prosperity and perpetuity. But all these tributes to the farmer's genuineness and worth, true though they be, have always suggested inferiority, and have been generally efforts to comfort him with mankind's appreciation and commiseration. Lo the poor farmer! How he toils and suffers that his superiors may live! How can mankind thank him enough for his service to the race! Is it not great to think of the noble aspirations he may cherish: that there is the same Heaven for him and for us? It is true that this position of the world's great thinkers with reference to the tiller of the soil has been often in advance of the times in which they sang, painted and spoke, and was, in a way, prophetic of the advancement of beings who were held to be of the earth earthy when compared with warriors, priests and rulers to the lowest degree. But none of such tributes to the farmer ever accomplished aught for his advancement. Pity does not inspire; thankfulness does not primarily elevate the recipient, though it may uplift the emotions.

As it seems to us, there are two forces of particularly great promise in the advancement of agriculture and the recognition of the agriculturist as a worker in the highest ranks of mankind. First is science, the illuminator of the farmer's work and the guide to its industrial recognition; second is social recognition, which will enable the farmer to find himself among his fellow men. Concerning the services of science to agriculture we have nothing to say in this connection, for its exaltation is our frequent pleasure. It may be that in its future work the International Institute of Agriculture may prove the greatest clearing house for agricultural science which the world has ever attained. That is within its purpose, and it will no doubt strive hard to attain it. It is, however, especially with reference to the Institute as a social factor that we would speak, finding in the very housing and environment of the formal opening, suggestions of a social influence which we believe will be very significant in assisting the industry of agriculture to its proper place in popular esteem, and its votaries to recognition as those devoted to a noble industrial art which uplifts all who serve it with appreciation of its character.

We are indebted to Mr. David Lubin for a very kind letter gratefully recognizing the service rendered by Californians in support of his plans and his worthiness to pursue them. He sends also the Tribuna Illustrata of Rome, which contains an account of the opening of the Institute and pictures of the place of its meeting and the distinguished persons who participated in the opening ceremonies. We translate what seems to us the most significant portions of this report as follows:

In 1905 our King invited the Government, following the suggestion of David Lubin, to take the initiative for a conference among the various nations for founding an International Institute of Agriculture. Now after three years of hard work there has taken place the crowning of such great efforts; the realization of this universal dream. At the Villa Borghese, among the historic pines has risen the seat of the International Institute of Agriculture, a noble, graceful edifice, furnished with all modern conveniences.

Last Saturday the official inauguration took place, rendered more impressive by the presence of the Sovereign and the Princess Laetitia. All the nations had sent their respective representatives.

The edifice has been constructed under the direction of the architect Passerini, and is in the style of the sixteenth century, accompanied by all the comforts of our age: The facade has two salient features: the sculptured motive upon the arches of the atrium, and the motive of the border which follows under the cornice. The sculptor Cozza has represented in bas relief various rural symbols: the earth which refreshes its body in the sun and prepares it for fruitfulness with water. Isis, Dionysus and Prometheus, who guard the future generations, are also shown. In the atrium, the ceiling has water-colors by the painter Mazzoni, representing countries in different seasons of the year, and figures which symbolize Bread, Wine and Oil, the principal products of nature. In the middle, against the open wings of the golden eagles of the House of Savoy, gleam apples, oranges and pomegranates. By the principal staircase one goes directly to the two apartments, one for receptions and the other for the council. The large salon for receptions is on the inner side, and the council chamber is in front. The latter has at the side a smaller room with the walls painted with figures representing the mythological legends of Saturn and other rural allegories, the work of the painter L. Rossi-Scotti. Also in the principal apartment there are other pictures by the same artist, representing the vintage, the flocks, seed-time and harvest and plowing. The other room is rendered truly majestic by the artistic work in wood in the ceiling by Prof. Coe-chiera.

These details may appear trivial, but they seem to us also significant when they are looked upon as expressive of the honor which the King of Italy designs to pay to agriculture and to those who will represent it in the international council which he has brought into existence. It is just such an outfit as would be provided for any other assembly which a king delights to honor. The allegories, the mythologies, the pomp and circumstance of architecture and decoration are current expressions of distinguished regard and appreciation. They place agriculture in the list of honored guests, and may be accepted as assurance of that fact. Herein lies the significance of the affair as thus far developed. It will do more to determine the social standing of agriculture among the high callings of mankind than anything which has recently been realized, and we honor the Californian who gained this. We trust and believe it will be ere long regarded as merely incidental to the higher work of the Institute for agriculture, but for the moment it is enough to be thankful that a Californian who desired to do something great for agriculture won the confidence of a king and lodged agriculture in a palace especially designed and ornamented for it. The more we think about this single fact, the greater its possibilities for influence and beneficent achievement become.



## Queries and Replies.

### Indian Corn Raising.

To the Editor: Will you give me any information as to the growing of Indian corn in California? I want especially a resume of experiences in the time of planting. How long does it take for corn to reach the tasseling stage after planting? How dangerous are the hot winds at tasseling period? How best avoid critical periods? Can attacks of corn worm be successfully combatted? What is the life history of the corn worm? Can it be avoided by early or late planting? Can wheat hay be raised successfully here as a summer crop where there is plenty of water for irrigation?—Enquirer, Fresno.

Under the exceedingly great variety of growing conditions in California it is impossible to answer definitely the questions which you submit. Indian corn is to be planted as early as it is possible to get it above the ground after the danger of frost is over, and this means a different date for the different parts of the State and the different elevations in the same district. How soon the corn will tassel after planting depends upon the amount of heat available during its growth, and there will be very much difference in the length of time required to reach the tasseling period in the coast valleys and in the interior valleys and at the different elevations in both of these valleys. Winds hot enough and fierce enough to interfere with the pollination of the kernel are rarely encountered in California, and yet the prevailing drouth of the summer air is somewhat discouraging to the plant. Our interior valleys are not (speaking broadly) good Indian corn districts, and yet there may be excellent crops produced here and there in the valleys where the local conditions are favorable. You will have to proceed by experiment to determine how well your particular conditions suit this plant. The corn worm is not yet successfully combatted. It is, however, less injurious to the later plantings. Wheat hay can be successfully grown during the summer time by irrigation, but it is doubtful whether it would be a profitable operation.

### Alfalfa Sowing.

To the Editor: We are planning to put in a large acreage of alfalfa on irrigated land in the Sacramento valley. Is it better to sow in the fall or in the spring?—Reader, San Francisco.

There is little question about the desirability of starting alfalfa in the fall, if it can be done early enough to get the plant well up in the third or fourth leaf before autumn frosts. This is conditioned on irrigation, say in September, followed by plowing, harrowing and seeding—the start of the seed being promoted by early rains. Some seasons these early rains come very late, so that there is always an element of doubt about securing a good germination in the fall. It is also dangerous to start in the fall depending entirely upon rainfall, because this may be very slight, and dry ground beneath would bring the young plants into distress. If, however, you can irrigate thoroughly before plowing, and the season comes right for starting the seed, you will get a stand of alfalfa by fall sowing which will make the first summer's cuttings and the covering of the land a great deal more satisfactory than spring sowing. There is a great advantage in getting the seed up by rainfall rather than by irrigation, because the latter is apt to run the land together and cause crusting and baking, unless the soil is very light and coarse. On low, moist lands, subject to frost and saturation by heavy rains, spring planting, when the ground is in good condition, has always been popular, and is still a good practice, but the sowing should be done as early as the ground can be brought into good condition, and for this reason

sowing in recent years is undertaken much earlier than a few years ago.

Probably, all things considered, the month of February is the most popular one at the present time for putting in alfalfa seed, unless the ground is apt to be very wet and the location very frosty. You will see it is not possible to give a perfectly definite answer to your letter.

### No Best Orange District.

To the Editor: I am desirous of engaging in orange growing in California as a business. I have made a study of it for some time and am fairly well posted, but there are several points on which I would like a little more light. Where is the best place to grow the best orange? I understand that oranges are grown profitably along the Sierra foothills from San Diego to Butte county, but as every section claims in its booklets, etc., that it has the ideal orange soil, it is hard for a man who is 3000 miles away to form an opinion as to the best place for him to locate, all things considered. I have never done any labor of any kind, but take naturally to gardening and horticulture.—Reader, New York.

We cannot tell you which is the best orange district in California. We have reached no decision of that sort. There is a similarity of climate, of soils, and of results in a great many different districts, which are all suitably situated, so far as temperature, soil and irrigation are concerned, and in all of them oranges are grown profitably. We would not think for a moment of choosing a location on the basis of any printed or written description. You should make selection upon the basis of observation, and, of course, use all the judgment that a buyer is expected to exercise. You have a handicap in not knowing anything practically about the business in which you propose to invest, but there are bright people in all our orange growing districts who have started that way and made good. It depends upon the person.

### Dry Farming in California.

To the Editor: Will it be possible for you to send me a map of California with the dry farming districts marked? In this way I can get in touch with the districts where this practice is interesting.—Reader, Wyoming.

It will not be possible to indicate on a map of California the districts where dry farming is practiced. All the farming which is done in California, except on special areas here and there which are under irrigation, is dry farming. The whole secret of success in growing anything in California outside of irrigated districts lies in conserving the winter's rainfall for growth during the dry season. As we have in California no district of summer rains, the treatment of the soil for the reception of moisture during the rainy months and for the retention of it during the four or five months of drouth has always been essential to success, and this is the reason why Californians have had for years the reputation of being the most persistent soil cultivators, and why their methods have been imitated by people in other parts of the world where summer conditions require a similar policy. The general agitation of dry farming methods which is now in progress, and in which some of the interior States are achieving notable results, is interesting and valuable to us only as suggesting the desirability of even better cultivation than we have attained so far, and better implements for securing it.

### Eucalyptus in Imperial Valley.

To the Editor: Will you kindly let me know what you consider the best variety of eucalyptus to plant in this valley? I desire to use them as a wind-break, also for fence posts and fuel. I naturally seek a fast grower. Would *E. rostrata* be the most desirable? Most of the trees in the valley seem to be growing up crooked. Can this be

prevented in spite of the high winds?—Settler, El Centro.

So far as we know, the *Eucalyptus rostrata* is the best to plant in your valley. There may be others just as good, or even better, but there is not yet enough experience to warrant the preference of any other. Straight trees are generally to be secured by close planting. Single trees, or lines of trees, must be straightened by staking; we know of no other recourse.

### Keep Out the Light and Green Will Not Come.

To the Editor: In your issue of June 6 a farmer of Sonoma county inquired how to keep the green out of his water tank. If he puts a cover on his tank, so the sun does not shine on the water, the green stuff will not form.—Subscriber, Diamond Spring.

Thank you. That seems easy enough, and far better than chemicals. Surely a subscriber at Diamond Spring ought to know all about clear water.

### Blackberries and Logan Berries.

To the Editor: What blackberries would you advise planting on sandy loam near San Martin? Would the Mammoth do well there? Does the Logan berry do well on sandy loam?—Subscriber.

They ought to do well if you look out for fertilizers, and water as needed. The Crandall and Mammoth will do for varieties. The Logan berry will do well on a light soil if you do not let it dry out.

### CALIFORNIA PRUNES.

(Continued From Page 401.)

How great is the opportunity may be inferred by the success California has already attained in making and selling prunes. A maximum output of 180,000,000 pounds of cured prunes was raised in 1906, and the distribution of them covered this country and Europe, large sales being made in France—the home of the commercial prune. Last year's crop was however only half of that amount, and this year's may be even less. The annual product is therefore likely to show wide variations, but the prune manages that pretty well by its imperishability; although generally held at a loss from the best figures, it is not utterly lost. The market for the product in this country is nearly covered, as only about half a million pounds are imported, on the average, annually. But the world at large, including land and sea consumption, has really only just begun to dispose of California prunes. The future will depend much upon the tariff revisers. If they do not upset the present basis of American prunes for Americans, the Pacific Coast States can soon attain the achievement of American prunes for the world.

It is, of course, understood that the California cured prune is different from the product of France or of any other State, in that it is a non-cooked, sun-evaporated product, which, though not well suited for eating out of hand, is vastly superior for cooking arts because it has more character and flavors more attractive than the re-cooked, oven or drier-processed prune can have. It has also a saccharine content which makes it cheap food for the millions, because it needs no reinforcement from the sugar barrel. Culinary artists are learning that the stewed prune is only an elementary form of food, and that prunes deserve and amply repay much higher uses by the pastry cook and confectioner. Such things are being enterprisingly urged in the propaganda of prune using which our trade and transportation companies are pushing, and by the unique demonstrations of prune pleasures which have been made at great expositions at home and abroad.



## Horticulture.

### ALMOND-GROWING FOR PROFIT.

By Mr. J. P. DARGITZ, of Acampo, Cal.

The fact that I have been able to find so very little on the subject of almond-growing is my excuse for this paper. While I do not pretend to be an expert by any means, yet I will attempt to give you the result of close observation upon my part, hoping that it may be beneficial to those who may read it.

I am surprised that there are so few almond orchards being planted in California. My reason for this surprise is not alone in the market conditions, but in the fact that people are talking about over-production and under-consumption and wondering how we are to harmonize the market conditions with the very large acreage of fruit trees being planted. We do not import very much fruit, but we do import a very large portion of the almonds which we consume. It is safe to say that this country will not in this generation produce enough almonds to meet the demands for home consumption. Such being the case, have we not here a most inviting field for the horticulturist to enter? I will also try to show that it is a most profitable one as well.

**Soils and Situations.**—There are some things to have and some things to avoid in embarking upon the growing of almonds for profit.

In the first place, one must have a deep rich soil, for the almond is a very voracious feeder. Its root system is one of the finest of any of our orchard trees, and we might note that it should therefore be a most excellent root for nursery grafting. It is one of the longest lived of all orchard trees.

Not only good and deep soil, but perfect under-drainage must be had, for the almond will not bear wet feet any more than will the peach.

Now, if these were the only conditions we might expect to find plenty of room to grow almonds. But we must next choose our location with reference to both frosts and rainfall. As the almond is such an early bloomer, this is a very important point. I am of the opinion that California is the only State in the Union where the almond can be successfully grown, on account of frost. A location must be chosen where there is no frost to amount to anything after the first of February, as the almond begins to bloom the last of January in much of this State. But even more important than frost is the matter of rainfall: for while the almond likes plenty of moisture, it should have sunny weather while it is blooming to insure success. I am quite sure that very many of the failures that are charged up to frost are really due to rain during blooming time, which prevents pollination. Fortunately this tree holds its bloom from two to four weeks, and during that time we may quite reasonably count on a few days of sunshine. Only a few are absolutely necessary, for the almond is a very free bloomer and some varieties are very rich in pollen.

**Pollination.**—All the other requirements having been met, there remains perhaps the most important of them all yet to be considered, and that is the selection of the proper varieties. I am confident that right here is the rock upon which more growers have wrecked their hopes than all others combined. As a rule all the paper-shells are deficient in pollen, and will not bear well if planted alone. From what I have been able to learn, the only two which warrant planting in this section are the Nonpareil and the Ne Plus Ultra. The latter is not a very good nut, and needs much more moisture than the other. The Nonpareil will give good results if planted with some other variety as pollenizer. It is one of the very best of nuts and is well worth planting.

**Texas Prolific.**—For a pollenizer there is, in my estimation, no better nut than the Texas Prolific. This nut was found by Mr. Robert Williams in his travels for the W. R. Strong Nursery Co. of Sacramento.

He brought the nut to Mr. Robert Adams, who was in charge of the above company's nurseries east of Acampo, and told him not to be afraid to plant it, for if it bore here as it did where he found it, it would beat anything in the almond

line. Mr. Adams began planting it 18 years ago, and for 15 years it has not failed to fruit, and usually very prolifically. It blooms about two weeks later than the Nonpareil: in fact, is the latest bloomer of all almonds that I have observed, and is therefore very desirable on the frost count. It is also the very best pollenizer, and when planted row about with the Nonpareil will cause it to set fruit splendidly. We have abundant proof of this in our south orchard, where the profitability of almond growing has for several years been a theme for wonder by all who have seen them. The Texas Prolific on S. S. Murphy's lot yielded over \$200 per acre in 1906, at the age of 10 years. It is a soft-shell, but not a paper-shell.

In our north orchard 240 acres of unprofitable IXL almonds were topped and grafted over to Sugar and Giant prunes. The second year there was quite a sprinkling of fruit. The third year they produced enough to pay all expenses of production and netted 6 per cent on a valuation of \$180 per acre. The fourth year they netted 20 per cent on \$200 per acre. I mention this to show the marvelously speedy results obtained, due, I am quite sure, to the fine root system of these trees. A few of them were worked over to the Texas Prolific almond, and the third year they produced about \$1 per tree, and the fourth year about \$2 per tree. How vastly much better is this than to grub up unprofitable almond trees, providing of course that they are thrifty and healthy.

**Other Varieties.**—The Drake Seedling is also a very profitable almond to grow in this section, but I do not think that it will by any means equal the Texas Prolific. For the year 1906 the latter yielded for us just three times what the Drake Seedling did.

As to prices: The Nonpareil at 14 cents per pound, the Drake Seedling at 11 cents per pound, and the Texas Prolific at 10 cents per pound, will each bring about \$10.50 per standard sack; the IXL at 13 cents per pound about \$9 per sack, and the Ne Plus Ultra at 12 cents per pound about \$8.50 per sack. From this it will be seen that there is no discounting the Texas Prolific because it is not a paper-shell or does not bring so high a price as a paper-shell. And when we remember that it will, on an average, give twice as many sacks as any other almond grown, it will be seen why we are partial to the Texas Prolific as a matter of profit in almond-growing.

**What to Do With Unprofitable Almond Trees.**—But what shall we do with our orchards of other varieties which do not pay as well or which do not pay at all? For instance, we have in our north orchard about 100 acres of fine large trees of Nonpareil, Ne Plus Ultra, IXL, and La Prima varieties, which did not make expenses of cultivating and cropping for the year 1906. Shall we grub them out and plant peaches or grapes or some other fruit, as some people do? One block of 15 acres was so treated—and this was one of the best producing portions of those varieties, too—but I would not trade even acres of these almond trees which are not producing today for that 15 acres planted to grapes one year ago, for it will be five years before anything is received from it above the cost of caring for it, while we shall be able to make the orchard pay for itself entirely before the five years are gone, if our conclusions are correct. Note the figures which I gave you where IXL trees were worked over to Texas Prolific. During the year 1906 we worked over about 2500 large IXL trees to the Texas Prolific, and will endeavor to work all the rest of that variety over to the same during 1907. We expect that these trees scattered among the other varieties will do their work as pollenizers and bring the rest into bearing. We are now cutting about half of the wood out of the trees to be worked over, which will force a large growth of sprouts about the trunk, and then these will be budded next August. This will make a better tree than can be done by grafting where the tree is so large, and will be cheaper and will help to keep the tree vigorous. It will also leave us much bearing wood in them for 1907 and 1908. Then the remainder of the tops will be cut out, and by 1910 we shall look for about \$1 worth of the Texas Prolific per tree, with a rapid increase thereafter. This method will give us the transition from one variety to the other with the loss of only one year's chance for a crop. But we shall not stop here, for we shall also water the trees, because

water pays when used judiciously in almond-growing.

**Cultural.**—The question of watering, spraying and fertilizing, as well as pruning and cultivation, will now play a very important part in the results to be obtained by the orchardist who is to make a profit. Plenty of moisture is necessary in the autumn to form good healthy fruit buds to insure the setting of fruit the following spring. In September of 1904 we had a most unusual rain of about four inches. This was hard on the raisin-growers, but very valuable to the almond-growers. It produced an abundance of good strong fruit buds and we had the promise of a record-breaking crop for 1905; but in July of that year came that awful hot spell which the "oldest inhabitant" had never seen before, and the trees called so heavily upon the soil for moisture that a large proportion of the nuts were blasted and others were made to be "sticktights." This cut down our expectations for the year's revenue, but taught us the necessity of being prepared to water to save the drying up of the crop in an emergency. This also left us with no moisture in the ground to make fruit buds for the 1906 crop, and still worse, we did not get any fall rains that year, in fact not until in January. This greatly interfered with our chances of a crop in 1906, but it also taught us to be prepared to water in August and September, to make good fruit buds for the following year. Now, someone may ask why did the Texas Prolific do so well in 1906, when these other large trees did so poorly, if the rain had so much to do with it? My reply is that the Texas Prolific seems to do better with less water than other varieties, but yet where they were only 10 years old they did much better than where they were 18 years old. It is safe to say that it will pay immensely to water them after they are 10 years old.

Every one should do something in the way of experimenting with any unprofitable almond orchard to see what can be done to better the production. Water, spraying, and fertilizers should be tried and the results carefully noted. It is very probable that spraying has some property of fecundity as well as of destroying insects and fungi.

**Diseases.**—As to the diseases and pests to which the almond is subject, we are on pretty safe ground. The mossy fungus is easily cleaned off by lime and sulphur, while the red spirer is easily destroyed by the fumes of sulphur in the heat of summer. As to the black knot, it has not been demonstrated to my satisfaction whether it is a disease or the result of disease. Of course no one would pay any more for an orchard known to be infected with black knot than one free from it, but the best parts of our orchards have it, and we have yet to study it further before being sure of our ground here. Mr. T. R. Burket, who bought the Foster place a year ago, reports that he found there seven trees of paper-shells which always bore well and which had every appearance of being thrifty and healthy, but because the birds from the river near by did the harvesting for him he decided to take them out. He was surprised to find black knot on five of the seven, and so bad that in some cases a knot had grown over and enfolded two roots. The 15 acres taken up by Mr. J. L. Jackson, and which were reported to be badly affected with the black knot, offer another bit of evidence. He left 15 trees around his house for shade, and Mr. J. J. Ford, who lived on the place during a part of 1906, reports that he harvested and sold \$12.60 worth of nuts from these 15 trees without any pruning or cultivation whatever. The almond orchard of Mr. Ortman, ex-county assessor, is reported to have been so badly affected with black knot when two years planted that he was about to dig it up, but on the advice of friends left it, and it has been a source of great profit for a number of years. The orchard of Mr. Wilhoit, near Woodbridge, was reported by him to have been full of this trouble ever since it was planted, and yet it pays a good income on \$500 per acre.

To sum up: Select good, well drained soil, deep and rich; plant Texas Prolific solid or in alternate rows with Drake Seedling or Nonpareil; prune, cultivate, and spray when necessary; see that your trees have sufficient moisture; in short, give your trees as much care as you would peaches or grapes, and I am quite sure that you will find profit in almond-growing.



**OREGON CHERRY FAIR.**

To the Editor: I have noticed with much interest the valuable space you have given the Third Annual Cherry Fair, which will be given in Salem on July 9 to 11.

I wish to state that, since sending the premium list, etc., to you, that Marion county, through the county court and others, has offered a sterling silver cup valued at \$150 for the best county exhibit.

I am very sorry that parties in your section are not able to enter for this prize, owing to the difference in the time of the ripening of cherries. We expect, however, that many California cherry growers will attend.

F. W. POWER,

Chairman, Cherry Fair Committee.

Salem, Ore., June 17.

**CALIFORNIA WALNUTS IN OJAI VALLEY.**

To the Editor: The California walnut grows in great abundance in the Ojai valley, in Ventura county. I have one growing quite near my house 18 inches in diameter, and near by others of all sizes. They are very vigorous growers, making a root system which requires courage to tackle.

J. HOBART.

Nordhoff, Cal.

**Etomological.****A FREE DISCUSSION OF THE THIRP PROBLEM.**

At the regular meeting of the California State Board of Trade called on June 9, especial attention was given to the serious injuries to deciduous orchard fruits by thrips. In opening the meeting, President Arthur R. Briggs stated that the special purpose that has brought the assembly together was to discuss the ravages of the thrips in this State. The matter was brought up at a previous meeting by Mr. Anderson of Contra Costa county, and he made a statement as to what is going on in his district.

Mr. Anderson said that in his district growers had for two or three years past lost almost their entire crops of pears, and in despair were preparing to take up their pear orchards, that were practically exempt from the pear blight, but were helpless against the thrips. He gave many details as to the working of the pest. He added: We are very anxious to get some assistance in regard to the thrips, and I felt that the State Board of Trade had done such magnificent work on the sulphur question that it might assist us in this matter. It is worse this year than ever before, and has been spreading for the last four or five years. We used lime and sulphur spray, but it was a hopeless task. As the thrips is on the inside of the bud, I thought it would be useless to spray it.

At the suggestion of Gen. Chipman, Mr. Dudley Moulton was called upon to tell what he has been doing in the Santa Clara valley as a special agent of the Bureau of Entomology of the U. S. Department of Agriculture. The following is an outline of his remarks:

Mr. Anderson, in talking about the injury done to pears, has only given you a small idea of what the injury to other fruits is. While thrips has cleaned out a number of pear orchards in Contra Costa county and farther north, and in Santa Clara county, it perhaps has done more injury on prunes and other fruits. It was first found in pear blossoms and was called pear thrips. In distribution it is found largely close around the bay, although it occurs also from near Auburn, in the Sierra foothills, and as far south as Hollister. It is an insect that attacks deciduous fruits. It is a tree feeder strictly, and does not feed on grasses, etc. The adult thrips appear in late February or March. They are in the ground all winter. They feed on the blossoms, the eggs are deposited inside the leaf tissue, and the larvae, after hatching, feed for about three weeks and then drop to the ground; they generally go to the firm surface just below the loosely cultivated ground. When they come out of the ground they are brown insects with wings, and they fly up into the trees. Irrigation has no effect upon them in the ground. Cultivation will kill a few of them, but generally they

go down into a break in the ground again and form a tiny cell. When you drive your cultivator through the ground, as a general thing you will disturb the cells but not break them. The insects are found immediately below the trees.

The thrip attacks practically all the deciduous fruits.

Mr. Anderson: It seems to confine itself to pears alone with us.

Mr. Moulton: We find in orchards of mixed variety that a half dozen pear trees mixed with apricots, prunes, peaches, etc., will be stripped of leaves before it goes into other varieties. They will attack the Imperial prune before going to the French prune. On some cherry trees the leaves are all perforated from the larvae feeding on the trees.

Mr. Anderson: My trees have a very luxuriant foliage and the trees have made wonderful growth in the last few years.

Mr. Moulton: Where the buds were almost completely killed the thrips seem to have eaten up the best of the food and gone to another orchard.

Before discussing the injury done to pears, I will mention the injury done on almonds, apricots and peaches, as leading up to the nature of the injury done on pears. I will take almonds first. They begin to bloom in early February and open up a large blossom and leaf surface before the thrips come to the trees in serious numbers, so while there are many thrips we find the tree giving a heavy crop of nuts without almost any injury. After the full blossom opens the thrips gets inside the cup, but does not touch the fruit, and the nut goes on maturing without much injury. That is true of peaches also. Thrips migrate from tree to tree.

This pest has been grievously known for about four years. I believe it was Mr. Ehrhorn who first found it in the Santa Clara valley. He did some work on it, and later I did some, and now the Bureau of Entomology has taken it up.

Apricot trees, blooming as they do the last of April, come in for a good share of the injury, because then the thrips are out in greatest numbers. The blossoms have opened, showing just the whites of the petals, and the thrips, instead of going to the inside of the bloom, follows down the outside of the blossom and begins to feed on the little stem at the base. Feeding as it does, it weakens the stem and perhaps does not touch any other part of the blossom. If you touch one of the branches, 75 to 90% of the blossoms will drop off.

The thrips moves from tree to tree very rapidly. They move by their wings, but are carried by the wind. We find the thrips hovering over the trees on a quiet afternoon, but they won't leave the tree when there is a strong wind on. They are distributed according to the direction of the prevailing winds.

When peach trees get to about the stage when they have just shed the blossoms, we find the thrips on the nectar glands of the tree, but no injury at all to the fruit. We averaged from 10 to 15 thrips larvae on every blossom, and the Muir orchard has about the best crop of fruit on it of any orchard in the vicinity.

Gen. Chapman: Do you infer that the peach is immune?

Mr. Moulton: No, but the insect prefers certain varieties of fruit.

I have a picture of a prune twig which shows the thrips waiting on the outside of the clusters of blossoms before there is anything to feed on, showing that they will remain on the tree if it not in condition for their feeding, until the tree starts. As soon as the cluster buds spread and the blossoms start out, they go right down the center, and if we have favorable weather, with ordinary warm conditions, the buds will start. The thrips then begins to rasp on the little blossom stems, and the result is that the whole cluster falls after just a day or two. If they don't kill the fruit in the bud, they attack it in the blossom, and if they don't kill the blossom the larvae start to feeding on the fruit and form a scab. Last year it was very noticeable on most prunes whenever the thrips had been present. Many people thought there was a scab fungus on them, but it was not so. It is a little brown scab on the end of the fruit in a circular form. Many packers would not accept this fruit.

The Imperial prune is affected perhaps more seriously than the French, and wherever there

is an orchard of Imperials mixed with the French, we find a group of Imperial trees without a blossom, and immediately on either side you will see French prunes coming into full bloom.

On cherries, when the buds are just opening, we find the larvae going in, and later we see all the buds dead or injured, and later still we have the injury to the leaves. The Black Bigarreau cherry is singled out in every case, and then the Tartarians. The Royal Anns are hardly touched, because the thrips get all the food they want on the earlier trees that have been blooming.

In regard to pears. Even though some of the others are late of bloom, the thrip prefers the pears next to Imperial prunes. The opening of the cluster buds is very favorable to their feeding. As soon as the clusters start, they find a large surface on the leaves and blossoms and go to feeding, the trees throwing out a gum which drops from the clusters. Pears may be very badly hurt, and yet as the Bartlett pear has a long blooming season, the late blossoms may come through. The thrips may migrate to another orchard and leave those trees to blossom. Some of the clusters of little pears show the fruits turning inward, and the inside of each pear becomes scabby when the outside is all right.

Gen. Chipman: Have you approached a remedy?

Mr. Moulton: Yes, we have approached one. We have tried almost everything we could think of on the larvae and the adults. Our experiments have been made around San Jose, in the Santa Clara valley. Practically all the conditions we wished to work with are right in that valley, so there was no need of spreading our experimental work. We have tried irrigating to drown the larvae out, but it is not practicable or effective. As their bodies are raeser oily, it is difficult to kill them with spray. We tried whale oil soap, but that will not kill the thrips at all. The soap washes have all proved the same thing. They do not penetrate into the breathing pores, because the body is oily. Lime and sulphur act in the same way. The spray gathers in globules on their backs, but does not kill them. We used kerosene emulsion and found it very penetrating, and we could use it without injury to the tree. The oil itself is very penetrating and kill whatever insects it touches, but has no disagreeable odor or lasting qualities, and perhaps 40% of the thrips escape it. With distillate and crude oils we had practically no good results at all. The crude oil is too heavy, it blackens the foliage and blossoms, and so there is considerable injury to the trees. Distillate emulsion seems to be a very good insecticide. With 5 gallons of distillate to 100 gallons water we killed all the thrips in sight and most of those in the clusters. It stayed on the trees long enough so a little of the wash ran down to the blossoms and acted as a repellent. There are two washes that have been successful, one was the black sheep dip and the other tobacco and potash. We used one gallon of sheep dip to 70 of water. We then used one gallon to 10 of water, or 95 cents worth of material for one tree, and killed 99% of the thrips without any injury to the tree. We then reduced it to 1 to 20 and got the same results. We think that 1 to 50 or 1 to 55 would be very effective for the killing of the thrips that we can reach. With tobacco and potash we brought every thrips out of their hiding places in the blossom cups, and when they came through the clusters the spray killed all of them. While the tree is in full bloom you can spray it without injury to the fruit.

Col. Irish: In using this tobacco spray on the larvae can you reach them?

Mr. Moulton: Almost always. On peaches, apricots, prunes and cherries the thrips are on the outside of the leaves and can easily be reached with the spray. I think if a man was careful to spray his trees with some solution that would kill the larvae over 10, 15 or 20 acres, he would be almost protected from them the next year. Thrips are very delicate and only take wing during the afternoon. They do not go any great distance. If a man clears his orchard out I think he is fairly safe for the next year.

Apparently if you use a high pressure spray and you expect to lose all your fruit otherwise, I think by spraying two or three times when the clusters are spreading you can bring the pears through.

Mr. Whitman: This all happens within four or



five days, and on a large orchard it cannot be done. It would be too expensive and could not be done in time.

Mr. Moulton: I admit that spraying is not the best remedy, but it is the best we have now. When it comes to losing all your pears, there is nothing else to do, because cultivating is out of the question. It is then a matter of spraying until we are able to find a parasite.

Mr. Whitman: Spraying is an impossible remedy.

Mr. Moulton: If you want to save next year's crop it would be well to spray for the larvae on the trees after the blooming. We find some orchards where there are a few thrips and no damage at all, then others where there are more thrips and very noticeable damage, and still others where there are so many that the buds are all killed. If by spraying we could reduce the thrips below the danger limit, it would pay. I would not advise a man with a large orchard to spray the trees to save the fruit, but he could attack the larvae. This matter is only in an experimental stage, but we have proved that irrigation and cultivation is no good. If we clean the thrips out of an area it is not likely to appear the next year in such quantity as to kill the crop.

Mr. Whitman: I have a neighbor just across from me who has 3500 Bartlett pear trees. He had no pear crop at all, the pears being riddled with the thrips. Right across from him I had about 60% of a pear crop. There was nothing done to stay the ravages of the thrips in his orchard. This year he has a pear crop and I have almost nothing at all.

Mr. Moulton: Possibly so many of the buds were killed early in the season that the thrips went right away looking for new food in adjoining orchards.

Mr. Whitman: While my pears were blossoming I could find as many thrips in mine as were on his trees. I have been thinking that when the crop is completely destroyed one year, possibly the bud is stronger succeeding years.

Mr. Sutton: My orchard has been cleaned out, the same as all my neighbors. The trees never came to a blossom. My pear orchard is wiped out, while my prune orchard has a full crop.

The Chairman: Do you think the thrips is the same that is destroying the pear orchards in Contra Costa county and the prune orchards in Santa Clara?

Mr. Moulton: It is exactly the same. On cherry trees they live on the leaves, on apricot trees on the leaves, on peach trees they feed on the inside of the blossoms, and on pear trees on the buds and in the newly opening leaf.

Mr. Whitman: The pear thrips, to my mind, is the most serious menace there is to orchardists. Our university and the Federal Government are spending many a good dollar on the pear blight, which is not as serious as this thrips matter. This means the destruction of the pear industry of California, which the blight does not.

Mr. Anderson: Is it possible to get the Department at Washington to spend any more money or give any more assistance?

Mr. Moulton: This work originally began by a casual conversation I had with our Congressman in Washington a year ago last winter. Dr. Howard at that time appointed me to take charge of the California work, and the leading problem was the thrips. Last year we had a fair appropriation, but this year we will have more. I suggest that it would perhaps be well to send a copy of the proceedings of this meeting to Dr. Howard, who is in touch with the work.

The Chairman: In view of the fact that we have had much correspondence direct with Mr. Wilson on other questions, I think if this application is made through us he will take it up and give it the consideration it deserves. The probability is, as the appropriation for the Agricultural Department is a very large one, I think for a matter of this kind the Secretary would set aside an additional fund for experimental work here.

Gen. Chipman: I move that the president of this board communicate with the Department of Agriculture in view of laying before it the result of this discussion today and urge upon the Department that more extended inquiry be given to the destruction of the thrips, and invite its earnest attention to the subject.

The motion was seconded and carried.

## Citrus Fruits.

### SCOURING THE WORLD FOR PARASITES OF CITRUS PESTS.

Mr. J. W. Jeffrey, State Commissioner of Horticulture, has just sent on his journeys Mr. George Compere, who is to scour the world for insects which may be beneficial to California citrus culture. From the instructions issued to Mr. Compere we take the following outline:

Leave California June 12 for New York. In that city procure a supply of mailing tubes for use during the trip as outlined. Also procure two cable codes, one copy to be forwarded to the California office, the other to be retained by you.

From New York proceed to New Jersey; here collect and forward to the insectary all species of coccinellidae, or any other beneficial insects met with, consuming a week of time according to Atlantic transportation, which can be settled while in New York.

Then proceed to Bremen, Germany, and work northern Europe, collecting and forwarding any beneficial insects met with, especially the summer enemies of the codlin moth as adjuncts to Caliphialtes messor. Procure in the Balkan States, if possible, any predaceous or parasitic insects on woolly aphis, consuming four or five weeks if results justify this expenditure of time.

Then proceed to Italy; in this section collect and forward all species of coccinellids or other beneficial insects preying upon citrus pests. While in Naples procure a stock of small citrus trees, and ship them to Hongkong, China, these to be used at our station at that point.

Then proceed to Egypt; here collect and forward any beneficial insects met with; make an especial effort to secure the coccinellids we know of that prey upon citrus pests.

Proceed to Colombo, Ceylon, and here arrange also for trees and plants to be used in the Hong Kong station, and interview the resident entomologist, E. E. Green, and obtain all information possible regarding citrus pests at this point.

Proceed next to India and work the Mysore States, centering at Otacamoon or Coonore, and start arrangements for campaign as outlined in detail in connection with Hong Kong station.

**The Hong Kong Station.**—At Hong Kong, China, you will reach the center of the field of operations. Rent a room or small cottage suitable for use as a sub-insectary, then secure a good stock of trees and plants that carry the citrus pests commercially destructive in California. Stock the trees with pests. Ball the trees as small as possible, and pack in small boxes with sphagnum moss, in such a manner that they will not need to be transplanted for shipment to California. Then, making Hong Kong your headquarters, plan a campaign lasting several months, and systematically and entomologically explore China for parasites for citrus and other pests, making side trips to India and Ceylon as may be desirable. When the parasites are located, breed the same, study their life history and transplant them onto your pest-stocked trees at Hong Kong, and when established ship direct in cold storage to San Francisco, where they will be taken care of and forwarded to the insectary at Sacramento.

Explore this portion of the Orient, which all indications point to as the home of the citrus, in such manner that when you have finished, further search in this section need not be made, no matter what the results may be.

Collect all species of beneficial insects on a given pest, instead of giving preference to any given species, and give them a tryout in California.

Procure a small ice chest that can be taken along on side trips, and when any promising parasite is met with, place it in the small chest, and thus hold it in a dormant state until a boat leaves for San Francisco, when it can be placed in the cool chamber on board and reach the insectary without completing its cycle.

At all times keep a stock of pest-infested trees in the station at Hong Kong, especially the red and purple scale, as parasites for these two scales will constitute the main object of the Hong Kong station.

Make arrangements to have the several species of parasites on the half-grown black scale from West Australia reach California as soon as pos-

sible. Make a shipment by each boat for San Francisco.

While in China make a study of the wild pear. Observe any indication of pear blight, and thoroughly collect and forward all the wild pear seeds you are able to obtain.

If feasible, while in the Orient secure a parasite for the white fly (*Aleyrodes citri*). Ship to insectary, and give us a month's notification in advance of sending, as we will want to send this to Florida, as a means of protection against further infection from that source.

Collect any parasites met with on the gypsy moth, and forward the same to Dr. L. O. Howard, U. S. Entomologist, U. S. Dept. of Agriculture, Washington, D. C., with the compliments of the State Commission of Horticulture.

While engaged in the special search as outlined, bear in mind the needs in California of parasites of various insect pests destructive to California, and, if met with, collect and make sendings of such as you consider of possible benefit.

### HOW CALIFORNIA ORANGES ARE AUCTIONED IN BOSTON.

With something like 25,000 carloads of California oranges to sell each year in Eastern markets, there is a rapid method necessary which some of our growers may not have thought of. A Boston journal of recent date gives an account of how it is done with the share of the fruit which goes to the "Hub."

This Boston fruit auction is a big institution in its way, and for many years has been an important feature of the commercial life of the city. Through it not only Boston but most of England, parts of Canada and the Maritime provinces are daily supplied with fruit of different kinds. Every morning of the week throughout the year, with the exception of Saturday and Sunday, large consignments of oranges, lemons, tangerines, grape-fruit, peaches, pears, plums, grapes, cherries and other pomological riches of California pour into the Boston market, each variety in its own season.

The auction business done there is vast in volume every day, 200 or 300 buyers attending the auction and the bidding becomes spirited. Thousands of tons of fruit are knocked down in the space of a few hours to the crowd of buyers, who dispose of it at both wholesale and retail.

In midwinter the season of California oranges, lemons, tangerines, and grape-fruit is at its best, and the sales of these constitute the whole business of the fruit auction.

The freight-house is divided into two sections for the purpose of the fruit auction. On the lower floor, for the whole length of the building, the fruit is deposited and arranged in carload lots, according to grade and quality, in long tiers six or seven boxes high, the top box of each tier being uncovered in order to show the size and quality of each lot.

The auction sales are held in a large spacious hall in the second story of the freight-house, added for this special business. There is a wide rostrum for the auctioneer at one end of the room, with an auction block above all.

Representatives of the Boston receivers of the fruit, to whom it is consigned by the California shippers, and the auctioneer's clerks sit at the desks keeping tab on the sales. In 15 or 20 rows of chairs that fill the body of the hall is the crowd of buyers intent upon the business on hand.

The fruit buyers get to the place early in the morning and put in a preliminary hour or two looking over the tiers of fruit displayed on the lower floor.

Each one carries an auctioneer's catalogue descriptive of the kind and quality of the fruit and the amount in each lot to be sold, the different lots being designated by numbers and sold under those numbers.

The buyers pass from pile to pile through the long rows, critically examining the fruit in the open sample boxes. From 9:30 to 12 are the hours of the auction sales. When the buyers finish their inspection of the fruit all hands mount the stairs to the hall above for the sales.

To see and hear the Boston fruit auction in full action is an experience well worth the time given to it. The people who fill the buyers' seats make up an interesting assemblage. In the front seats are seen a big number of big fruit dealers from



the market district and elsewhere in Boston, representatives of large grocery houses, and brokers acting for fruit merchants in many parts of New England, all of whom buy frequently by the carload.

Back of these heavyweights of the trade are ranged a large crowd of push-cart hucksters and peddlers who may boast the ownership of a horse and wagon—Greeks, Italians, Armenians, Hebrews, Yankees, Irish—whose talk is babel. Good nature reigns in that international gathering. All are expert buyers of fruit, and it is simply business with them the whole time they are at it.

At first the auction moves at wonderful speed. The tone of the auctioneers, the bidding of the buyers, the announcement of sales, the calls of the clerks, everything is of the rapid-fire order. There is not a minute wasted there. The man who wants to buy fruit must act quickly if he would get into the game.

Sharp at 9:30 on a recent day Auctioneer J. C. Macomber, the first up, mounted the rostrum and with a sounding whack of the gavel on the pulpit like block announced the opening of the auction. Then he started it at once on a whirlwind plea for bids, and fruit went with a rush. After selling several cars of oranges, Mr. Macomber gave way to the second auctioneer, Frank L. Ripley.

Mr. Ripley, a bundle of nerves and energy, was stripped for the fray. Coat, collar, vest, cuffs and necktie, and even suspenders, were peeled off, and with shirtsleeves rolled up above the elbows he dashed into the task of taking the dollars out of the pockets of the buyers of 11 cars of oranges and lemons. It was touch and go at a mile-a-minute clip with him. The outsider cannot understand a word in ten. It is all Fejee or Choctaw to him. But it is good, plain, understandable English to the crowd of push-cart men and peddlers in front. At different stages during the ceaseless torrent of language pouring from the mouths of the auctioneers the push-cart men got worked up to a high pitch of excitement in their eagerness to get a bargain. They shrieked out their bids in shrill voices, arguing all the time with each other or the auctioneers, gesticulating wildly, with the catalogues in hand.

About 2000 cars of oranges are sold at the fruit auction in the course of a year, or more than 750,000 boxes, representing, at a conservative estimate, 10,000,000 dozen oranges. Although 3000 carloads of fruit of all kinds are auctioned off there every year, only California fruits are sold there, those from Florida, the West Indies and from Spain and Italy, Malaga and other varieties of grapes coming across the ocean from the two latter countries, being disposed of at other auction rooms.

But California oranges have come to be an all-the-year-round fruit in Boston. They are always arriving, and there is no day in the year when oranges are not sold at the fruit auction. It is estimated that each car of fruit disposed of there brings in \$1000, and that a total of nearly \$8,000,000 worth of it is sold at the fruit auction during the 12 months of the year.

## The Field.

### GROWING POPULARITY OF ALFALFA HAY.

Mr. H. A. Crafts has been collecting information about California for the many eastern journals to which he makes contribution, and presents many an attractive story. One of his latest is in Hoard's Dairyman, and treats of the growing popularity of alfalfa hay in this State:

It was only a few years ago that the dairymen of San Francisco and Oakland were strongly prejudiced against alfalfa hay as a cow feed. When you asked what objections there were against it they replied that their customers claimed that it flavored the milk and made it distasteful. But the probability was that these customers had been using the lacteal product of the regulation California hay—wiry wheat, barley or oats cut after turning yellow—that they did not know when they got some good rich alfalfa milk, and because it was stronger than the watery stuff they had long been accustomed to, they thought they were getting something that was not right.

But the milk consumers of the bay cities are getting wiser with time, and now alfalfa hay is

the most popular dairy feed in the region. Of course, this change has come about gradually, for human prejudices are deep seated, and habit is a stubborn master; but I look for the time when the great majority of milk consumers of these cities will insist upon having milk made from alfalfa served to them. Recently I had a talk with F. J. Hall of the Hall Warehouse Co. of Oakland on this subject. The Hall company is a very extensive dealer in hay and grain, and Mr. Hall is very well posted on the hay question in California. He said that alfalfa hay in the Oakland and San Francisco markets is higher this year than in former years.

It was true that quite large areas of alfalfa fields on the river lands or reclaimed lands had been flooded out by the excessive rains of last winter and spring, but at the same time the alfalfa crop on the irrigated lands of the interior was unusually abundant, so that it is probable that even with the losses sustained in consequence of the floods the State could produce for the season of 1907 an average crop.

It would seem, therefore, that the cause for the higher price was an increase in demand rather than a lack of supply. In fact, Mr. Hall asserted that there was a constantly growing demand for alfalfa hay both in San Francisco and Oakland, and that this demand came almost exclusively from the dairymen, as little or no alfalfa hay was being fed to horses.

The great demand for alfalfa hay by the city dairymen has grown up in the past two years, and when asked for the reason for this change, Mr. Hall said that the dairymen had all come to admit that alfalfa hay makes more and richer milk than any other hay feed in the market.

Alfalfa meal is also growing in popularity with the dairymen. In both Fresno and Stockton there are alfalfa meal mills that turn out large products, and the stuff finds ready sale. The manufacturers of alfalfa meal in California buy only the roughest grades of alfalfa hay for grinding, and those are included in the second, third, fourth and fifth cuttings.

California alfalfa meal is simply pure alfalfa hay ground up and sacked, but when the dairymen come to feed it out they mix a certain proportion of bran with it. Alfalfa meal today sells in the bay city markets at from \$20 to \$24 per ton, while baled alfalfa hay brings from \$12.50 to \$14 per ton.

### AN EXHORTATION TO HONESTY AND EFFICIENCY IN LABOR.

Many of our readers often feel that they would like to say a few words to their farm hands which would help them to behave and to take a better view of life. Some readers can do this in a kindly and effective manner and exert just the influence over their men that they conceive to be for their good. Others can think what they would like to say, but do not seem to be able to get it into words, and so the man who might be helped and uplifted is allowed to go on until he gets so bad that he has to be fired. Perhaps we can help our readers who cannot talk as they would like to talk to save some good man from a downward course.

Mr. W. F. Kelly, general manager of the Key Route and Oakland Traction Companies, corporations which own all the trolley lines in Oakland and other east-bay cities, has to do with thousands of employes and he has the general reputation of having the best interests of this multitude printed constantly at heart. Mr. Kelly has just printed a little circular, a copy of which is sent to each of these men, with the catching title, "It's Up to You." It is in the form of a personal appeal to the men as individuals and it clearly shows how manhood and efficiency can be gained and lost. The writing has to do with railroading, of course, but the truths are directly applicable to farming or any other kind of service for responsible employers. If, then, any subscriber wishes to say a timely thing to those who may need it, cut out this column and tack it up on the barn door where all can read it:

#### "It's Up to You."

A big lot of you men are railroading in the right way, and your conduct, both "on duty" and "off duty," commends you to your employers and all good citizens. For all this class we have

nothing but words of praise, and a genuine interest in your success.

There are a few who are looking for a chance to give the least service for the most money; who are always kicking about more pay and shorter hours; who are constantly "chewing the rag" about something the company has done, or hasn't done, or ought to do; who spend most of their time "off duty" looking for a chance to get separated from their money at some "thirst parlor" or pool room; who think that a poker game or a horse race are the real things worth living for, and that railroading is only a disagreeable incident in the daily routine.

We want to say to all this class that you are just a few too many for our service. You don't belong with the big crowd of decent fellows who "live white and play fair." You are no credit to us, to yourselves or your fellow workmen, who don't stand for this type of railroading. If you want to stay with us you want to "cut it all out" right now, and permanently.

We don't want to say how, or where you spend your time and money. You can stake it on a bob-tailed flush, or a bob-tailed horse, or exchange it for red liquor that will give you a red eye and a red temper the next day. You can do any of these things, and a lot more, and say they are "none of our business." If you think that way, better "have another think."

We can't get away from the fact that you are our agents and representatives before the public. The public doesn't know us, but they do know when you are wobbly with liquor, careless and discourteous, and they are very apt to think that we endorse that kind of thing.

We are to a large degree legally responsible for your acts when "on duty." This being so we want to know that your conduct "off duty" is not such as to wreck you mentally, morally, physically and financially.

What you do when "off duty" is an index to your real character, and is largely responsible for your mental and physical condition when "on duty."

Boozing, slot-machines, back-room card games, playing the races, "chewing the rag," etc., don't fit the railroad business. When we engage your service for certain duties, we include the employment of your brains as well as your bodies. We want your cheerful, willing effort and not half-hearted grumbling discontent. We don't want your brain fuddled with liquor, dulled from late hours and loss of sleep, or dreamy from the study of "dope-sheets." You may be sober after a night at a poker game in the foul air of a card room, but you are in no condition to do our business properly.

When you've placed your money on the wrong horse, you can hardly have your mind on our business, or be smiling and gracious to the people with whom you are in contact. You may "put up a bluff," but it is ten to one "the grouch" will come out at the first irritation. All this sort of business points direct to the door of the "Down and Out Club."

Whether you are a shop foreman or a track oiler, a car conductor or a ship captain, a motor-man or an office clerk, there is but one sure and swift finish to the fellow that follows this course. Every day in the year, in every large business in which men are employed, some "has been" is handed his ticket of membership in the "Down and Out" Club. You don't need to have gray in your whiskers, or a stoop in your back to belong to the "has beens." Many a fellow that looks all right and isn't 35 years of age, belongs to this class. His brain stopped growing because he didn't use it; he has no interest in his work other than his wages; he spends his money and leisure in drinking resorts and pool rooms; he studies the racing forms and thinks that next day he'll "strike it lucky." Before that day comes he has struck a prolonged vacation, and some other fellow is holding down his job.

Thousands have followed this "trust to luck" course, and always with the same results. The services of this class are never in demand because they never render honest and efficient service.

Good railroading requires a clear, thinking brain, and an active, alert body. If you are in dead earnest about railroading the way we want it done, do it now. Get out of the kicking, gambling, boozing class, and get out now. "It's up to you."



## AGRICULTURAL REVIEW.

### BUTTE.

Apricots at Biggs are ripening fast and the trees are heavily loaded.

The yield of oats in the vicinity of Gridley is said to be about 25 sacks to the acre, which is equivalent to 75 bushels.

A large amount of work has been done this season in the vineyards around Biggs. They are looking healthy and promise a good crop.

Experiments with artichokes at the National Plant Introduction Gardens at Chico have convinced Chief August Mayer that they can be raised profitably in commercial quantities all over California. Last year six plants each of two varieties were brought from France, and from two of these 500 plants have been produced.

### COLUSA.

There were 350,000 grain bags purchased for the farmers of this section, of which number 260,000 bags have already been engaged. As most of the farmers are cutting more grain than they expected to realize from estimates, the surplus of bags may not prove so great.

Grasshoppers have made their appearance again this year west of Arbuckle, and are devouring the young grape vines. At one of the vineyards a novel method is being resorted to to protect the vines from the plague. Common paper bags are being placed over each vine and held to the ground by clods of dirt placed on the bottom. This section was damaged extensively a year ago by hoppers. They came from the foothills in such numbers that the ground was completely covered with them.

### EL DORADO.

The first shipment of peaches to leave the county for the Eastern markets was sent June 15. They were of the Alexander variety, and exceptionally fine in size, coloring and flavor.

### FRESNO.

It is stated a Sanger orange grower has one Valencia tree that has yielded 40 boxes of fruit. The tree is 27 years old.

### GLENN.

A trainload of 21 cars of cattle was recently shipped from Williams to Seattle, Wash., for the Alaska trade.

The grain harvest in the Germantown district is in full blast. Crops are turning out beyond all expectations, and some barley on the poorest land is averaging 20 bags to the acre, which is an average crop for the best land.

### KERN.

Echo: The wool product of the sheepmen who ship from Kern station is estimated at 1,000,000 pounds for the season. This total is exclusive of the Land Co. and Miller & Lux wool. The wool has been shipped to Boston, where it has been stored to await a raise in the market. The Kern output was 3500 bales, and is an average product. In 1895, the banner year for the wool men, 10,000 bales or 3,500,000 pounds, were shipped from Kern station.

### KINGS.

A Hanford nurseryman who makes a specialty of carnations has many varieties which show freakiness in coloring. Among others are several of a beautiful pale yellow color—one a pure yellow, one with a narrow crimson border, and another with a broader crimson border; also carnations of pure purple and magenta.

At Corcoran sugar beets are making a good showing. The manner adopted in selecting a lot of beets for test is interesting. A man goes into a beet field and hurls a hoop about a yard in diameter, and wherever that hoop settles down the beets that are found within the circum-

ference of the rim are pulled up and subjected to the test. Nine batches of beets selected in this manner were tested in the laboratory at the Corcoran factory, with the result that the lowest sample went 18 per cent saccharine matter and 83 per cent purity, while the best sample went 26 per cent saccharine matter and 87 per cent purity.

### LOS ANGELES.

Pomona walnut trees are loaded with nuts. There is a large amount of wheat and barley hay ready for the balers, and it is of good quality. Much that was intended for grain has been cut for hay.

### MENDOCINO.

Times: There seems to be an idea that there are few hops cultivated in this county this year, but the area not cultivated is comparatively small. We are informed by good authority that there are 1408 acres under cultivation in the county and only 308 acres lying idle. This is about one-sixth of the entire acreage and will not make any appreciable decrease in the production this year.

### MONTEREY.

Apple festivals are talked of in the Watsonville district.

The Salinas Index reports Newton Pippins and Bellefleur apples falling off to an alarming extent.

Pajaronian: The total apple crop of the valley this year will amount to not less than 3000 carloads, and may reach 3250. Last year the crop was the lightest in years. The 1907 output, including what were shipped, evaporated and converted into cider and vinegar, was 2058 carloads.

### ORANGE.

Apricots promise the biggest crop of a decade and more. The trees are loaded with fine big fruit and everything points to a banner year. Prices are said to be good though the crop is unusually large.

### PLACER.

The fruit crop is very large. It is stated that an Auburn grower will ship "hundreds of bunches" of bananas. About 3000 cars of fruit will be sent East from Loomis, Newcastle, Penryn and Auburn.

### SAN BENITO.

Fruit growers of the San Benito valley held an enthusiastic meeting to debate the question of retaining a permanent inspector in the field.

### SAN BERNARDINO.

Many acres have been planted to apple orchards near Beaumont, the Missouri Pippin and the Gloria Mundi appearing to be most popular with the new orchardists.

### SANTA BARBARA.

The Southern California Walnut Growers' Association shipped three carloads of No. 2 walnuts to St. Louis, cleaning out all the stock at Carpinteria and half of that at Goleta. There is now but one car remaining from the whole of last season's crop.

### SANTA CRUZ.

The Seninel says that the Santa Cruz lemon crop is always large and the crops A1. The wonder is that land-owners do not set out more lemon trees.

### SHASTA.

Twelve cars of California harvesters in a special train passed through Redding en route to the Alberta wheat fields. Many consignments of harvesting machinery have been shipped from California this spring to the British possessions.

### SIERRA.

The creamery on the Ede estate was totally destroyed by fire recently.

### SISKIYOU.

It looks as though the hay crop will be fully up to the standard. Some of the farms produce as high as 600 tons. Hay hands are more plentiful than last year.

The last of the cattle are going to the summer ranges in the Mount Shasta timber reserve. It is estimated that at least 20,000 head of stock go out to the range from this valley every spring.

### SONOMA.

At a meeting of berry growers held recently an organization was formed and about 700 tons of blackberries pooled. It is expected that at least 1200 tons will be represented in the organization. A committee was appointed to attend to the disposal of the crop.

### STANISLAUS.

Crawford land no less than 5000 cans of marketable product were derived.

Many orchards at Turlock report extremely heavy setting of practically all varieties of fruit.

The Modesto cannery will start operations on July 1, when the peach crop will be ready to handle.

The Pacific Pea Packing establishment at Oakdale has packed as high as 53,000 cans in one day. Several carloads have been shipped East, and there is abundant good market for the entire pack. It is stated that from one acre of peas on the SUTTER.

The almond crop is a good average one and the greater portion is represented in the Sutter Almond Growers' Association.

This year is a banner one so far as the fruit crop is concerned. It is expected that the output of the canneries this year will exceed that of last, and the season will extend from the early peach packing, about July 15, well into October.

The dry season has made possible the early planting of beans, corn and other summer crops along the tule border, and a large acreage will be put in. There has been much planting in the tules, where the land makes an abundant yield, especially of beans.

### TULARE.

Mr. Cowles of Lindsay has eight acres of Valencia orange trees about 12 years old, and from this small tract of land he will take over \$10,000. He estimates that his crop will bring him about \$1800 per acre.

Porterville Enterprise: One of the orange growers in the Worth district said that few of the orchards in this district would have much more than half a crop. The cause of the shortage is the cold spring. The fruit is falling from the trees very badly.

### VENTURA.

Fillmore growers are making preparations to dry their apricot crop, which is a fair one, and the fruit is of good quality.

Anaheim Gazette: It is stated that the recent claims of a large crop of nuts are unwarranted. A Los Angeles expert estimated the crop at 9000 tons, but these figures are too large. Southern California never yet produced to exceed 8000, and the yield has perceptibly fallen off on account of the blight. Last year's output was 7000 tons.

Oxnard Courier: The lima bean acreage will be the biggest in the history of the crop in Ventura county. At least 50 per cent of the blackeye bean area will not be planted to that crop this year, but is being devoted to limas. The grain lands of some districts that were not sown to grain on account of rain and other features, will be in limas. The young bean crop is looking well as a whole, but is not growing as fast as it should. The cold weather is not good for sprouting, and the small plants do not make headway.

### YOLO.

The beets now maturing at Woodland will run about 15 tons to the acre, as against an average crop of 17 tons last

year, which is a remarkable showing, considering the lack of rain.

The Alameda Sugar Co. will plant beets on the Hennagan farm, near Cache creek. This land is low and damp and will mature a crop if the seed is planted by June 15. While the crop in Yolo county will not be a good one this year, it will be as good as in any other county of the State. Fields planted after the top moisture had dried out will not yield much unless they can be irrigated. The Alameda Sugar Co. has a big pumping plant operating.

### DEATH OF A PIONEER GRANGER

To the Editor: It is a sad duty to call to mind the loss our order has sustained in the death of our faithful and honored brother Walter Renwick, who, after a lingering and painful illness, passed away on May 18. He was always ready to assist in our order by wise and faithful counsel. A fitting tribute to his memory was adopted at the last meeting of Oakland Grange.

COMMITTEE.

## Large Land Sale

## The John Crouch Lands

### Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

The corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,  
President John Crouch Land Company.

### Palo Alto—Stanford University

For Sale—40 acres with good improvements which will prove a profitable investment as a Summer and Winter resort or a gentleman's home. Only four and one-half miles out in low foothills. Fine views. Good roads. Write for circular.

JOHN F. BYXBEE,  
Palo Alto, Santa Clara County, California.

### HENRY B. LISTER,

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
987 Pacific Bldg., Fourth and Market Sts.  
San Francisco.



## Livestock and Dairy.

### Sale of Shorthorns.

By E. W. MAJOR, University of California, Berkeley.

The first draft from the Shorthorn herd of Rush & Pierce was sold at auction by Col. G. P. Bellows, of Marysville, Mo., at Suisun, Cal., on June 17.

Messrs. Rush and Pierce have decided to dissolve partnership and disperse the herd. During the past four or five years this firm has spared no expense in getting together the best Shorthorns that money could purchase, and it is to be regretted that they have decided to discontinue their breeding operations.

It was a great opportunity for those desiring registered Shorthorns to purchase animals of the best breeding and superior individuality at practically their own prices. The attendance, however, was not large, and most of the animals sold went at far below their value. Perhaps had the animals been tied up and led into the ring, so that prospective purchasers could have looked them over more carefully, a somewhat higher price would have been received. Running them through in the way that they were gave intending purchasers little opportunity to look the animals over, and as Col. Bellows said in his introductory remarks, "Purchasers today are becoming more and more discriminating."

Mr. Newhall of San Francisco was one of the largest purchasers, securing many excellent animals, among them that good young bull Bar None of Humboldt, a son of Sarah. H. P. Eakle, Jr., of Woodland, was also a large purchaser, securing 15 head, among them Lodestone's Mina 2nd, and her calf, and Manila. Hr. J. E. Dickinson of Fresno purchased a number of good useful animals, and Mr. Samuel Frankenheimer, of Stockton, purchased several head, with his usual good judgment.

ment. He is a young breeder who has been a regular purchaser at sales held during the past few years, and must now have gathered together a good herd, and ought soon to be seen in the show ring. The great show bull, Noble Knight, was purchased by William Pierce. The price paid was far below his value, but the trouble was that there was no one there who felt that he needed a bull of that character.

The average secured for the 67 lots was \$104.40.

### Answers to Inquiries.

#### Handling Goats.

To the Editor: Would you kindly tell me about the breeding of goats: How long they carry, how long they should be allowed to nurse their young, and how they should be milked—in the same manner as a cow, or not?—Rural, Mountain View.

Milk goats carry their young about five months (from 147 to 152 days). The time for weaning depends upon the value of the kids. If they are allowed to nurse their dams because the kid is worth more to the owner than the milk, they should not be weaned before three months from birth.

For milking, the goat should be placed on a box or table about 18 inches high. She can be fed while being milked, and then there will be no difficulty in getting her to come to the box and remain there during milking.

The milking should never be done in the stalls or in the barn where stalls are located. The buck should not be near the place where the milking is done, as the milk easily absorbs the odor.—E. W. M.

#### Pigs and Prunes.

To the Editor: Will you let me know what is the best general utility pig where only a few are to be kept? Is there any objection to feeding them on prunes too small for market?—F. H. M.

The two breeds that are most popular in this State are the Poland-China and Berkshire. Where only a few are kept and where the land devoted to them is limited in area, the Essex has proved quite popular.

I am unable to find any account of experiments in feeding prunes to hogs, but I do not think there would be any objection to doing it.—E. W. M.

[Such prunes are largely used for hog-feed in the fruit districts, and the results are satisfactory so far as the growth of the animal goes.—Ed.]

### A Satisfactory Silo in San Mateo County.

Although some silos have been disused because the California climate favors the growth of forage and root crops in a way to give succulent feed all the year to one who likes to do a good deal of field farming in connection with his dairying, still silos are multiplying and being used with satisfaction. Mr. M. B. Stevens recently wrote an account for the Pacific Dairy Review about such a silo in San Mateo county:

At this time of high prices for cow feeds of any kind, dairymen are shifting about to provide something that is cheap and at the same time a good milk producing feed. The great problem with many dairymen is to provide green stuff or a succulent feed in the fall and winter months when there is no green pasture. A lack of this means that bran, oil cake and other concentrates must be fed to keep the cow in a thriving, productive condition.

The Perham dairy, at Baden, San Ma-

## HOW AND WHY DE LAVAL CREAM SEPARATORS ARE SWEEPING THE FIELD

On June 1st a creamery skimming station four miles from Milton, Wis., closed its doors. Thirty-two farmers had been having their milk skimmed there. When the station closed they were compelled to buy their own separators. Thirty-one of them bought DE LAVAL machines, notwithstanding agents of eight different makes of separators were on the scene hot after the business. This is only a fair example of how the 1908 improved DE LAVAL is making a "clean sweep" of the separator business in every dairying section from the Atlantic to the Pacific.

The De Laval factory has been working every available man night and day since early in February and is now more than 2,000 machines behind orders, so great has been the demand for the new and improved machines.

The 1908 DE LAVAL machines are simply so overwhelmingly superior in every way to anything else in the shape of a cream separator that it is only natural that well informed buyers everywhere will have nothing else. They are beautiful in design, perfect in construction, and everlasting in daily use. They are made in ten new styles and ten new capacities, with a size for every dairy from the smallest to the largest, and are sold at ten new prices that are just right and much the cheapest of all for the value given.

A new 1908 catalogue, constituting a separator education in itself, and any desired particulars are to be had for the mere asking.

### DE LAVAL DAIRY SUPPLY CO.

108 SO. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.



Don't  
Wait  
till  
They  
Sing

You make  
yourself un-  
necessary  
expense for  
repairs every  
time you use

a poor wagon grease or allow  
an axle to go dry.

An occasional application of

## MICA Axle Grease

removes two thirds of the trouble  
and cost of keeping a wagon. Try  
"Mica" next time you go for a  
load—you'll see the difference and  
the horse will feel it.

Mica Axle Grease is almost as  
good as roller bearings. Ask the  
dealer for it.

STANDARD OIL COMPANY  
(Incorporated)

teo county, thinks it has solved the problem of succulent feed satisfactorily for its case. Last year Mr. Geo. L. Perham, the proprietor, decided to try corn growing, and plowed up some long standing pasture sod, where after fitting it up in good shape he planted it. The corn did so well that, aside from feeding considerable to his cows green, he immediately put up a silo and put the remainder in it as silage. This silo cost in the neighborhood of \$400, and he roughly estimated the cost of putting the corn into the silo at about 60 cents per ton. He had only enough corn to about one-half fill the silo, or about 100 tons, so that the actual cost of his silage was about \$4.60 per ton. The silo is well built and will last many years, and Mr. Perham is so well pleased with the result that this year he has put up another just like it and this fall will fill them both with corn.

The silo is 12 feet in diameter and 30 feet tall. Two feet is excavated below the surface and the bottom covered with cement. On the cement wall are double three-inch mudsills, which are bolted to the wall with long bolts imbedded in the wall. The framework is built entirely of pine. A layer of matched half-inch stuff is put on first inside the studding, then comes a layer of very strong, tough building paper, and then another layer of matched stuff. The building is practically air-tight, with a chance for ventilation at the top. The corn is cut when it is fully grown but still green and the grain not hard. It is hauled to the silo and fed into the cutting machine, which blows the cut stuff through a pipe into the silo. Enough men are inside the silo to keep the material evenly scattered and well tramped down. If the corn has been allowed to get a little dry before cutting, water should be run into the silo until the whole is just moist. It is usual for a layer on top of about two feet to get moldy before it is time to begin feeding it. Farmers in Eastern States largely overcome this by putting a thick layer of chopped straw or corn fodder on the top

of the silage. This keeps out much of the air and keeps the top from getting moldy.

With corn silage rich in carbohydrates and good alfalfa hay rich in protein, the combination as Mr. Perham feeds it gives a ration hard to beat for milk production. High priced grain need not be largely used.

### Dairy Notes.

Pleasanton will soon have in operation one of the largest and best equipped dairies in the State.

The Lucerne Cream and Butter Co. is turning out about 3,000 pounds of butter daily. The supply of cream keeps up well, the foxtail crop of feed is about done with and as the new alfalfa comes on the creameries will receive more raw material.

### Most Elaborate Prevention Against Hog Cholera.

If we are not mistaken the prevention of hog cholera by inoculation with an effective virus is proving one of the most elaborate researches which bacteriologists have ever undertaken. One can appreciate how much had to be discovered about the causes of the disease and how novel the recourses to render them innocuous, if he will read carefully an outline of the work recently prepared by Dr. J. W. Counaway of the Missouri Experiment Station for the Breeders' Gazette. It is a tribute to the patience and perseverance as well as to the insight and reasoning power of our veterinary scientists.

Began a Generation Ago.—Investigations were instituted by the United States Department of Agriculture more than thirty years ago into the nature of this disease, and the means of cure and prevention. The main features of the disease so far as symptoms and pathological changes are concerned were very accurately described in reports of these earliest investigations; neither cause of the



**Warranted to Give Satisfaction.**

## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

disease nor any means to prevent or cure the malady were found. Later, after organization of the Bureau of Animal Industry, a germ was discovered in the blood and organs of hogs affected with cholera which was so constantly associated with this disease as to lead to the conclusion that it was the true cause of the malady, especially in that form of the disease in which the intestines show disease changes, as ulceration of the bowels. The same investigators, Salmon and Smith, came to the conclusion that the outbreak of so-called cholera in which the lungs showed disease changes was due to a different micro-organism which was found very constantly associated with the diseased organs. This latter form of cholera was thereafter called swine-plague.

For a number of years following this experiments were carried on by the Bureau of Animal Industry and some of the experiment stations to produce immunizing serum and vaccines by use of these germs which were supposed to produce hog cholera and swine-plague. These methods failed of any practical results, for the reason that the investigators were not working with the essential virus of the disease. The failure of these investigations led to a search for some other cause of the disease. Researches of comparatively recent date by Dr. Dorset and associates of the bureau led to the discovery that the blood of hogs suffering from cholera remained virulent when all bacteria that can be recognized by the ordinary laboratory means had been removed by filtration. That is, the true virus appeared to be some exceedingly minute organism that was capable of passing through the very finest filter. This "filterable virus," although it could not be seen by means of the microscope, was found to produce typical cases of hog cholera when blood containing it was injected into susceptible hogs.

New method of immunizing.—This discovery led the bureau investigators and a few of the experiment stations to a different method of immunizing against hog cholera—that is, to attempt the production of a vaccine or immunizing serum by means of the infected blood instead of artificial cultures of the germs. This was necessary since attempts to isolate the "true virus" and cultivate it artificially have not yet succeeded. Attempts had previously been made to modify virulent hog cholera blood into an effective vaccine, but the results were not wholly satisfactory. The best method seemed to lie in the direction of an anti-toxin or "immunizing serum." Observations had shown that hogs that had recovered from an at-

tack of hog cholera proved to be resistant to that disease when again exposed to it. It was presumed that these recovered hogs had developed in their blood or organs an "anti-toxin" or "immune bodies" by means of which their resistance to the disease was maintained. But experiments made independently by the bureau and the Missouri Station have shown that the blood serum from swine that have recovered from a natural attack of the disease does not contain the "immunizing substance" in sufficient quantity to confer immunity upon another hog when injected in doses that are practicable for general use. It was evident that the quantity of the "immunizing substance" in the blood of the ordinary immune hog must in some way be increased in order to be of practical value in protecting other hogs. This we attempted to do by feeding an immune hog repeatedly with large quantities of the viscera of hogs suffering from cholera. It is as a rule through the digestive tract that swine, under natural conditions, contract the disease, and the experimental feeding of viscera, as spleen, liver, kidneys and intestines, had been shown to be a very certain way of producing the disease in susceptible animals. In our experiment, hogs that had recovered from the disease are able to eat infected organs of cholera hogs with impunity.

The Bureau of Animal Industry investigators hyperimmunized their supply of animals by injections of infected blood.

We have found the hyperimmune blood from both these sources to be protective against hog cholera. Since the digestive juices of an immune hog no doubt destroys some of the virus when fed, it is probable that a hyperimmune condition can be attained more quickly by the injection of infected blood. However, in our work of preparing hogs for the supply of serum at this station we are now combining these methods. That is, we inject (intra-muscular) virulent hog cholera blood, and feed infected viscera to the same supply animal that is under process of hyperimmunization.

By this combined method it is sought to increase the potency of the serum not only against the "filterable," or true virus of hog cholera, but also against such of the intestinal micro-organisms as may be dangerous in the role of "secondary factors" in hog cholera and particularly against the Salmon-Smith bacillus which was once thought to be the true cause of the disease and may still be responsible for the diphtheritic condition and the typhoid-like ulceration so often seen in the bowels of hogs suffering from cholera. The feeding of large numbers of these and other bacilli contained in the diseased viscera it is believed will stimulate a typical reaction in the mucous and sub-mucous coats of the intestines that may add to the blood other specific antitoxic substances that will increase the efficiency of the serum of the hyperimmune animal in the way mentioned.

So much for the methods of producing the immunizing serum. The results of tests are so satisfactory as to leave in every mind no doubt as to the great practical value of this method of preventing hog cholera. It is the purpose of the experiment station to so enlarge the facilities that we may be able to produce a reliable serum in quantities sufficient to be of large service to swine breeders of the state. We have at present a number of swine under process of hyperimmunization for the production of serum and are also experimenting with the horse and ox to determine whether these more tractable animals can be utilized for the production of an effective serum against hog cholera.

State Veterinarian C. Keene, with County Livestock Inspector T. W. Orme, visited the Mojave river section and in-

## The "TUBULAR" Has a Marvelous Advantage over Others.

In reference to this picture comparison of separator bowls the manager of a prominent agricultural publication recently wrote us:—

"It seems to me that this is the most emphatic way of showing the vital features of your Tubular Separator that I have ever seen. As I look upon the matter the bowl or what is in it practically does the whole of the work, so it is easily apparent that the Tubular has a marvelous advantage over others."

Only one thing better for a dairyman to see and study than this comparison of bowl parts, and contents, and weights.

That's the Tubular itself, in his own dairy.

We have been building separators, at our West Chester factory, for 28 years. We know them all and what the different bowls can do—on paper and in the dairy.

The quoted comment is absolutely true. The Tubular will prove it in your dairy. Our guarantee makes every purchaser safe—in buying today, and in using for a life time.

Let us show you the marvelous advantages the Tubular has over other separators. Write for Catalogue No.131

**THE SHARPLES SEPARATOR COMPANY,**

**West Chester, Penna.**

Toronto, Can.

San Francisco, Calif.

Chicago, Ill.



## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**

(General Agents U. S. A.)

161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.

**PARIS**

THE OFFICIAL  
VACCINE  
STATION  
OF THE  
FRENCH  
GOVERNMENT  
AND  
THE  
FRENCH  
ARMY  
AND  
NAVY

**PASTEUR**

IN  
ORDERING  
SERO-VACCINES  
SPECIFY  
"PASTEUR"  
AND GET THE GENUINE

**VACCINE CO. LTD.**

CHANCELLORS OF THE INSTITUTION FOR THE STUDY OF THE DISEASES OF ANIMALS

**LONDON**

THE  
OFFICIAL  
VACCINE  
STATION  
OF THE  
BRITISH  
GOVERNMENT  
AND  
THE  
BRITISH  
ARMY  
AND  
NAVY

When your animals are vaccinated be sure that it is with

**Pasteur Vaccine Co., Ltd.**  
**Anthrax and Blackleg Vaccines**

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by the discoverers, Profs. Arloing, Cornevin and Thomas. Furnished in powder, cord and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore. It is furnished only in our established blue tube and always bears our name, trade mark and expiration date for your protection. Do not accept any other.

**PASTEUR VACCINE CO., Ltd., 7 Rue Meyerbeer, Paris**  
**NEW YORK 866-868 W. 11th Street** **CHICAGO 325-325 Dearborn Street**  
Local trade supplied by Richardson & Ertin Co., 550 Mission St., San Francisco, Cal.

spected the Texas tick conditions among the cattle. In his report Dr. Orme says that he first discovered the presence of the Texas tick along the Mojave several years ago and now it is almost stamped out. He reports the county clean of anthrax and black leg cattle.

It is stated that Colorado capitalists have shipped a carload of blooded draft horses from Colorado, which will form the nucleus of a stock farm to be established at Angiola.

Samples of seasoned eucalyptus have been received by State Forester Lull from a Los Angeles firm which is using the gum tree in preference to the average hardwood in making furniture, etc. The samples are uncolored and beautifully polished. They show what can be done with the eucalyptus when it is properly handled.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

The chief of police of Sacramento has given orders to notify citizens to cut their weeds, both in the vacant lots and around their houses. Keeping the weeds down is a city ordinance and yet the citizens have to be notified every year about it. Those who do not comply with the ordinance are liable to arrest.

## HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS.**  
C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

## SHEEP.

**FOR SALE**—Thoroughbred Southdown and Merino bucks, and Merino ewes. Jersey heifers. Chas. C. Perkins, 820 J. St., Sacramento, Cal.



## The Poultry Yard.

### POULTRY FOR THE HOME.

#### Part III.—The Feeding and Care of Poultry.

By M. R. JAMES.

The food requirements of a fowl are: Plenty of grain and green feed; meat food in moderation; grit, shells, and pure water always. As in other matters relating to poultry, simplicity is an important point in their feeding. In the confusion of "balanced rations" and exact proportions (we hear less of them now) the novice was almost afraid to let his fowls eat in the natural way, lest they over or under balance themselves. Give the fowls good food and sufficient of it and they will balance and proportion it to a nicety.

**GRAINS.**—Grains are the most important food, with wheat and corn heading the list; but the local conditions must be considered and the kinds most easily and cheaply obtained should be used. With us, all kinds of grain are dear; barley usually being the cheapest. But barley when fed dry is not a good feed for poultry; when steamed, however, and used for the foundation of the mash, it is excellent. For this purpose by the No. 1 grade of rolled barley. In feeding grains to fowls, let the morning meal be a light ration of wheat or some of the smaller grains covered in clean litter or light soil. For the evening meal always give the fowls what they will eat of dry, hard grain, preferably wheat and cracked corn. A full crop of this and tender greens to dream on puts vigor into the fowls and money into their owner's pocket.

**GREEN FEED.**—Green feed comes next to grains in importance; in fact, it will to a great extent fill the place of everything but grain, and an abundance of it will lessen the quantity required of that. The question is how to keep a plentiful supply of this class of feed. In our long dry season, and where many fowls are kept, in all seasons, it is difficult to furnish them with sufficient fresh green feed; and this causes more failures in making poultry profitable than any other one thing. Where there is the space and irrigation, one may always have an abundance of succulent vegetation. But some poultry raisers have neither for this purpose. Grass, young grain, chard, lettuce and other salad plants, kale, cabbage, nearly all kinds of vegetable tops, alfalfa, and fresh raw vegetables, belong to this class of food, and are relished by the fowls in the order named.

**GROWING CHARD.**—Swiss chard is one of the most satisfactory plants raised directly for this purpose. The outer leaves may be constantly broken off and new ones will form from the center; if well cultivated and the seed-stalks broken off as soon as they shoot up, it will last over two and even three seasons without replanting. But to get results the ground must be very rich and thoroughly cultivated; under these conditions, with even a moderate supply of water, a small patch will furnish greens for quite a large flock of fowls, and the leaves will be so tended that the two-week-old chicks can devour stalk and all. Plant in rows two or three feet apart after the ground has been well manured and deeply spaded and then pulverized and all clods and trash raked out. The plants may stand quite thick in the rows, some two inches apart after they have made a stand. Wet down the ground after planting and keep it moist until the plants are out and well set; by keeping the ground mellow about them an occasional watering will answer. Planted in this way, the chard grows rapidly, develops large leaves with tender,

white stalks, and for table purposes excels spinach, being more easily prepared and freer from insects; the large stalks may also be used for pickling. When the plant is large enough to use, break off the outer leaves low down, and each time loosen and draw up the soil over the stubs.

To supply green feed when other things fail, grain may be sprouted; in fact, where one is willing to take the trouble, this is profitable at any time, as the bulk and value of the grain is increased four-fold. It is fine for the noon feed, and with laying stock may take the place of mash on alternate days, while for breeding stock it might be used to advantage instead of mash. Barley is the best grain for this purpose; cover it with very warm water and let it stand 24 hours; then draw off the water and empty the grain into a shallow box with holes in the bottom for drainage; keep it moist with warm water and turn often that all may sprout alike; set in the sun and cover with sacking, and in a few days it will germinate and begin to grow; when it has made a healthy green sprout, begin to feed it. By keeping a number of boxes, a constant supply may be had.

**FLESH FOODS.**—Meat, animal food of some kind, is required by growing, laying and moulting fowls. Insects are undoubtedly the best food of this kind, but in poultry raising on the Coast they cut no figure; they are simply not "in it." We must furnish the meat for our poultry. Commercial meat products are largely used, but they do not fill the place of fresh meat. Fresh meat and green bones should never be fed raw or when tainted. Boil the meat tender, season and chop or grind it and mix with the mash; this with the broth goes farther and is much more wholesome than the raw article. Crisp the green bones in the oven before grinding; it prevents the risk of diarrhea and lessens the labor of grinding. Much is being said pro and con in regard to the wet mash; but when all is told the fact remains that when made right and fed right there is no greater aid to growth and egg-production. Breeding stock, however, should not be fed the ordinary mash; we do not wish to stimulate egg production in them, but egg-stamina. The following mashes I have found very productive of results, but I do not claim that they are the only mashes, or even the best ones. Each one can make his own mashes according to the ingredients at hand, and they may be varied from day to day to advantage. Only three hard and fast rules apply: Mashes must be mixed as dry as stale bread crumbs, with bran. Nothing dirty, tainted, sour or soured must go into them. They must be fed the day they are mixed, and in clean troughs or on clean boards, and only in sufficient quantity to be eaten up quickly. When these rules are disregarded, mashes become a deadly compound and would better be cut out of the menu entirely.

**MASH FOR LAYING AND GROWING STOCK.**—Fresh meat scraps, soup bones and all kinds of vegetables boiled tender in the required amount of salted water with sufficient barley to make a thick mass when cooked; then turned out and meat and vegetables chopped fine (a sharp spade is good for this purpose) and the whole mixed dry with bran. Feed once a day at noon.

**FOR BREEDING STOCK.**—Lean cooked meat or crisped green bones ground fine and mixed with bran. A light ration fed two or three times a week.

**FOR FATTENING STOCK.**—Rolled barley steamed in milk or salted water with corn meal, cracklings or fatty meats and mixed with middlings. Fed twice a day, morning and noon.

For the dozen or so hens which are all that can be kept to advantage on the

town lot, there is usually enough variety in food and meat in the table scraps, which should never be thrown haphazard into the poultry yard, but assorted and chopped, and heated if necessary, then mixed with bran and fed at noon. This, with wheat fed in litter in the morning and wheat and cracked corn at night, with plenty of green feed, will keep the hens in fine laying condition.

**How to FEED.**—To feed poultry just right—to have them well fed but not over-fed—is something of an art, which can only be attained by close observation and long experience. Fowls need different kinds and amounts of food at different times. Growing fowls require food rich in protein or meat and milk products, and plenty of it. Laying and moulting fowls about the same. A diet consisting largely of meat and tender green food will "hasten the moult," with better results than the methods advocated in some quarters. As a rule our fowls get too much millstuff and too little fresh greens and animal food; and this tends to fat instead of eggs. During the day, poultry should be kept a little hungry, to induce that natural seeking for food, with its attendant healthy interest and exercise. (Like ourselves, however, they are benefited by a noon rest, which seems to be an instinct of animal nature, especially in warm weather.) To keep them busy, it is necessary to give them something to be busy for. However hungry they may be, they will not scratch unless an occasional morsel rewards the scratching; instead, they will crowd around the gate, watching and praying for the care-taker and his feed-bucket, and incidentally yanking a feather out of each other, thus falling into the bad habits of feather eating and egg eating. It should be a rule, especially with the yarded fowls, to always have some grain in the litter or mellow soil that may be got at by hard work; also to keep a cabbage or bunch of greens or raw vegetables tied securely up out of the dirt but where the fowls may peck at them. This keeps them busy and happy and out of mischief. Fowls should always go to roost with full crops.

**GRIT AND WATER.**—Shells, charcoal and grit should be kept in hoppers to prevent soiling and waste. Sharp gravel is the best grit, but is not always obtainable. Broken dishes, particularly the hard china, pounded as small as grains of wheat, answer the purpose. Pure water and plenty of it at all times is as necessary as food. When we consider that nearly 74 per cent of the edible portion of the egg is water, we may better understand the relation of pure water to the well flavored egg. Supply the fowls, when they are big enough to keep out of them, with large water vessels, so that they may not get down to the dregs. Never use a fountain that cannot be opened and thoroughly cleaned and sunned. Keep the water out of the hot sun; empty it at night and let the vessels air. A simple and effective way to cleanse and disinfect them is to rinse and drain, then wipe with a clean cloth dampened in coal oil.

**PRODUCING POLICY.**—In addition to proper housing and feeding, fowls must be hatched at the proper time for profit. For the fall and winter egg we must depend upon the March and April hatched pullets of the smaller breeds and the February and March hatches of slower maturing breeds. In August the culling of the old flock should begin. All cocks not needed for breeding purposes should be marketed. No males should ever be kept with the market egg layers. The cockerels should be marketed or yarded by themselves; they are a nuisance and a detriment among the pullets and hens. The hens should be carefully culled and only the choice of the flock retained for

another season. The others should be marketed just before going into the moult. Some hens do not moult until November, and with good care continue to lay through September and October. It would be poor policy to dispose of such birds in August. The hens kept through the moult should be separated from the general flock, fed generously and given the best of care. A hen in full moult is a pitiful creature, and this is especially the case with birds of the Mediterranean class. Often the feathers drop from a bird of this class like a garment, leaving her naked and sore, and skulking from sight and touch. In the interest of kindness as well as his own, her keeper should protect her from cold winds and hot suns and cruel beaks and the worryment of cocks and cockerels. She may be something of a "dead head" just now, running her face, and a very poor one at that, for her keep; but be kind to her, be just to her, and in good time she will fall into line, beautiful in shining feathers and flaunting comb, and will pay up all arrears.

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

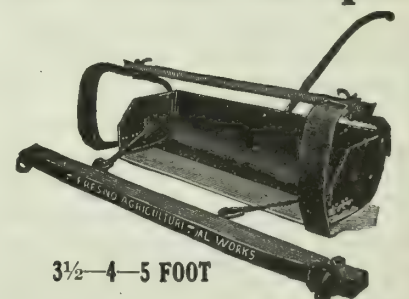
### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 81, 320 McAllister St., S. F.

## The Fresno Scraper



3½—4—5 FOOT

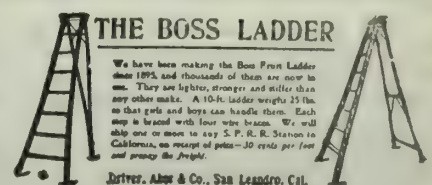
Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

"THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS



THE BOSS LADDER

We have been making the Boss Folding Ladder since 1875, and thousands of them are now in use. They are lighter, stronger, and stiffer than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. R. Station in California, on receipt of price—30 cents per foot and postage prepaid.

Driver, Allen & Co., San Leandro, Cal.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.



## The Home Circle.

### Within the Forest's Heart.

I know a little hollow, deep within the forest's heart,  
All odorous with breath of many pines,  
A narrow path strays 'neath the trees to where it hides apart,  
Hedged thick with ferns and tangled wildwood vines.

'Tis there the first spring violets unclosetheir purple eyes,  
Where leaves and sun a flickering network trace;  
'Tis there the woodbine reddens to its deepest autumn dyes  
And goldenrod spreads out its yellow lace.

I love the solitude and hush, the sense of quiet rest,  
And to the little hollow oft I go,  
Just like a tired child, to lay my head on nature's breast  
And hear the soothing song she whispers low.

Sometimes she lulls me with the hum of honey laden bees  
Or in a wild bird's note she's heard again;  
Sometimes she chants an anthem through the mighty forest trees,  
To which the after silence breathes amen.

It matters not what song she sings or grave or gay the strain,  
That some notes are prolonged while others cease,  
For in that little hollow, deep within the forest's heart  
The melody of every song is peace!

—Town and Country.

### A Reporter's Mistake.

She swept in from a side room in regal style. The dark green velvet gown became her fair beauty well. The head woman in the suit department of Haskell & Berg often wondered how the girl could carry off even the most expensive garment in such a natural, grand manner.

"I am sure Mrs. Walters will be charmed with the suit," this woman was saying to a gentleman standing by her, as the exhibit girl came slowly toward them with her eyes cast down. She rarely took any notice of purchasers, madame had observed.

"I hope so," was the gentleman's reply to madame.

The eyes of the girl lifted and rested for a moment on the man's face. She saw him flush and make an involuntary movement forward. If possible, she grew a shade paler, but she looked coolly beyond him, and turned slowly around to show off the possibilities of the garment she had donned. He waited for her to face him again. He thought his pleading look must make her raise her eyes once more, but he was mistaken. Impassive, cold and pale, she stood there, waiting the word of dismissal from madame.

"You will take the suit, Mr. Walters, yes? You think it will please Mrs. Walters?" madame inquired, suavely.

"Yes, yes," he answered, hurriedly. "Send it up this afternoon."

"You may go, Miss Letheridge," said madame to the statue-like figure.

The girl moved unconcernedly toward the robing room, and the gentleman reluctantly departed in another direction. Before leaving the building, however, he halted at the main office.

"Can you give me the address of Miss Letheridge, who is connected with the suit department?" he inquired of a clerk, at the same time offering his business card. A glance at the card was sufficient for the clerk, who at once gave the solicited information.

It would be difficult to say how many times Mr. Walters passed and repassed Haskell & Berg's within the next few days. He wondered if Miss Letheridge never went out to lunch, or by what door she made her escape home at night. Then he remembered there was a lunch-room in this establishment, and the fastidious gentleman did what he had

never done before—patronized a store lunch-table. He was determined to make a sure thing of it, so he sat down at eleven o'clock, and kept his seat for two hours. When the waiter broadly hinted that the tables were becoming crowded, a generous fee silenced all remonstrance.

At last he was rewarded. Miss Letheridge entered and sat down at a table near the door. He watched her for a few moments, then took up the bit of pasteboard by his plate, and sauntered toward the entrance, purposely passing near her. Something made her look up from the steak with which she was wrestling, and this time she flushed hotly as she caught his eye. There was an empty seat at her table, and he had the audacity to sit down in it and order another course. After one indignant flash of her glorious eyes, she paid no further attention to him, though he solicitously moved the salt cellar nearer her hand, and hastened to uncover the sugar bowl, when she reached toward it. His good offices only made her leave her lunch half eaten, and with the air of a tragedy queen return to her work.

"Poor little girl," he muttered, accusingly. She's half starved, I know, and I'm a brute."

The greater part of the next day he spent in musing on the peculiarities of women in general, and of this woman in particular. Finally he sought Bertha, his sister-in-law, and laid the case before her. When he left her, he skipped down the stairs, three steps at a time, so it may be inferred that his perplexity was considerably relieved.

Saturday was New Year's Day, and about four o'clock in the afternoon a handsome carriage drew up before the humble boarding-house where Miss Letheridge had her lodging. The solitary servant carried two cards up-stairs, and, with due impressiveness, handed them to Miss Letheridge. She had barely time to read the names—Mr. Ransom Walters, Mrs. Bertha Walters—before Mr. Walters walked in, with his old air of self-assurance. He approached with outstretched hand.

"You must pardon me, Miss Letheridge—Margaret—for invading your hiding-place. I wanted you to know Mrs. Walters. Bertha, this is our cousin, Miss Margaret Letheridge."

The bold assumption of the man! But she was a match for him. She welcomed Mrs. Walters with rare courtesy, and gave her a seat at her side. If she felt any jealous pang at sight of this lovely, gracious woman, who had supplanted her in her cousin's affection, she did not show it. Mr. Walters she left to take care of himself. Mrs. Walters babbled in a low, sweet tone of her family affairs. Miss Letheridge must see her little boy of four months—the cutest little darling, and a perfect image of his father. She was so sorry that Roland could not come with them, but he had sent his love to Margaret, and an invitation for her to spend some holiday with them. Mrs. Walters looked so innocently into Margaret's troubled eyes that she could not doubt the woman's sincerity. She glanced across the table, and saw a look of malicious fun on the face of her cousin Ransom. She turned to Mrs. Walters.

"Are you Roland's wife?" she demanded.

"Of course," was the apparently surprised reply.

"Who is Ransom's wife, then?"

Mrs. Walters laughed gleefully.

"Ask him," she retorted, and ran across the room to look at some bric-a-brac that she had been admiring.

Mr. Walters came quickly to the side of Margaret.

"Did you think I would let you escape me, cousin?" All mockery had left his eyes now. "I have been hunting for you for two years. If you had not run away, you would have learned that the report of my wedding, instead of my brother's, was due to the blunder of a stupid reporter."

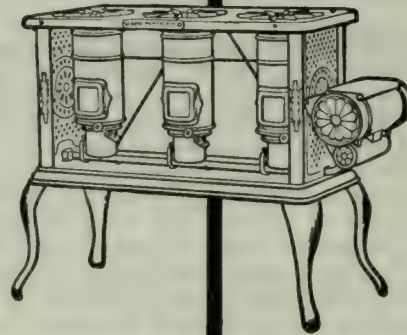
She gave a little gasp.

"And—you are not married?"

"No but I am anxious to be."

He stood looking down at her with

## Have You a Summer Stove?



heating the room.

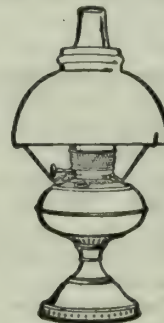
The stifling air of a close kitchen is changed to comfortable coolness by installing a New Perfection Wick Blue Flame Oil Cook-Stove to do the family cooking.

No kitchen furnishing is so convenient as this stove. Gives a working heat at once, and maintains it until turned out—that too, without over-

If you examine the

## NEW PERFECTION Wick Blue Flame Oil Cook-Stove

you will see why this is so. The heat from the chimney of the "New Perfection" is concentrated under the kettle and not dissipated through the room by radiation. Thus it does the work of the coal range without its discomfort. Ask your dealer about this stove—if not with him, write our nearest agency.



The **Rayo Lamp** is a very handsome piece of housefurnishing and gives a clear, powerful light more agreeable than gas or electricity. Safe everywhere and always. Made of brass finely nickel plated—just the thing for the living-room. If not with your dealer, write our nearest agency.

Standard Oil Company  
(Incorporated)

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

### School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying. 5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA Open all Year. A. VAN DER NAILLEN, Pres't Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1884. Send for circular

### Blake, Moffitt & Towne

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO Blake, Moffitt & Towne, Los Angeles Blake, McFall & Co., Portland, Oregon

**\$30,000,000**

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

San Dimas Citrus Nursery  
SAN DIMAS, CAL.  
R. M. TEAGUE,  
PROPRIETOR.

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 59 pages 6 by 7 inches. Cloth.....\$0.50



folded arms. He had one lesson, and he would not presume too far.

"But that odious will! It left you no choice."

"You forget that if we were not married within two years the property was to go to the Orphan's Home. I had the great pleasure of turning it over to the proper authorities last week."

"Oh, Ransom! Half a million dollars!"

"Well invested."

Neither of them thought of Mrs. Walter, until she called out merrily:

"Who is Ransom's wife, then?"

"Here she is," Ransom answered, exultingly, "thanks to your woman's wit."—Evelyn M. Wood Lovejoy.

#### In Dreamland.

The following article is going the rounds of the effete east and has gotten even as far west as the prairie States. It is re-published for what it is worth, without casting any reflections on the model husbands of the Coast region:

Some time ago, in New York city, a man was awakened in the night to find his wife weeping uncontrollably.

"My darling," he said, in distress, "what is the matter?"

"A dream!" she gasped. "I have had such a horrible dream."

Her husband begged her to tell it to him, in order that he might comfort her. After long persuasion she was induced to say this:

"I thought I was walking down Broadway, and I came to a warehouse, where there was a large placard, 'Husbands for sale.' You could get beautiful ones for \$1500, or even for \$1200, and very nice looking ones for as low as \$100."

The husband asked, innocently, "Did you see any that looked like me?"

The sobs became strangling. "Dozens of them," gasped the wife, "done up in bunches, like asparagus, and sold for ten cents a bunch."

#### How Rats Move Eggs.

Strange as the story may appear of rats removing hens' eggs from the bottom to the top of a house by one fellow lying on his back and grasping tightly his ovoid burden with his forepaws, while his comrades drag him away by the tail, I have no reason to disbelieve it. I have seen two brown rats accomplish the feat from stair to stair in a farm house in Banffshire, the first anxious rodent pushing the egg up on his hind legs, and the second assistant lifting it up with its forelegs. It was the best athletic feat I ever witnessed, but it is not out of the common.

The rat will extract the cotton from a flask of Florence oil, dipping in his long tail, and repeating the manoeuvre until he has consumed all that can be reached.

I have found lumps of sugar in a deep drawer at a distance of 30 feet from the place where the petty larceny was committed, and a friend once saw a rat mount a table on which a drum of figs was fixed and straightway tip it over, scattering its contents on the floor below, where a score of his expectant brethren sat watching for the windfall. — Scotsman.

"One time," said Secretary Taft to some newspaper men not long ago, "three ministers wanted to cross the Mississippi river to attend a revival at a place which boasted of no regular ferry. Brother Syles and Brother Beamish were fine specimens of humanity—but their companion was a mite of a man weighing scarcely 125 pounds. They got a boatman to take them over, but in the mid-stream a severe thunder-shower came up and the waves threatened to capsize the boat. 'Brother Syles,' said to Brother Beamish, 'I think we had better join in prayer.' 'Do you, though?' shouted the boatman. 'Wall, I say you don't! You big ones come here an' lend a hand at the oars—an' let the skinny fellow pray.'"

#### Apples for Sleeplessness.

The apple is such a common fruit says a medical writer, that very few persons are familiar with its remarkably efficacious medicinal properties. Everybody ought to know that the very best thing they can do is to eat apples just before retiring for the night. Persons uninitiated in the mysteries of the fruit are liable to throw up their hands in horror at the visions of dyspepsia which such a suggestion may summon up, but no harm can come even to a delicate system by the eating of the ripe and juicy apple before going to bed.

The apple is an excellent brain food because it has more phosphoric acid in easily digested shape than any other fruit. It excites the action of the liver, promotes sound and healthy sleep and thoroughly disinfects the mouth. This is not all; the apple prevents indigestion and throat diseases. — London Globe.

The brownish spots which appear in old books are really due to the ravages of bacteria, says Popular Mechanics. The tiny destroyer is especially fond of starchy material and its propagation is promoted by damp. It has been well understood that damp produced discoloration and decay, but the share of the microbe in the operation has not hitherto been suspected. Tiny fungus or mold is responsible for gray and black marks upon old papers. In spotting the surface the fungus helps to break down the fabric and hasten the process of its destruction.

An acre contains 6,272,640 square inches of surface, and an inch of rain means, therefore, the same number of cubic inches of water. A gallon contains 277.27 cubic inches of water, and an inch of rainfall means 22,622 gallons of water to the acre. As a gallon of water weighs ten pounds the rainfall of an acre is 226,220 pounds.

A Russian gardener has succeeded in producing a black rose, which scientific gardeners have been trying for generations to produce. The rose is not jet black, but has the slightest possible brown tinge. By itself it is not decorative, but when mixed with other flowers it brings out their hues effectively.

A young man's chief and most valuable assets as he starts out in life are honesty, sobriety and push. If a fellow has these traits, he will win out under most any circumstances, and if he doesn't he surely has a rocky and disappointing row to hoe.

A hungry stomach is often the best proof of the blessings of work.

## PIPE

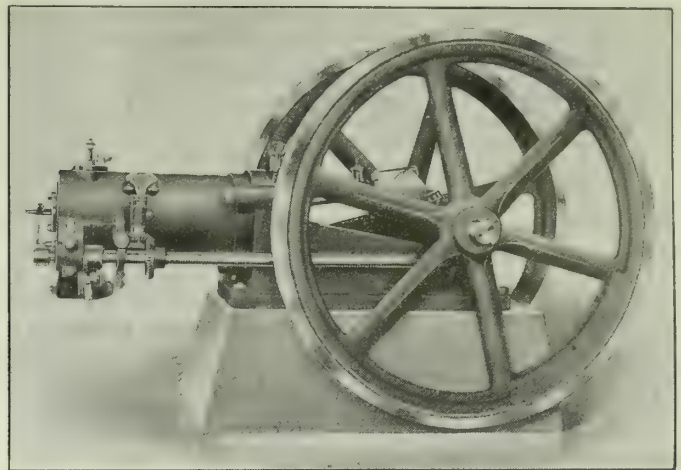
500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft. black.	Price per 100 feet dipped.
3 inch	.84 lb.	2.25	3.25
4 "	1.12 "	3.35	4.35
1 "	1.67 "	4.00	5.00
1 1/2 "	2.24 "	5.65	6.90
2 "	2.68 "	6.50	8.00
2 1/2 "	3.61 "	9.00	11.00
3 "	5.74 "	15.00	17.50
4 "	7.54 "	18.25	21.25
5 "	10.66 "	28.50	32.50
6 "	14.50 "	41.00	46.00
8 "	18.76 "	57.00	63.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.

## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.

Sales Office and Factory: 4th and Madison Streets, Oakland.

### FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

### NATIONAL WOOD PIPE CO.

Patent Machine Banded

### WOOD PIPE

Made from California Redwood

Patent Continuous

Selected Puget Sound Yellow Fir.

404 Equitable Savings Bnk. Bdg.

318 Market St., San Francisco

Los Angeles

Olympia, Washington

Dooly Block, Salt Lake City, Utah

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

MOCOCO  
FERTILIZERS

### SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

## The Mountain Copper Company, Ltd.

150 PINE STREET, SAN FRANCISCO.

### SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "S" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4386.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.



## THE MARKETS.

San Francisco, June 24, 1908.

### WHEAT.

Conflicting conditions in the world's market have made the price of wheat irregular on the Chicago markets of late. There has been no important change in either direction, however. The reports of most of the grain sections is for a favorable crop. The Kansas crop will be short, and European advices are not as favorable as formerly. The San Francisco market remains quiet and unchanged from last week's quotations.

California White Australian..	1.70 @ 1.72½
California Club.....	1.65 @ 1.67½
California Milling.....	1.67½ @ 1.70
California lower grades.....	1.40 @ 1.60
Northern Club.....	1.85 @ 1.67½
Northern Bluestem.....	1.70 @ 1.75
Northern Red.....	1.65 @ 1.67½
Turkey Red.....	1.67½ @ 1.75

### BARLEY.

An artificial situation has been created in the barley market during the week on account of the great scarcity of spot grain. Last week, when local stocks began to run low, there was an advance in price, and the prices have continued to rise till today. Many sales have been made at the top quotation of \$1.35, and fancy lots of feed have sold as high as \$1.37½. Orders for delivery for any time this week are being taken at \$1.32½. The market is practically bare, and the prices will remain at a good figure until the arrival of shipments of the new crop in amounts of sufficient size to relieve the shortage. The local dealers expect to see lower prices. The official quotations of the grain are given below.

Prewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl..	1.30 @ 1.35
Common to Fair.....	1.25 @ 1.27½
Shipping.....	Nominal

### OATS.

The latest advices from the Middle West report the oat crop is deteriorating somewhat. Up to the present there was a prospect of a record-breaking oat crop, and it will still be very large if no further damage occurs. The big Eastern markets show no advance in this grain on account of the reports, and the local market remains quiet. Some of the holders are asking \$1.55 for choice reds, but they find no buyers at this figure.

Choice Red, per ctl.....	\$1.45 @ 1.50
Ordinary Red.....	1.35 @ 1.40
Gray.....	1.37½ @ 1.42½
White.....	1.45 @ 1.50

### CORN.

There have been some small arrivals of corn from Eastern points during the week, which were needed for immediate use. There has been a slight advance in the lower grades, and the market is firm. There is little stock on hand and very little trading being done.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow, low.....	1.85 @ —
White, in bulk.....	1.77 @ —
Mixed, in bulk.....	1.75 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

### RYE.

California rye remains quiet but firm at the advanced prices of last week.

California.....	\$1.50 @ 1.52½
-----------------	----------------

### BEANS.

There has been no important change in the bean market during the week, and it remains as firm as it has been for some time past. The shipping demand has been fairly large, and the supply of spot goods is rapidly decreasing. No change in the crop prospects for the coming season are reported, and a good harvest is anticipated.

Bayos, per ctl.....	\$3.20 @ 3.35
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.75 @ 3.10
Garvanzos.....	2.50 @ 3.50
Horse Beans.....	2.00 @ 2.50
Small White.....	4.30 @ 4.40
Large White.....	4.35 @ 4.40
Limas.....	4.90 @ 5.00
Pea.....	4.40 @ 4.50
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	2.75 @ 3.00

### SEEDS.

No change at all is reported in the seed market. Little buying is being done in this market at present, and little is expected for some time.

Alfalfa per lb.....	17½ @ 20 c
Broomcorn Seed, per ton.....	\$18.00 @ 20.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

### FLOUR.

The trading in flour still remains very light and the market is dull. For some time there has been little buying by the speculative interests in this line. Prices remain the same as last reported.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

### HAY.

There has been an increase in the shipments during the week just passed, and the total arrivals amounted to 3860 tons, in comparison with 3150 tons for the preceding week. The heavy arrivals have demoralized the San Francisco market, and many sales have been made at large concessions. All the receivers seem very anxious to unload their holdings, and have worked hard to get rid of their consignments. The result is a very weak market, which the dealers say will continue for some time. Hay is being offered on all sides, and the buyers do not seem anxious to take it at the prevailing price. Although the crop is none too large, the present demand here is limited, and it is thought impossible to maintain high prices throughout the season. The shipping interests are not doing much at present. The Hawaiian trade, which was formerly supplied almost entirely by the San Francisco dealers, is now buying heavily from Seattle, on account of the lower prices ruling there.

Choice Wheat, per ton.....	\$15.00 @ 16.00
Other Grades Wheat.....	11.00 @ 14.50
Wheat and Oat.....	11.00 @ 15.00
Tame Oat.....	11.00 @ 15.00
Wild Oat.....	10.00 @ 13.50
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	50 @ 95c

### MILLSTUFFS.

There was a slight drop in some of the articles under this head during the week, oil and cocoanut cake and meal feeds being lower. The other feed stuffs remained unchanged, rolled barley as yet not being affected by the advance in the whole grain.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	31.00 @ 32.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	26.50 @ —
Jobbing.....	27.00 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	34.50 @ 35.00
Mixed Feeds.....	25.00 @ 29.00
Oil Cake Meal, per ton.....	36.75 @ 38.25
Roller Barley.....	28.50 @ 29.50
Shorts.....	33.00 @ 34.00

### VEGETABLES.

The green vegetable market is in a much better condition than at last report, and almost all varieties are somewhat higher. The demand has been good and the arrivals of the last few days have not been in excess of the demand. With a few exceptions, the market is in good shape. String beans, peas and corn are all in good demand and the supplies are rather light and are cleaned up at the quotations without much difficulty. Asparagus went in much better shape than last week, and though the quotations remained unchanged, more stock sold near the top price than usual. Cucumbers were sent in in large supplies the first of the week, and were weaker, but light arrivals since restored the firmness to this variety and the market closed above the last report. Rhubarb showed weakness and the demand was not steady. The supply of new red onions dropped off to a large extent and the market was very firm, with a considerable advance for the choice offerings. Other onions are not wanted in the market at present. The

dealers have quit quoting Bermudas and Australians because there is no demand whatever for them on the street. Other vegetables are steady, with the demand about consuming the arrivals each day.

Garlic, per lb., new.....	4 @ 5 c
Green Peas, lb.,.....	3 @ 3½ c
String beans, lb.....	4 @ 6 c
Cabbage, per ctl.....	40 @ 50 c
Onions—	
Australian, per ctl.....	Nominal
New Red, sack.....	65 @ 90 c
Summer Squash, box.....	60 @ 85 c
Tomatoes, crate.....	75 @ 1.10
Carrots, sack.....	75 @ —
Turnips, sack.....	75 @ —
Rhubarb, box.....	5 @ 85 c
Asparagus, lb.....	2 @ 6 c
Green Peppers, Bell, lb.....	12½ @ 16 c
Green Peppers, Chile.....	9 @ 12 c
Cucumbers, box.....	75 @ 1.00
Green corn, doz.....	25 @ 35 c
Egg Plant, lb.....	7 @ 10 c
Cauliflower, doz.....	50 @ —

### POULTRY.

The unsatisfactory condition of last week in the poultry market still holds, though there was a better tendency in the demand for small broilers and for large fat hens. Last week was perhaps the most unsatisfactory one in the poultry business which the local dealers have experienced for a number of years. The Eastern arrivals were too great and coming in too regularly for the California stock to maintain firm prices. The week opened with a large bunch of holdovers, and already this week there have arrived two cars of poultry from the East, with more expected during the week. The supplies of native stock have been quite large, and the effect on the market has been a lowering of prices all along the line. The demand for choice stock in medium and large young poultry is good, and an advance for these grades may be looked for. Less desirable offerings will not be in strong demand in the immediate future. The demand for turkeys still remains, and dealers are promising 20 cents per pound for this stock. No arrivals of any importance have yet come in. Other varieties, such as ducks, geese and pigeons, are not of much importance in the market at present.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.00 @ 2.50
Fryers.....	4.50 @ 5.50
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	4.50 @ 5.50
Small Hens.....	3.50 @ 4.50
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	6.50 @ 7.50
Young Roosters, full grown.....	8.00 @ 9.00
Pigeons.....	1.25 @ 1.50
Squabs.....	2.00 @ 2.25
Ducks.....	4.00 @ 7.00
Geese.....	1.50 @ 2.00
Goslings, per pair.....	2.00 @ —

### BUTTER.

The market for butter remains quite strong, without any change in the price for extras, while firsts and seconds are a little lower. During the week there was a drop in butter, but the market recovered and is now in good condition. The storing interests are taking large quantities. This is the principal factor in keeping the market at its present mark. The quotations given are those of the San Francisco Wholesale Dairy Exchange, and are recognized as the official quotation, though the prices on the street differ somewhat, owing to the various charges to be added.

Cal. (extras) per lb.....	23 c
Firsts.....	22 c
Seconds.....	21 c
Thirds.....	20½ c
Fresh Packing Stock, No. 1.....	21 c
Fresh Packing Stock, No. 2.....	20½ c

### EGGS.

The egg market, which has been rather dull during the week, has suddenly taken a turn for the better, and prices are expected to be higher during the coming week. On the Exchange the holders of extra stocks are asking 25 cents, but that is above the views of the buyers, and few sales are made. There is a constant decrease in the arrivals of choice eggs, and the market will rule firm for a time. The storage interests are still taking some stock.

California (extra) per doz.....	23 c
Firsts.....	22 c
Seconds.....	19 c
Thirds.....	18 c

### CHEESE.

The price of the California article is lower again and the market is not very strong. No change in imported cheese occurred.

**LILLY'S BEST**

MEANS

## Comfort for Stock



### FLY KILLER

applied with a small hand sprayer both morning and night gives cows and horses permanent relief from flies, gnats, mosquitoes, etc. It is harmless to stock and will not taint milk. A coat of



### LICE KILLER

applied to roost or board beneath the roost will positively kill lice. For something in the powder form

### INSECT POWDER

is sure death to all vermin and is positively harmless to chicks.

These remedies are Sold by Dealers

Manufactured by

**THE CHAS. H. LILLY CO.**  
SEATTLE and PORTLAND

Fancy California Flats, per lb...	11 c
Firsts.....	10½ c
New Young Americas, Fancy.....	13½ c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	—
Cal. Storage, Fancy flats.....	—
Oregon, Fancy.....	14 c
Oregon Flats.....	11½ c
Oregon Y. A.....	14½ c

### POTATOES.

The offerings of all kinds of potatoes are very large and the market is weak. Early Rose potatoes are lower, and the whites sell at large concessions in all offerings except the most select. There has been little planting of late, on account of the unsatisfactory market, and as a consequence the market for Oregon Burbanks has fallen flat. The demand for this variety for seed had kept the price up before. The great difference in the quotations for new whites is due to the different qualities of the stock received. All offerings which are fairly good sell for upward of a dollar.

Oregon Burbanks.....	85 @ 1.00
New Whites.....	60 @ 1.25
Early Rose.....	75 @ 90 c

### FRESH FRUITS.

The warm weather has increased the demand for fresh fruits, and almost every offering of orchard fruits is firm, with clearances effected by the dealers without great difficulty. No new varieties appeared, but the bulk of the fruit arriving was in good condition and fairly ripe. Prices remain about the same, though offerings of fine apricots bring higher prices. Berries are lower and the arrivals are large. Cantaloupes continue to arrive in large quantities and are still weak, in spite of the favorable weather. Watermelons are now being received daily and are bringing from 2 to 2½ cents per pound.

Cherries—	
Packed, drawer.....	50 @ 75
Royal Anne, lb.....	5 @ 6 c
Bulk, other grades, lb.....	3 @ 6 c
Apples, new green.....	50 @ 1.00
Strawberries—	
Longworths, chest.....	6.00 @ 9.00
Large varieties, chest.....	4.00 @ 6.00
Blackberries, chest.....	4.00 @ 6.00
Raspberries.....	5.00 @ 10.00
Loganberries, chest.....	2.00 @ 3.50
Gooseberries, lb.....	7 @ 10 c
Currants, chest.....	6.00 @ 7.50
Apricots, crate.....	60 @ 75
Plums, crate.....	35 @ 50
Peaches, crate.....	40 @ 65
Figs, single layer, drawer.....	50 @ 85

### CITRUS FRUITS.

There was no change in prices in this market during the week, and the market remains firm. The navel season is about over now, and Valencias are coming in well. The Valencia crop is reported large and the fruit of a very desirable size and quality for commercial purposes.

Choice Lemons.....	\$2.00 @ 2.50
Fancy Lemons.....	2.75 @ 3.25
Standard.....	1.00 @ 1.50
Limes.....	5.00 @ 5.50
Oranges—	
Valencias.....	3.00 @ 3.50
Mediterranean Sweets.....	2.75 @ 3.25
Grape Fruit.....	3.50 @ 4.00



## DRIED FRUITS.

The amount of buying being done in the dried-fruit market is still very small, both on the Coast and in the East. Prices remain unchanged, however, and holders are not crowding their stocks on the market, which shows that they have faith in the future. There is still little inquiry after futures, and as far as any real activity is concerned in the San Francisco market, it is dead. The prune market is causing more interest in the East than any other variety at present, on account of the short-crop prospects of the Coast. Prices remain the same as last quoted. Nothing new in the raisin market has turned up during the week.

Evaporated Apples .....	5 @ 6 c
Figs .....	2 1/2 @ 3 c
Apricots, per lb. ....	11 @ 13 c
Peaches .....	7 @ 8 1/2 c
Prunes, 4-size basis, 1907 crop..	3 @ 3 1/2 c
Pears .....	7 1/2 @ 9 1/2 c

## RAISINS.

2 Crown .....	3 1/2 @ —
3 Crown .....	4 @ —
4 Crown .....	4 @ 4 1/2 c
Seeded, per lb. ....	6 @ 6 1/2 c
Seedless Sultanias .....	4 1/2 @ —
London Layers, per box .....	9 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

Several of the dealers in nuts have named their opening prices for the new crop of almonds, and the quotations for these nuts given below are the new prices. This year's walnuts have not been quoted as yet, and spot stocks remain the same.

Almonds, Nonpareils .....	11 1/2 @ —
IX L .....	10 1/2 @ —
Ne Plus Ultra .....	10 @ —
Drakes .....	9 1/2 @ —
Languedoc .....	9 @ —
Hardshell .....	— @ —
Walnuts, Softshell No. 1 .....	13 @ —
Softshell, No. 2 .....	10 @ —
Italian Chestnuts .....	10 @ 12 1/2 c

## HONEY.

The new crop of honey continues to arrive in very small quantities, and there has been no change in the market prices. The tone of the market remains very strong on the continued reports of a short honey crop for this season, and the market is all in the favor of producers.

## WOOL.

Slightly wider margins rule in the wool quotations this week, and though there has been no material change in either direction, there seems to be a little improvement in the outlook. While the quoted prices are the prevailing ones there have been occasional sales of selected offerings which have sold above the outside quotation.

## HOPS.

There has been little activity of any description in the hop market for some time, the same prices being maintained on a quiet market.

1906 crop .....	1 1/2 @ 3 c
1907 crop .....	4 @ 6 c
Contracts .....	9 @ 10 c

## MEAT.

Prices in meat and livestock are each a little lower this week. The prices for ewes and wethers, clipped, is 1/2 cent lower than the question appearing below.

Beef: Steers, per lb. ....	6 @ 7 c
Cows .....	5 @ 6 c
Heifers .....	5 @ 6 c
Veal: Large .....	6 @ 7 1/2 c
Small .....	8 @ 9 c
Mutton: Wethers .....	8 @ 9 c
Ewes .....	7 @ 8 c
Spring lamb .....	10 @ 11 c
Hogs, dressed, heavy .....	7 1/2 @ 8 c
Light .....	9 @ 10 c

## LIVESTOCK

Steers, No. 1 .....	3 1/2 @ 4 c
No. 2 .....	3 1/2 @ 3 1/2 c
No. 3 .....	2 1/2 @ 3 c
Cows and Heifers, No. 1 .....	3 @ 3 1/2 c
No. 2 .....	2 1/2 @ 3 c
Bulls and Stags .....	1 1/2 @ —
Calves, Light .....	4 1/2 @ —
Medium .....	4 @ —
Heavy .....	3 1/2 @ —
Sheep, Wethers .....	4 @ —
Ewes .....	3 1/2 @ —
Spring Lambs, lb. ....	5 @ —
Hogs, 100 to 200 lbs .....	6 @ —
200 to 300 lbs .....	5 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## DIVIDEND NOTICE

THE SAVINGS AND LOAN SOCIETY.

101 Montgomery St., Cor. Sutter St.  
San Francisco.

For the half year ending June 30, 1908, a dividend has been declared at the rate of 4 per cent per annum on all deposits, free from taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

WM. A. BOSTON, Cashier.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

The first mixed cars of deciduous fruits were shipped about June 1, and the prices opened at that time on a very good basis, apricots selling at \$1.25, plums at \$1.15, and peaches at \$1, f.o.b. Quite a few sales were made at these prices. However, on June 4, a clean-cut was made to 65c f.o.b. for peaches, plums and cots; and it is just a question as to whether this severe cut was justified on the part of the California shippers, in view of the fact that cars were being accepted in the West freely at good values. A cut of this kind always reacts, as it causes prospective buyers to be very timid, and the net result is a lot of rejections and heavy diversion to auction. The auctions, thus glutted, become demoralized, and this in turn forces the cash buying prices down.

On June 10 another cut was made on peaches and plums to 60c f.o.b., and on June 16 a still further reduction was made in the f.o.b. price as follows: Alexanders and Hales were quoted out at 40c., Triumph at 45c., Clymans 50c., Tragedy 75c., Climax 75c., Red Junes 60c., cots 60c., and cherries \$1.

Since June 16 the deciduous market in the East has been decidedly "off"; California shippers consigning fruit in various markets, and as long as these consignments are made it will be almost impossible to place cars on order in such districts, owing to the fact that when a jobber receives car lots on consignment he has nothing to lose, and can sell at any price he can get; therefore another jobber in the same market would be taking too much of a risk to buy when his competitor is in a position to cut prices without any risk of loss to himself.

The low prices obtained in the last few days can be partly attributed to the great number of Georgia peaches being sold in New York; for instance, on June 11, 19 cars were sold, on June 13, 40 cars were sold; June 15, 75 cars sold; June 20, 58 cars sold; June 22, 83 cars sold, and June 23, 38 cars sold. To June 20 a total of 1351 cars of peaches were shipped from Georgia, and at this rate we expect to see this variety of fruit out of the way by July 1. From that time on market conditions will undoubtedly improve, and California fruit will have practically a free field in the East.

Comparative shipments of deciduous fruits from California for the seasons 1907 and 1908, from June 1 to date, are as follows:

	1908.	1907.
June 1 .....	13	5
" 2 .....	20	..
" 3 .....	19	6
" 4 .....	25	10
" 5 .....	28	10
" 6 .....	16	13
" 7 .....	37	8
" 8 .....	30	11
" 9 .....	27	10
" 10 .....	34	20
" 11 .....	46	8
" 12 .....	51	20
" 13 .....	38	13
" 14 .....	33	15
" 15 .....	47	11
" 16 .....	47	12
" 17 .....	42	21
" 18 .....	45	17
" 19 .....	50	22
" 20 .....	51	24
" 21 .....	38	15
" 22 .....	26	26

## Dividend Notice.

## SAN FRANCISCO SAVINGS UNION

N. W. Cor. California and Montgomery Streets.

For the half year ending June 30, 1908, a dividend has been declared at the rates per annum of four and one-quarter (4 1/4) per cent on term deposits and four (4) per cent on ordinary deposits, free from taxes, payable on and after Wednesday, July 1, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from July 1.

LOVELL WHITE, Cashier.

**SAVE MONEY** by using our Self-Cleaning Curry Comb, sample 50c., and our Harness Dressing that keeps harness looking like new, sample can 10c. Send us your dealer's name. Agents wanted. CHARLES BRYANT, Shreve Building, San Francisco, Cal.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., June 23.—An analysis of orange market conditions show a healthy state of affairs. With the great quantity of peaches and other deciduous fruits now reaching the East, it is natural that buyers should show a little caution and that weak fruit should bring low prices. The day of the navel has gone by for this year, and some of the cars now being offered should never have been shipped, as in some cases they are showing as high as 50% decay, and are not much more than paying freight charges. That the market is not weak is evidenced by the prices being received for Valencias, running from \$3.50 to \$5 a box for fancy grades. This would seem to show that the asking price of \$3 f.o.b. was fully warranted, though it is understood that some shippers have dropped to \$2.75 and are shipping heavily at these figures, thus taking advantage of those who were holding out for \$3 and who had temporarily stopped shipping until the holiday markets had cleaned up.

This drop in price seems altogether unnecessary. If shippers could have held back a little until the demand became stronger, the old prices might have been sustained, but if buyers can now buy good fruit for \$2.75, it means that all concerned must come to that figure.

As the auctions are supposed to be the true index of the state of the market, a glance at the returns of Monday's sales will be of interest. Old Mission brand of Valencias, as usual, was at the head, at \$4.80 per box, while the Stag brand brought \$4.50. Scarcely any fancy brand sold for less than \$4, while some of the choice grades brought over that price. Other choice and standard fruit sold comparatively on account of large sizes. Sizes are running large, and this is a virtue in fancy grades and a defect in standards, which accounts for the wide range of prices, but which only goes to substantiate the argument that there is no good reason for cutting prices at this end on the better fruit at this time.

Shipments are running from 60 to 70 cars a day, and the total is now 22,200 cars of oranges, against 21,500 to the same date last season.

The very hot weather in the East will have the effect of bracing up the courage of the lemon shipper. While it is too soon to expect any large increase in orders for immediate shipment, the lemon market must improve, and all of the old stock now out will be cleaned up if the hot wave continues to any length. This will enable shippers to start the deal with a new deck, and while boom prices need not be looked for, it will put new life into the market.

California shipments have been about 30 cars a day, and the importations have been large. This week 95,000 boxes of foreign lemons will be offered in New York City, and there are on hand and available for sale within the next 30 days 285,000 boxes, as against 327,000 in 1907, 360,000 in 1906, and 147,000 in 1905.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co. ....	413
Beckman, Geo. V. ....	410
Bird & Co., J. A. & W. ....	—
Blake, Moffitt & Towne. ....	412
Breeders' Directory .....	409, 412
Bryant, Charles .....	415
Byrbee, John F. ....	408
Croley, George H. ....	412
Clark Wise & Co. ....	—
Cutter Laboratory, The. ....	410
De Laval Dairy Supply Co. ....	409
Deming Co., The. ....	—
Dewey, Strong & Co. ....	412
Dietz Company, R. E. ....	412
Disbrow, F. H. ....	412
Doak Gas Engine Co. ....	413
Driver, Aber & Co. ....	412
Driver, E. S. ....	410
Fresno Agricultural Works. ....	412
Galloway, A. J. ....	412
German Savings & Loan Society. ....	415
Hart, Ed. ....	412
Howard Cattle Co. ....	410
International Harvester Co. ....	—
Jackson & Co., T. W. ....	413
Lawrence-Williams Co. ....	410
Lilly Co., Chas. H. ....	414
Lister, Henry B. ....	408
Lynch, John. ....	410
Meacham, Frank A. ....	—
Mountain Copper Co. ....	413
National Wood Pipe Co. ....	413
Oakland Poultry Yards. ....	412
Pasteur Vaccine Co. ....	410
Pear Blight Remedy Co. ....	413
Perkins, Chas. C. ....	410
Robinson, John R. ....	408
Roeding, Geo. C. ....	410
San Francisco Sulphur Co. ....	413
San Francisco Savings Union. ....	415
Savings and Loan Society. ....	415
Sharples Separator Co. ....	410
Silva & Bergholdt Co. ....	412
Simmons Hardware Co. ....	—
Smith, Francis .....	413
Sorby Vaccine Co. (Inc.). ....	410
Southern Pacific Railway. ....	415
Standard Oil Co. ....	409, 412
Stowe, C. A. ....	410
Sullivan, W. ....	412
Teague, R. M. ....	412
Temple Pump Co. ....	—
Tower Co., A. J. ....	—
Tuttle's Elixir Co. ....	—
Van Der Naillen, A. ....	412
Vermont Farm Machine Co. ....	—
Wagner, J. B. ....	412
Waite, Thos. ....	410
Western Gas & Power Co. ....	—
Woodin & Little. ....	—

## DIVIDEND NOTICE

The German Savings and Loan Society  
526 California Street.

For the half year ending June 30, 1906, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

GEORGE TOURNY, Secretary.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

June 22 to 28, inc.  
July 2, 3, 6, 7, 8, 28, 29.  
August 17, 18, 24 and 25.

HERE ARE SOME OF THE RATES:

Omaha .....	\$ 60.00
Council Bluffs .....	60.00
Kansas City .....	60.00
Chicago .....	72.50
St. Louis .....	67.50
New Orleans .....	67.50
Washington .....	107.50
Philadelphia .....	108.50
New York .....	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

**SOUTHERN PACIFIC.**



# INDEX TO VOLUME LXXV OF THE Pacific Rural Press

From January to June, 1908.

A	Page.
Acacias	20, 100
Africa, New and Old	257
Agriculture, International Institute of	210, 290
Agricultural Education	2, 130, 146, 148, 274
Agricultural Machines, California	82
Agricultural Prosperity	2, 82
Alfalfa for Cows	347
Alfalfa for Hogs	237, 246
Alfalfa for Steers	39
Alfalfa Growing	115, 154, 186, 347
Alfalfa Inoculation	243
Alfalfa in Silo	230
Alfalfa Seed	277
Alfalfa with Nurse Crop	163
Alfalfa, Bloat	284
Alfalfa, Disking	34, 147
Alfalfa, Growing Popularity of	407
Alkali, Manure for	355
Alkali, Washing Out	363
Almond Growing	117, 163, 186
Almond Growing for Profit	404
Almond, Texas Prolific	165
Aphis, Melon	173
Apple Blight	163, 372
Apple Growing	53, 98, 99, 234, 374
Apple Scab	234
Apple, Ben Davis	53
Apple, Magoon	276
Apple, Thousand Dollars for	218
Apples in Humboldt County	75
Apples, Handling for Market	76, 360, 374
Apples, Irrigating	36, 140
Apples, Pruning	116
*Apricot in California	353
Apricot Shothole	162, 211
Apricots and Frost	259
Artichokes, Jerusalem	2, 149
Asparagus Growing	26, 154, 170, 195
Asparagus Rust	34, 130
Automobile Cultivator	342
Avocado	261
*Aztec Statue	145

B	Page.
Balloon Plant	358
Banking, Bad	2
Barley Growing On Air	386
Barley Increasing	156
Barleys, Improved Brewing	20, 163, 339
Bean Growing	146, 243
Beans, Lima	131, 171
Beans, Perennial	3
Bears, Breeding	322
Beet Growing	298
Beet Pulp, Feeding	189
Beet Sugar Factories	3
91, 107, 122, 138, 154, 203, 251, 266, 379	
Bluestone Wheat Kills Colts	163
Bordeaux and Fruit Blossoms	234, 245, 359
Bottle Tree	67
*Brush as Fuel	113
Buckwheat	115
Burnet, Forage Plant	4, 38, 52, 118, 165
Blackberry Growing	122, 291, 371, 374
Bulls in Harness	298
Bulls Dangerous	322
Butterfly Cruelty	19
Butter-making Hints	93
Butter Product, California	124
Butter, Regulating Over-run	361
Butter, Water in	28, 361

C	Page.
Cabbage Aphis	189
Cactus, Burbank's Smooth	379
*California Peaches	385
Calves Without Milk	268
Canners' Varieties	133
Canning Industry	258, 298
Canning Methods	199
Cantaloupes	22, 45
52, 74, 98, 154, 170, 173, 186, 226, 343, 347	
Carob Growing	131, 149, 275, 277
Celery, Fertilizing	103
Cement, Tests of	93
Cheat in California	306
Cherry in Oregon	260, 356, 405
Cheese, California Product	150, 331, 376
Cherry Grafting	133
Cherry Growing	117, 282
*Cherry Growing in California	337
Cherry in Oregon	260, 356
*Cherry, Royal Ann	337
Cherimoya	266, 372
Citrus Fair, Cloverdale	114
Citrus Fruit, Marketing	114
Citrus Pests, Hunting for	406
Citrus Trees, Health and Disease	340
Clovers in California	67, 178, 371
Codlin Moth, Destroying	234
Coffee Growing in Mexico	65
Colt, Educating	349
Corn in January	91
Corn in Sutter County	75
Corn in Sacramento Valley	266
Corn Raising, Indian	403
Co-operative Selling, Gold Ridge	386
Co-operative Marketing	114, 202, 226, 290, 374
Concrete Silo	230
Cover Crops in Orchard	115, 243, 357
Cow Peas in California	291
Cows, Daylight Calving	125
Cows, Yields of	68, 135, 247, 284, 299, 346, 375
Cotton in Arizona	244
Cotton in California	10, 178, 374
Coyotes	5, 39, 202
Crane Fly Larvae	138, 139, 143, 170, 203
Creamery, Advantages of Home	375
Creamery, Building	317
Cucumbers, Pollination of	259
Cuttings, Handling	129
Cyanide Waste Injures Trees	37

D	Page.
Dairy Bureau, California	82
Dairy Industry of California	

\*Illustrations.

E	Page.
Dairy Products, Valuation	5, 68, 82, 166, 167, 214
Dairy Statistics, Saylor	5, 167
Dairy, Winter, in California	166
Date Growing in Arizona	356
Dates, Seedling	99
*Desert City, Evolution of	241
Dogs and Sheep	186
Dogwood in Demand	346
Dredger Debris for Fruit Trees	245
Drones for Chicken Feed	58
Dry Farming	34, 66, 244, 276, 326, 403
Duck Growing	252
Dutch Belted Cattle	141

E	Page.
Eggs, Preserving	214
Eggs, Prices of	114, 202
Esparto Grass	119
Eucalyptus Logs, Selling	131, 165, 199
Eucalyptus Growing	19, 20, 35, 39, 55, 76, 91, 100, 123, 180, 198, 251, 274, 289, 326, 358, 371
Eucalyptus in Arizona	132
Eucalyptus in Imperial Valley	403
*Eucalyptus, Boyd's	280
Eucalyptus, Manna	19, 38, 100
Eucalyptus, Preserving	52

F	Page.
Farming, Diversified	123
Fertilizers for Fruit	115, 179, 357, 372
Fertilizers, Figures on Value	60
Fig Growing	123, 139, 291
Fig Insect in California	37, 86, 374
Filberts	37
Flaxseed Growing	370
*Fleet, Greetings to the	245, 258, 305
Fleet, Provisions for	2, 218
Florida Plants Prohibited	354
Flour Trade With Orient	194
*Foothill Scenes	193
Forage Plants for Dry Lands	258, 307
Forest Exemption From Taxation	76
Forest Fire Fighting	199, 317
Forest Restoration	338
Forest Reserves	5, 18, 34, 45, 154, 166, 220, 379
Forestry, Purposes of	183
Frost Fighting	117
Frost Prevention in Colorado	386
Fruit Buds, Formation of	310, 325, 356
Fruit Drying, Salt Dip for	66, 99
Fruit Exchange, Woodford	4
Fruit Growers' Convention	178, 261, 290
Fruit Marketing	4, 60
Fruit Shipments, Powell's	194, 196
Fruit Trees	259, 323
Fruit Trees, Pruning	116, 372
Fruit Trees, Stocks for	2, 83
Fruit, Honest Packing Required	354
Fruit, Outlook for Profit	278
Fruit, Pre-Cooling	1, 255, 101
Fruit, Sales	101
Fruits on Poor Soil	275, 307
Fruits Preferred by Cannery	137
Fruits, Semi-Tropical, Taft	261, 372
Fumigation	37

G	Page.
Gardens, Kinds of	78
Gas Lime and Vegetation	3
Ginseng at Oxnard	171
Glanders	75
Goats, Handling	409
Good Roads Convention	391, 397
Gopher Poisoning	22, 179, 262
Grafting, Claim for Patent	178
Grafting, Side or Saw	36, 101
Grange Matters	36
Grain, Early Sowing	13, 26, 157, 253, 285, 319, 331, 363
Grape Growing in California	49, 81, 129, 131, 311
Grape Juice Business	315
Grape Pomace as Fertilizer	387
Grape Seedlings	35
Grape Stakes, Preserving	51
Grape, Thompson	81
Grape, Tokay	35
Grape, Zinfandel	70, 311
Grapes, Bagging	387
Grapes, Source of Sweetness	355
Grass Experiments on Reserves	107
Grass Killing Chemical	107
Grass, Crab	277
Grass, Danthonia	323
Grass, Foxtail	147
Grass, Esparto	119, 291
Grass, Para	70
Grass, Paspalum Dilatatum	21, 70
Grasses, Etter's Experiments	5
Grazing on Reserves	154, 263, 379
Green Manure Crops	275, 357
Guava	372
*Guernsey, Dolly Dimple	321
Gum Disease of Citrus Trees	340

H	Page.
Hardpan for Fruit	98, 243
Hay-making, California	323, 360, 374
Hay, Molasses on	55
Hog Breeding	10
Hog Cholera	266, 409
Hog Growing	10, 74, 202
Hogs and Prunes	409
Hogs, Dairy	134
Hogs, Money in	148, 204, 237
Hogs, Peas for	294
*Holstein-Friesian, Johanna Lad	321
Home Circle	Each Issue
Hop Picking Machine	77, 375
Hop Product	114, 151, 187, 290, 306
Horn Fly	306, 346, 355
Horse Meat in France	323
Horses Profitable	178
Horses, How to Handle	349
Horses, Molasses for	55
Horses, Wild, on Reserves	151, 220
Horticultural Commissioner, Work of	36, 293, 339

I	Page.
Imperial Valley Live Stock	182
Insects, Summer Sprays for	234
Irrigation and Fruit Growing	36, 140
Irrigation by Border Method	196
Irrigating Fruit in Oregon	388

J	Page.
Japanese Labor	2, 18, 44, 74
Japanese Matting Plant	154
Jersey Cattle in Kings County	247
"Journeys of Observation"	17

K	Page.
Kaffir Corn and Egyptian Corn	227, 326
Kale as a Winter Feed for Cows	393

L	Page.
Labor and Fruit Industries	2, 18, 44
Labor at the East	18
Labor From Abroad	71
Labor Troubles	34
Labor Unions and Farmers	370
Labor, Exhortation on	407
Ladybirds, Striped	151
Lawns, Fertilizers for	391
Lead Arsenate	245
Lemon Growing	147, 324, 340
Lemon Gum Disease	195
Lemon Inside an Orange	282
Lime Growing	107
Lions, Bounties for	242
Loganberries in Oregon	101
Loganberry Profitable	101
Loquat	261
Lumpy Jaw	330
Lupins	243

M	Page.
Manure for Orchard	357
Manure, Shavings as	67
Manure, Spreading	322
Market Reports	Each Issue
Maple Sugar	250
Matting Plant, Japanese	107, 154
Melon Aphis	173
*Mexican Scenes	65, 97, 113, 145, 225
Milk, Condensed	167, 298
Mice, Field, in Nevada	55, 347
Mice, Field, in California	307
Milk Below Standard	130
Moisture, Cultivation to Retain	277, 326
Mourning Glory	34, 99, 291
Mules for Mountain Work	177
Mules, Raising	13, 246

N	Page.
*New York Harbor Views	17
Nitrogen Fertilizers	357
Nitrate Supply Assured	119
Nursery Stock, Growing Good	84
Nuts—See Almond, Walnut, etc.	

O	Page.
Olive Growing in California	19, 180, 195
Onion Growing	39, 122, 132, 195, 226, 229, 374
Olive Oil, Making	180
Olive Prices	123
Onions in Colorado and California	132
Onions, fertilizers for	390
Orange Blossom Honey	347
Orange Budding	133, 180, 211, 245
Orange Crop	114, 290
Orange District, The Best	403
Orange Fertilizing	357, 372
Orange Growing	226, 276, 310, 340
Orange Packing	85, 294
Orange Profits	387
Orange Propagation	133, 180, 211
Orange Ranch for Quarter of a Million	195
Orange Sales	4, 10, 26, 218, 226, 379
Orange Trees, Unthrifty	19, 275, 341
Orange, Seedless	19
Orange Shipments, Powell's	196, 388
Orange, Sour Stock	195
Orange, "Sweet"	83
Oranges, How Auctioned	406
Orchard, Renewing Old	202
*Orizaba Mountain	97
Ostrich Farming	223

P	Page.
PACIFIC RURAL PRESS, New Ownership	322
Parcels Post	87
Paris Green	245
Parship Growing	20
Partridges, Hungarian	298
Pea Growing, Colorado	294
Pea Vines for Hay	291
Peach Curl Leaf	163
Peach Grafting	67, 83
Peach Growing	98, 117, 157
Peach Pits, California	3
Peach Prices	374
Peach Worm	35, 275
Peach, Muir Variations	67
Peach, Small but not Little	131
*Peach, The Lovell	385
*Peach, The Phillips	385
Peanut Yield	10
Peanuts and Lime	131
Peanuts for Pigs	204
Pear Blight	162, 259
*Pear Blight in California	162, 171, 321, 372
Pear Pruning	117
Pears Resisting Blight	37
Perfumery Farming	275
Perissimons, Growing	35, 211
Pierce Holstein Herd Dispersed	333
Pineapple Plants Burned	343
*Plant Disease Laboratory	146, 164, 194, 209, 342
Plows and Plowing	164
Plowing Deep	164
Plum Aphis	274
Plum Stocks	33
Plum, New, by Burbank	1, 33
*Plum, Formosa	33
*Plum, Vesuvius	20
Plums, Shy Bearing	259
*Popocatepetl Mountain	97
Posts, Cedar and Redwood	295
Postal Savings Banks	203
Potato Blight	275, 359
Potato Growing	34, 98, 147, 195, 262, 282
Potatoes, Aerial	147
Potatoes, Irrigating	262
Potatoes, Starting Sweet	102
Posts, Preserving	52
Poultry Breeds	369
Poultry Feeding	69, 236, 300, 411
Poultry for the Home	369, 395, 411
Poultry for Farmers	301, 369
Poultry Hatching	7, 29
Poultry Industry	102, 119, 279, 316, 330, 362, 376
Poultry Products, Selling	114
Poultry Profits	10, 362, 377
Poultry, Raising Chicks	61, 279
Poultry, Starting With	102, 118, 279, 362, 369
Products Must Indicate Localities	338
Prune Curing	52, 85, 260
Prune Prices	52
Prune Yield	10
*Prunes, California	401
Pruning, Ear Winter	35
Pruning for Shape	115

Q	Page.
Quarantine for Fruit Pests	2, 66, 242
Quarantine Regulations	339
Quince Stock Not for Apples	2, 83

R	Page.
Ramie Growing	307, 347
Raspberry Growing	101, 131
Rattlesnake Remedy	327
Rattlesnake Yarn	10
Reclamation Projects	34, 162
Redwood and Sequoia	108
Renwick, Walter, Death of	408
Resources, Conserving	355
Reservoir Saved From Silting	269
Rice in California	235
Roads, Good	26, 181, 326
Roadside Trees for San Joaquin	149
Roadside Products Public	38
Root Knot, Beaded	387
Root Knot, Hedgcock's Experiments	213
Root Knots on Trees	35, 178, 213
Rural Engineering Instruction	37

S	Page.
Sages, Names of Wild	116
Sainfoin Not for California	277
Salt Marsh, Vegetables for	83, 147
Salton Sea and Climate	2
San Francisco Free Market	338
*San Francisco Rebuilding	273
San Joaquin Valley	210
Sequoias and Redwoods	108
Sheep and Dogs	186
Sheep Feeding	75, 236
Sheep in Hop Yard	10
Sheep in Nevada	268
Sheep on Reserves	45, 85, 263
Sheep Scab Laws	130, 250, 283, 327, 343
Sheep Shearing Strike	235
Sheep Tax Case	55
Sheep, Merino	315, 332, 378
Sheep, Mutton	85
Sheep, Persian	378
Sheep, Shropshires	268
Shorthorns in California	18, 141
Shorthorns, Sale of	409
Shorthorn Fungus, Spraying for	162
Silage	131, 230
Silo in San Mateo County	409
Silk for Tourists	162
Snake Bite Treatment	327
Sorghum Growing	236
Sparrow Killing	51, 71, 277
Speltz	3, 115
Squab Business	198, 348
Squash Growing	3
Squash Bugs	22
Squash, Bitter	67
Squash, Seedless	74, 171
Squirrel Poison	262
Squirrels as Food	85
State Fair	306
State Forester, Advice From	166
Starter, How to Make a Good	92
Stock, Fattening in Ventura County	189
Storms, What Becomes of Our Winter	373
Strawberry in California	3, 42, 360
Strawberry in Oregon	197
Subirrigated Land	195
Sulphur in Fruit Drying	18, 50, 66, 82, 98, 130, 146, 162, 194, 210, 274, 306, 308, 322

T	Page.
Tanager, Good Words for	347
Tariff Revision Meeting	386, 389
Tariff Revision in California	211, 226, 354
Taxation Reforms in California	77
Texas Fever	246
Tree, How to Plant	53
Trees for Roadsides	149
Trees Worthless for Transplanting	3



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 1.

SAN FRANCISCO, SATURDAY, JULY 4, 1908.

Thirty-eighth Year.

## The Wine Grape.

By F. T. BIOLETTI.

This term—"The Wine Grape"—occurring frequently in current horticultural literature is a more or less accurate translation of the botanical name, *Vitis vinifera*. This name belongs to the wild vine, native of the countries surrounding

our own gaudy Flame Tokay; all these widely differing varieties are derived from this inconspicuous wild vine of the Levant and all of them grow to perfection in California.

None of the varieties mentioned, however, is properly a wine grape.

A variety may be an excellent table grape and yet lack the color, flavor, freshness, acidity, tannin, body or some or all of those special characteristics which are necessary for the production of good wine. To include all the varieties of *Vitis vinifera* in the term "wine grapes" would, there-

America. This definition, however, will hardly be accepted by all of our friends in the East, where from Concord, Virginia Seedling, Scuppernon, etc., several million gallons are made yearly of a liquid which they call "wine," and some of which even we must acknowledge is a fair imitation of that ancient beverage.

For Californians, however, or for any who have used the fine vintages of Europe, a "wine grape" must first of all be a variety of *vinifera*. To choose from the vast number of varieties of this species that one, or those few which will give the



TYPICAL VIEW OF A YOUNG VALLEY VINEYARD IN CALIFORNIA.

the eastern end of the Mediterranean and includes all the numberless varieties of table, raisin and wine grapes which in the course of centuries have been derived from it. That glorious and ancient Egyptian variety, the muscat of Alexandria, from which the best raisins are made; the Sultanina of Syria, producing the Sultana raisins of commerce; the minute Corinth grapes, giving us the so-called Zante currants; the large, coarse Almeria grapes, shipped in barrels from southern Spain to the fruit markets of London and New York; the delicate Chasselas Fontainebleau of Paris; the delicious Black Hamburg of the English hot-houses;

be derived from the wild species, *Vitis vinifera*, but must exhibit certain characteristics which some varieties of that species lack.

"The wine grape," or more properly, "a wine grape" is a variety of *vinifera* having the characteristics which experience has shown to be necessary for the production of good wine.

If we accept this definition of the term, no wine grapes are grown in the United States east of the Sierra Nevadas. All the grapes grown in the Eastern States outside of hot houses are varieties derived from *Labrusca*, *Westivelis*, *Botundifolia* or some other of the wild species native of

best results in his locality should be the first care of the grower of wine grapes.

There is no such thing as an "all-round" or "general-purpose" grape. A good table grape is necessarily a poor wine grape, and vice versa. A grape to be a success as a shipping grape for eating purposes must be large—all the best wine grapes are small. The muscat flavor necessary for the best raisins is undesirable in any but certain sweet wines. The foxiness or other strange flavors in Concord and all varieties derived from American species are disagreeable in all wines.

(Continued on Page 4.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO.	- - -	PUBLISHERS
E. J. WICKSON	- - -	Editor
FRANK HONEYWELL	- - -	Business Manager

## The Week.

We trust our readers are alert to detect the improvement which the new publisher of the PACIFIC RURAL PRESS is making in this journal, in redemption of the promises made when he assumed control a few weeks ago. He promised that the editor would be helped by a staff of original writers expert in their particular subjects, and in this way the editor could make a better paper and have more fun at the same time. This contract with the reader is being progressively realized, while the editor has had his share of the improvement from the start. He has had any amount of fun noting the increased interest in the journal and in enjoying the excellent contributions which the new writers have been supplying. The reader has not realized his full share yet, because the improvements are only beginning and the new writers whose works are regularly appearing will be reinforced by others, until the paper for variety and for up-to-date presentation of important facts and expert opinions shall realize what the publisher had in mind when he made the promise. As we go along, however, we ask that the regular subscriber who finds any satisfaction in the enrichment and rejuvenation of the paper not to hug the glad discovery to his own bosom. We shall not ask him to proclaim it from the housetops, but to confide it quietly to his neighbor as he chats with him over the fence-rail or under the shadow of the border trees. Tell him the RURAL is better than ever, and if he ever did like it in the old time, he will be delighted now, and if he never has known it, a great discovery of joy and profit is right before him. This is, of course, a great whispering autumn, as a presidential election is approaching, and so practice up a little by getting in a few mid-summer whispers for the RURAL PRESS.

California things may be a little slow now, in sympathy with the rest of the country over the financial stringency and the presidential campaign, but we were really surprised to hear of Californians who had taken to breeding snails. The story is current that the family of the RURAL's old friend, Mr. G. P. Rixford, is enjoying that restful occupation on the grounds of their San Francisco residence. It seems that a son of the household, Dr. Emmet Rixford, returned from a trip abroad just before the fire, and brought with him a dozen specimens of the black snail of France. The box containing them was placed in the basement of the house, and for a month they lay there forgotten, until one day the butler came across them and they were thrown into the garden. Several months later Mrs. Caroline Rixford Johnson, the artist, who in her years of study abroad came to know of this Parisian dainty, was strolling among the flowers in the garden, when her trained eye caught sight of a French snail nestled in a violet bed. She investigated further and found others in all parts of the garden. Some

of them had even made their way up the trunks of the oaks, leaving an iridescent trail behind. She made known her discovery to the other members of the family, and as a result a wire-covered home was constructed for the snails, and as they were found they were placed therein. At present they number 180, having multiplied rapidly since the liberation of the original dozen colonists. A friend of the family who was told of the amateur industry investigated, and from a native of France who makes San Francisco his home he gained information as to the methods pursued in rearing snails. He made known the results of his investigations, and now the snails are being fed on cabbage and bran, and are thriving remarkably on the diet. As yet none have been served on the table of the Rixford home. Probably some reader of the RURAL who knew snails in fair Paree may like to develop the culinary side of the enterprise. Mr. Rixford has always been a generous man, and in the cause of gastronomic science he would probably not draw the line against giving a start with snails. Perhaps if the taste is developed it may not stop until our California sausage-like snails are gathered up. It would be a great relief to amateur gardeners.

There is a church society on the east side of the bay which scouts the proverb about counting chickens before they are hatched, or at least does not object to counting the money for eggs before they are laid. This church announces a campaign for raising funds for a new church building, entirely novel and unique. A deacon of the church will give every member of the Sunday school a chicken some time during the latter part of August, and after a year's stewardship he predicts that the scheme will have netted the church fund \$500. The deacon is now negotiating with a local poultry raiser for 75 to 100 fowls, about five months old. These he expects to distribute among the children, giving one to each pupil in the Sunday school. He declares that the chickens will begin laying about the time eggs become costly. The children will then be requested to bring their eggs to church, where they will then be sold and the money laid aside for building purposes. The children will be taught how to build coops, keep the surroundings sanitary, and cure their pets when ill. A committee of grown-ups will make a weekly tour of inspection to see that the chickens are receiving proper attention and care. At the end of the year a prize will be awarded the child making the best showing. This enterprise frees itself from judgment from an agricultural point of view, because so many strange factors enter. It is true that \$5 for a year's work for a hen is about five times as much as the income from hens which are working for mundane masters, but as the children will be expected to dig up the food and furnish the care for fun, and as the eggs will be sold at the church according to the church-fair auction principle, there is no telling how much the eggs will bring. They may sell like California peaches in the early '50s, at a dollar each. The question really is, how many eggs will they get? Of course, they have one great advantage: the hens will be enclosed singly and have no temptation to gad about. Probably the projectors of the enterprise are counting upon this. Also there will be no waste of time in cackling: the children and the deacon will do that.

There is one piece of good luck which often comes to California farmers, and that is that whenever they become much alarmed lest their labor supply be short for some coming crop, time brings a solution of the difficulty: either the crop is so short that few men are needed, or some

other business slacks up and sends a lot of labor afloat and it blows itself into the rural districts. So now there is a good fruit crop to handle, but we do not hear that there is shortage of help. It is interesting, however, that a well known Californian, Mr. W. R. Wheeler, who is now Assistant Secretary of Commerce and Labor at Washington, plans to help out in this labor supply matter by directing immigration where the greatest need for labor declares itself. He has begun sending out through the division of information, presided over by T. V. Powderly, 4,000,000 postal cards to persons living along rural free delivery routes. These convey the information that the department will endeavor to secure, without cost, for all applicants, such kind of labor as they may declare themselves in need of, if they will make application on the return cards freely furnished. One thing which Mr. Wheeler's experience on the Coast has taught him is the difficulty of mobilizing the army of toilers where it is needed and shifting it quickly again when its work in any particular field is done. It is estimated that 80 per cent of the immigrants are habituated to farm labor, and that with proper assistance they will be willing to go where such labor is in demand. Mr. Wheeler wishes further to relieve the situation, especially in California, so that wheat harvest, berry time, hop picking, cherry picking, orange picking and packing shall have plenty of willing workers just when they are most needed. The co-operation of farmers will do much to assist in the working out of this plan and proving its worth. We doubt not that when any of our readers get Mr. Wheeler's message they will help him with all information available.

It is the time for national platforms declaring what the great parties will do for the agricultural interests, which their managers so dearly love—on presidential election years. We shall have several agricultural planks, probably, upon which the parties hope to float into power. This time it is the declaration of the Republicans, as follows:

"Among those whose welfare is as vital to the welfare of the whole country as that of the wage-earner is the American farmer. The prosperity of the country rests peculiarly upon the prosperity of agriculture. The Republican party during the last 12 years has accomplished extraordinary work in bringing the resources of the National Government to the aid of the farmer, not only in advancing agriculture itself, but in increasing the conveniences of country life. Free rural mail delivery has been established. It now reaches millions of our citizens, and we favor its extension until every community in the land receives the full benefits of the postal service. We recognize the social and economic advantages of good country roads, maintained more and more largely at public expense and less and less at the expense of abutting owners. In this work we commend the growing practice of State aid. And we approve the efforts of the National Agricultural Department of experiments and otherwise to make clear to the public the best methods of road construction."

There is much in this which is certainly acceptable to the farmers. That can be clearly concluded from the fact that the chief things mentioned have been secured because the farmer himself insistently demanded them. Perhaps people ought to be thankful if they get what they themselves hew out of the Government timber. If so, we are thankful. It is gratifying to learn, also, that the farmer is as good as the wage-earner. Judging by election-time standards, there could be no higher tribute paid even to angels. But we do not see why the farmer should be measured by



wage-earners particularly. The farmer is a capitalist—an employer: but capitalists and employers are only worth kicking at election time, so the farmer ought to be glad to slip into the favored class!

## Queries and Replies.

### Not in One Lesson.

To the Editor: We have a fair-sized farm which, with other fruits, has over 50 acres of prunes, 15 years old, which have never brought in \$5000 gross since they were planted, although there has been irrigation during the last three years. The place is heavily mortgaged, and I want to live on it and make it pay. Can you advise me who I can talk with to reach this result?—Owner, San Francisco.

We are obliged to intimate to you in a most respectful manner that you can hardly expect to learn enough to make a fruit farm profitable by a single interview with any one in the world. Fruit growing and other kinds of farming are operations involving a great deal of practical knowledge, both of policies and of detail, and one can no more expect to learn how to succeed in one lesson than he could acquire the ability to manage a commercial or manufacturing business, or the practice of a profession, in the same way. No one could even give you elementary suggestions concerning the management of your place without knowing the condition in which it is and without making a study of the many things which may influence production upon it. We sometimes fail to realize that farming is just like any other business which has to be learned by making use of all sources of information, including the teachings of experience. Any particular trouble which may seem to affect your trees we may be able to give you satisfactory advice upon, but modestly shrink from undertaking to impart to you the secret of success on a large property which has never paid, because there probably is no secret which can be communicated in that way. The presumption is that the place has never been properly managed, or else is not well suited to the production which has been undertaken, but which is to be blamed for the failure, or whether something entirely different is involved, can only be demonstrated by careful examination by a qualified expert.

### What to Do in Fertilization.

To the Editor: Please inform me what the necessary procedure is for me to take in order to ascertain the kind and amount of fertilizer best suited for adobe soil producing hay and grain, on a ranch in a valley north of the bay, consisting of 240 acres level ground. It occurs to me that it may be practicable to have this soil analyzed.—Owner, San Francisco.

The best thing that you could do for the increase of plant food and improvement of the tillable condition of your adobe soil would be to apply barnyard manure in considerable quantities. If there is no barnyard manure available, it would be desirable to apply common air-slaked lime at the rate of about a thousand pounds to the acre. This will render the adobe more friable and its plant foods more available. If, however, you do not desire to undertake either of these operations, get it into as good tilth as possible this fall, and apply to part of it a "complete fertilizer" containing nitrogen, phosphoric acid and potash, at the rate of about 500 pounds to the acre. If you will note carefully the area to which this application is made, as compared with adjacent lands not treated, you can easily arrive at a conclusion as to the desirability of the investment in fertilizers. What the land needs cannot be learned by analysis so well as the plant itself can tell you, and local

experiments, with care to arrange for comparative observation, are the best guide. If you will secure the publications of those advertising commercial fertilizers in our columns, you will find many from which you can see the names, suggestions of methods and materials which you use in beginning experimental applications which will make you wise about your own place.

### Sacaline Bobs Up Again.

To the Editor: Can you give me any information regarding East India giant clover (*Polygonum saghalinense*) and its value in this locality? I am sorry to say that I got no results from the seed of the *paspalum*; none of it came up, though I think I gave it a good chance. I would like to try it again if I can get any advice from some one who has been successful with it.—Reader, San Diego county.

The plant *Polygonum saghalinense* is not a clover at all, and can by no stretch of imagination be called a clover. It is a giant buckwheat—a member of the same genus as our common buckwheat. The plant attained a great reputation for drouth resistance in Europe in 1892, where it was being grown on ornamental grounds for the beauty of its red stems and large, heart-shaped foliage. On the basis of that experiment it was outrageously boomed in Europe and in the United States under the name of Sacaline. It had been growing on the University grounds at Berkeley for ten years. It certainly has claim to notice as an ornamental plant, but for forage purposes is practically worthless. We infer, from your inquiry, that it is now being revived for trade purposes by some seedman without a conscience. Such things usually recur about once in fifteen or twenty years. We are glad you gave the botanical name, because to call it "East Indian giant clover" is false throughout. It comes from Saghalin Island, which is mixed up somewhere between Korea and Japan. If the man had called it a giant buckwheat he would not have gone so far astray.

*Paspalum* seed requires plenty of water and a high heat to germinate the seed. Nothing can be expected from it during our rainy season, but it will make a fine growth in hot weather, providing there is moisture enough. For a very dry soil there is nothing in it.

### An Apricot in Trouble.

To the Editor: I am sending herewith a few leaves from an apricot tree in Alameda which has been attacked by some small bug and has about killed the tree. Can you tell me what this is and what I can do to save the tree?—Amateur, San Francisco.

The amount of leaf injury indicated by the specimens you send is not enough to account for the serious distress in your tree. Some other trouble, presumably in connection with the soil or the root, is indicated by the smallness of the leaves. It is possible that the tree suffers from the long interval of drouth between the rains last winter, or it is in a position where it gets too much water; both of these causes produce the same effect—destruction of the root fibers and subsequent weakness of the tree. Probably because of the prevalence of light, sandy soil in Alameda, the trouble is more likely to result from drying out than from saturation. Investigation of the soil condition, the application of manure if it is dry, or recourse to drainage if it is wet, all of which would tend to bring the tree into better thrift another year, are the things which apparently should be looked after. At the same time it must be admitted that the apricot tree has a way of going to the bad occasionally when we cannot find anything the matter or do anything to help it.

### Prune Dipping.

To the Editor: I have my last year's prune crop on hand and expect to sell it soon. Would you advise any treatment before selling. Some advise dipping in syrup made of prunes. If you advise any treatment, please tell me just how it is done.—Grower.

You should certainly dip the fruit. Some use a brine dip—about five pounds of salt to 100 gallons of water is about right. This salt dip can be used more safely for prunes than for peaches or other pitted fruit, as in some instances it has attracted moisture and caused mold. As to the respective results of a salt solution and glycerine solution, the salt seems to be a cleansing process, which leaves the skin of the fruit in a bright, clear condition and brings out the blue bloom, which is desirable. The glycerine is more of a syrupy or glossy nature, and on prunes that are inclined to be reddish this solution can be used to advantage. A common method of treating prunes is to use the small prunes and suspend them in the steam-heated tank of the Anderson dipper, where they cannot come in contact with the steam (which causes the skin and meat of the prune to turn dark), dissolve out the juice, thus forming a dip liquor, and this is quite extensively used.

### No Fence Laws.

To the Editor: Could you give me, through your columns, an outline of the fence laws of California? I have bought a small ranch in the Santa Clara valley, and would be much in your debt if you could answer this query through the medium of your valued paper. You certainly publish one of the best agricultural papers I have ever read.—Subscriber, Wyoming.

Most California counties are under a no-fence law. The owner of stock is required to keep animals in or pay damages. The owner of other lands is not required to keep stock out. If a man wants a fence he must build it himself (or make a private agreement with his neighbors) and build any kind of a fence that suits him. If he does not hold his stock he is liable for damages.

### Blow Flies on Prune Trees.

To the Editor: I have a plum tree two years old which is literally covered with blow flies from the time the blossoms form until the fruit is almost ripe, then they disappear. Will you tell me the cause of this, and remedy for same if there is any? So far they have done no apparent damage.—Subscriber, Sacramento Valley.

No; but then, people have different ideas of what "blow flies" are. If you have plum lice and honey dew on the leaves, that is what they are after. Catch a few flies and send them along with a few leaves, and we may be able to fix your case.

### Cherry Grafting.

To the Editor: I have 50 Royal Ann cherries, four and five years old. Can they be grafted to an earlier variety, and what time should they be grafted.—Cherry, Lodi.

Certainly; just at the same time that you would graft other deciduous trees, toward the end of the dormant season. We cannot say "in the spring" in California; go at it when you see the buds swelling, and keep at it until you finish.

### Walnut Seedlings.

To the Editor: If walnut trees coming from the nut are re-set, will it be necessary to graft or bud them?—Enquirer, Hanford.

The transplanting has no effect, one way or the other. If a seedling nut suits you, you need not bud or graft. If you want a certain variety, you must bud or graft with the wood of that variety, either in the nursery or after transplanting, as you see fit. The effect is the same.



## Horticulture.

### PACIFIC COAST APPLES IN AUSTRALIA.

California apple growers and shippers who take part in the Australian trade, which has been long carried on with more or less profit, will read with interest about some State of Washington men who conducted their own traffic in that direction, as it is told by the Spokane Review. It seems that E. Wagner & Son, fruit growers at Orondo, near Wenatchee, Wash., propose to ship 40,000 boxes of apples this fall direct from Wenatchee to Australia. Last fall, when most of the farmers about Orondo had sold their apple crop, Mr. Wagner still had 3000 boxes stored away, which was only a part of his crop of that fruit. About that time Mr. Wagner was in Seattle, and an exporter told him of a man who had shipped two cars of apples to Australia. The venture was a failure because the apples were not properly packed to withstand so long a journey. The story was not a hopeful one, but it set the Orondo farmer to thinking.

After a thorough consideration of the subject with his family, Mr. Wagner decided to ship the 3000 boxes to Australia, and he determined that the enterprise should not fail through lack of proper packing of the fruit. The Seattle exporter who told him of the other man's failure offered to attend to getting the cargo on shipboard and to assume the risks of the project if Mr. Wagner would furnish the apples; but the farmer determined to share neither risks nor profits with a middleman.

Finally Mr. Wagner decided to go along with the cargo to Australia and look over the market, so that if the first venture met with success, he might make plans for another season. Not only Mr. Wagner, but the entire family of eight went with the apples, five carloads in all, sailing from Seattle.

The project met with extraordinary success. The Orondo farmer found that the apple crop in Australia had been an almost total failure the previous summer, and the buyers gave his Washington product ready welcome. He received \$10,000 for the fruit, took his family on a pleasure tour through Australia, and at the end of three months from the day he started was back on the farm again, with a surplus of \$5000 after the long trip. And all that was accomplished by the sale of only a part of the crop of apples he had raised last season.

He expects to get prices this season that will be equally good with those of last year. It is reported that the Australian apple crop will be a failure again, and that the farmers in that country are coming to the conclusion that Australia is not a good apple country, which means that their markets will be forced to import the bulk of the supply of that fruit every year.

Mr. Wagner has one section of land, of which almost 120 acres is used for orchards. He is planning, as first stated, to ship 40,000 boxes to Australia this fall. Already he has contracts with buyers in that country for 27,000 boxes. Mr. Wagner will have to buy apples from other farmers to make out the big shipment he plans. His orchards are in excellent condition and give promise of a big yield.

### WASHING AND SULPHURING WALNUTS.

A writer to the Fruit World has recently visited the pioneer orchard of Col. Heath, near Carpinteria, and gives this account of his observations:

The first thing that strikes the eye in this peculiar yet most simple and successful method is the combination rotary huller and washing machine. When the nuts leave this wash they are entirely free of hulls and as clean and pure as running water can make them. They are taken from this to the bleaching boxes, and here subjected to the very minimum amount of sulphur necessary, and cold steam, being in the bleachers about one hour.

From the bleachers they are taken to the most interesting part of the plant—the steam drier. In the drier are to be found in the neighborhood of 100 drawers, each capable of holding 40 to 50 pounds of walnuts. These drawers have wire bot-

oms to allow the heat to pass through them. In the basement beneath the drier Mr. Heath has some modern furnaces constructed, and during the course of the drying about 130 degrees of heat is maintained. The nuts are kept under this heat for eight hours, and when taken out are as beautiful an article as one wants to see. During the course of drying it is possible to watch the procedure owing to the series of drawers which Col. Heath has installed.

After leaving the drier the nuts are taken to the grader and sacked. Mr. Heath has kept nuts processed as above for a period of five years, and the meats have remained as sweet as ever.

### DISK IN THE ORCHARD.

That the advantage of cultivating orchards and vineyards with a disk harrow, which is very widely practiced in California, is coming to be more fully recognized, is confirmed by T. E. Bissell in Canadian Horticulturist. The disk principle is that of a revolving mould-board, which enters the soil at an angle and lifts, turns and pulverizes, while the mould-board continues to revolve. Owing to the principle on which it works, the disk cultivator, or harrow, will accomplish more work and stir more earth with less horsepower than any other style of cultivator. At the same time, if the disk-plate is of correct shape and turn, the soil is more thoroughly cultivated thereby than with any other style of implement.

The disk presents an advantage for orchard and vineyard work, in that it does not catch on the rootlets and tear them up similar to the duck-foot or other cultivator of the tooth style. The frequent cultivation of orchards, vineyards and small fruits by the disk cultivator preserves the moisture and increases the vitality of the trees and vines ensuring better returns.

### THE FRUIT PROTECTION ASSEMBLY.

The railroads of California have granted a rate of a fare and a third to all delegates attending the meeting by the California Promotion Committee for July 16, to discuss the tariff revision. The following is the specific announcement of the rate issued by the railroads:

"Referring to your joint letter of the 20th inst., regarding Tariff Conference of the California Promotion Committee to be held in San Francisco, July 16 and 17, 1908: This company will place in effect account this meeting rate of one and one-third lowest first-class fare, receipt certificate plan, from all points in California, including Reno, Nev., to San Francisco and return. Sale dates for going trips July 6th and 7th, inclusive, certificates to be honored for return at one-third rate after being vised by the secretary of the meeting, July 16th to 20th, inclusive."

## Fruit Marketing.

### CALIFORNIA FRUIT IN ENGLAND.

Consul John L. Griffiths of Liverpool, in reporting that there has been a decided falling off in the importation of canned fruits from the United States into England during the last two years, gives the following particulars:

The shipment of apricots, pears and peaches in 1906, for example, aggregated 273,000 cases, while in 1907 only 161,000 cases were imported. This great deficiency naturally increased prices and lessened the demand. The unfavorable weather conditions for fruit growing in the United States in 1907 partially accounted for the decreased shipments. As the importation of apricots and peaches from the United States declined, there was a proportionate increase in the shipments from Spain and Portugal, where the fruit was of excellent quality. No pears, however, are shipped from these last-named countries to England.

During the past four years the prices of California canned fruit have advanced about 25 per cent. This has resulted in the extension of the fruit trade between England and Spain and Italy,

which countries have the advantage of the United States in the item of cheap labor.

Canned apples are being imported in increased quantities from Canada and are sold at successfully competitive prices with American apples. California apples packed in cases seem to improve each year, and the English demand for them is increasing, owing to the fine condition of the fruit and the excellent manner of packing. Last year the sale of California apples in this country exceeded the sales of any previous year, and the testimony of all the fruit importers in Liverpool is that these apples are almost invariably fairly and properly graded, that the smaller apples are packed separately, and that the cases are so branded that the markings indicate the quality of the fruit. There is no doubt that if greater care were shown in the selection, grading and packing of American fruits there would be a gratifying increase in the English demand.

## The Vineyard.

### THE WINE GRAPE.

(Continued From Page 1.)

Special flavors are desirable in wine grapes; but these flavors are usually not found agreeable by most people when eating the grapes fresh. The characteristic flavors of Cabernet Sauvignon, Semillon, Colombar and Riesling are as marked, in their way, as those of muscat or Concord, but are of such a nature that after undergoing the changes due to fermentation they add greatly to the fine quality of the wine. Other wine grapes, such as Pinot and Petite Sirah, while more or less neutral in flavor, develop the special aromas during fermentation to which their wines owe their value. Some grapes from which wine is made contain flavors which are pleasing neither in the fruit nor in the wine. Matero and Zinfandel are examples, and they can be used only for making wines of low or medium quality.

The influence of local conditions in modifying the special characteristics of a variety should not be overlooked.

The Cabernet Sauvignon, which yields the finest red wine of Bordeaux, and perhaps of the world, in the Medoc, makes an almost undrinkable wine in Algeria, where its peculiar flavor is intensified to a disagreeable degree. The Pinot wine, which is superior to that of the Gamai in Burgundy, is inferior to it in the Beaujolais. Similar examples may be found in California. The Zinfandel, which, on the cooler slopes of Sonoma and neighboring counties, gives often a very creditable wine, develops in the hot interior a harshness and coarseness of flavor that fit it for nothing but "Dago Red," accepted only in the cheap restaurants of New Orleans. On the other hand, the Valdepeñas, which gives a rough, slowly maturing wine, lacking in fine qualities and delicacy in the coast counties, makes a smooth, agreeable wine of full bouquet in the hot interior.

The question, then, of the best wine grape to plant in any given locality is complicated and delicate and only to be properly answered after long experience guided by a knowledge of the results in other localities.

This experience has been gradually accumulating for centuries in the wine districts of the old world, but is not yet complete even there. Some varieties, such as the Pinots of Champagne and Burgundy, the Cabernet and Semillon of Medoc and the Riesling of the Rhine, have established themselves for centuries so firmly as "the wine grape," each in its own district, that any change or improvement in this respect is difficult to conceive. In other regions the question of the best varieties is not so well fixed, and changes and improvements are still occurring. In the south of France the Aramon, Carignane and the Bouschets have taken the place in great part during the last thirty or forty years of the older varieties of the region.

In California our experience is short. It counts tens of years where Europe counts hundreds. But we are naturally somewhat guided and we have their experience to help us. Already in the older districts we are able to confine our choice of varieties to a few and to say with some degree of confidence: These are the wine grapes of the dis-



trict. In all districts we have passed beyond the state of confusion in this matter which existed twenty years ago and when nearly every vineyard was an indiscriminate mixture of all the varieties, good, bad and indifferent, that the owner could collect.

An attempt to narrow down the field of choice for the grape grower has been made in Bulletin 193 of the California Agricultural Experiment Station at Berkeley, of which the leading parts were presented in the PACIFIC RURAL PRESS of June 20.

El Gavilan Vineyard, Hollister.

## Citrus Fruits.

### EXPERIMENTS IN THE HANDLING OF FLORIDA ORANGES.

Complimentary to the tests of California orange handling for shipment as conducted by Mr. G. Harold Powell and his associates of the Bureau of Plant Industry of the U. S. Department of Agriculture are the tests which the same experts have been making in Florida. This work was alluded to in the report by Mr. Powell which was published on page 389 of the PACIFIC RURAL PRESS of June 20 and no doubt fuller details will be welcome to our citrus growing readers. This information comes in the form of an outline prepared by Mr. L. S. Tenny of Mr. Powell's staff, who worked formerly in California, but has been recently in Florida. We shall take from Mr. Tenny's outline, conclusions which seem of special comparative interest.

**Florida and California.**—In 1894, when Florida reached highwater mark in citrus production, southern California was shipping annually less than two million boxes of oranges and lemons. The Tulare district in California was then unplanted. Shipments from Cuba and Porto Rico were so few as to influence but little the market conditions. Then came the freeze, and Florida was practically eliminated for the time being as a large producing State. Fourteen years have passed and once again Florida looks forward to a record-breaking crop. During these years, however, great changes have been made in the orange producing sections. Southern California is, this year, shipping nearly or quite 30,000 cars, or over 11,000,000 boxes of oranges and lemons. Tulare county has now an annual production of about 2,000 cars; new plantings have been made, which, under favorable conditions, may increase the production in that section to 10,000 cars, or about 4,000,000 boxes. Cuba has been pushing forward in its planting, and while no reliable information is at hand, doubtless between 8,000 and 10,000 acres have been planted. Porto Rico, also, has extensive plantings that run up into the thousands of acres. I do not wish to discourage you orange growers, or to make you think there will be no market for your fruit. With the increase of production, there has come a large increase in demand. Hundreds of small towns over the country that now have oranges in their stores throughout the season scarcely saw a box of the fruit in 1894. The quantity eaten in the larger cities has also been very largely increased during these years. It is safe to say that with a proper distribution of the fruit, fair profits may be made by all growers, provided only the fruit could be placed on the market in a sound condition, and with a feeling in the minds of the buyers that they could hold the fruit ten days or two weeks with only a reasonable amount of decay.

**How Long Should an Orange Keep?**—This leads us to ask the question. "Is it necessary to have decay of oranges in transit?" or "What is the length of time that oranges should be expected to keep after being packed?"

Two years ago the department of agriculture at Washington began the study of conditions in this State to see if these conditions could be answered. Previous to that time considerable work had been done in California and some very definite results obtained. These have recently been published in bulletin 123, Bureau of Plant Industry, United States Department of Agriculture,

entitled "The Decay of Oranges While in Transit from California," by G. Harold Powell and several assistants. At the last annual meeting of this society, held at St. Petersburg, I had the pleasure of outlining our experiments in Florida and giving the results we had secured up to that time. The investigation has been continued during the past season and valuable additional data secured.

Briefly stated, the losses from decay of oranges while in transit from Florida amount annually to one-half or three-quarter million dollars. The principal loss is due to a decay or rot which is produced by the growth of a mold or fungus within the tissue of the orange. The most common fungus is a species of *Penicillium*. This trouble cannot be called a disease, for sound, healthy fruit is not attacked by the fungus and seldom rots. It seems to be necessary first to puncture the rind of the fruit, or to bruise it in some way sufficiently to kill the tissue. If now the seed of the fungus are present at this injured place, the first step toward decay has been taken and if the temperature and moisture conditions during the following few days are suitable for the development of the fungus, the orange is sure to rot. On the other hand, large quantities of fruit have been held experimentally under weather conditions most favorable for the development of decay, yet when the fruit has been carefully handled and the skin of the orange has been uninjured, there has been practically no loss, even when the spores or seed of the fungus have been purposely placed over the surface of the fruit.

The belief is not a theory or a laboratory scheme. In 1905 experiment work conducted in six packing houses in California, holding the fruit for two weeks under the most trying conditions, frequently in the lemon curing room, so that often from 50 to 100 per cent of the injured fruit decayed, yet the average decay for all the sound, uninjured lots was only 4.9 per cent. In 1906 the experiments were in fifteen houses and the average decay for the carefully handled fruit was 1.5 per cent. In 1907, the number of houses where work was done was increased to thirty-one and the average decay for sound fruit was 2.9 per cent. In addition to these experiments, where the fruit was held in the packing houses, last season 186 cars were shipped from California in which there were placed experimental lots of oranges. Under ventilation the sound fruit shipped immediately arrived in New York city with 1.4 per cent decay; under ice with 1.1 per cent decay.

**Similar Results in Florida.**—While these figures are for California oranges, yet we are finding that the same principles hold true in Florida. An orange without a cut or scratch on the skin and which has not been bruised in picking and packing, almost invariably keeps. Last season the carefully handled fruit held packed here in the Florida houses for two weeks, contained 2.9 per cent decay. This present season the same lots showed 2.1 per cent waste. This has been the first season for any shipping experiments from this State, and the results show the very encouraging average of only 0.4 per cent rot on arrival at market for carefully handled sound fruit.

The work has now been carried far enough so that it seems safe to say that the Florida orange inherently is a good keeper. We can go even farther than this and say that it has been possible to pick, pack and ship the fruit in a way that has practically insured its safe arrival on the market. Judging from the past season's shipping experiments, it seems safe to say that any large percentage of decay in transit is not necessary.

The question then does not seem to be, "Is it possible for the Florida orange to carry to market," but rather "Is it practicable to handle the crop in such a way that the carrying quality has not been injured." The first question seems to be well solved in our investigations and we have now turned our attention to the practicability of carefully handling.

**The Handling in the Orchard.**—Before there can be good carrying quality, there must be careful work in harvesting the fruit. Under the present conditions, a premium is placed on the amount of work done, rather than on the quality. In

handling a tender perishable product, it is false economy to reduce the cost of an operation at the expense of the keeping quality. A laborer picking seventy-five boxes of oranges per day at 5 cents a box and injuring a quarter or more of it, and dropping the oranges several feet into his picking bag or box, is far more expensive than the one who picks thirty boxes for \$3 a day, but who does his work carefully.

There are three points that need careful attention by the picker, (1) the oranges should not be cut or punctured by the clippers, (2) the stems should be cut short, (3) the fruit should be put in its place by hand and not thrown or dropped.

**Clipper Cutting.**—The smooth round Florida orange can be cut from the tree with a short stem without injuring the fruit with the clippers more easily than the California navel, which has a depression around the stem. Notwithstanding this, considerable damage is being done by clipper cutting. The amount of injury varies widely in different picking gangs.

In the work of nine individual pickers in one gang in Florida not more than one or two were doing satisfactory work. The average for the nine was over 12 per cent cut fruit. Not all of these injured oranges would decay under ordinary shipping conditions. With conditions favorable for rot, however, a large percentage would go down. As a matter of fact, several boxes of the fruit picked by the two men showing the high percentages of clipper cuts, after being packed fourteen days contained 21 per cent waste, and the beginning of the decay could almost invariably be traced to the injury made by the clippers. Another lot of fruit selected from the more careful pickers and packed and held the same length of time and under the same conditions had 3 per cent decay.

The clipper cutting indicated is above the average for Florida. In one small district counts were made at one time in four different orchards, with the following percentages of clipper cuts: 1.4 per cent, 1.6 per cent, 3.8 per cent and 10.4 per cent. It is rather suggestive that of these, the first gangs were paid by the day, while the last one was on box work. In another orchard two men were working together. Two boxes of fruit from each were examined. The fruit picker had cut but four oranges, while his companion had literally slaughtered sixty-five.

In another place, the average injury done on a ranch, where the owner had everything under his direct control, was slightly over 6 per cent. At a nearby packing house where the owner purchased all his fruit and had his picking done under the supervision of a foreman, the total injury found at one inspection was only 1.6 per cent. The difference lay in that on the first place the pickers worked largely by themselves, without proper instruction and inspection. The second foreman had been trained by us to watch for injury and had personally instructed each picker and inspected his work until almost uniformly good work was done.

**Other Mechanical Injuries.**—It is not necessary that the injury be made with the clippers in order to cause the fruit to decay. Any other abrasion through which the seed of the fungus can enter the fruit does the same damage. Frequently there are found oranges in the box that have been thorn punctured, scratched on the branches of the tree, cut by nails or splinters in the box, or injured by the finger nails. Many of these are made through carelessness and haste on the part of the picker and therefore vary with individual pickers. The amount of thorn puncturing done while the fruit is still on the tree is surprisingly small, or at least the decay which results from such puncturing is small. After a heavy wind decaying oranges may frequently be seen hanging on the trees. If the fruit is picked soon after such a storm, some punctured oranges are found. But more damage is done by "thorning" as the pickers pull the fruit from among the branches. In the gang referred to a short time ago as having a careful foreman 3 per cent of the fruit had body bruises. In the different boxes there were all the way from two to eight injured oranges. The fruit from four other pickers in another locality showed the following high percentages of body injuries: 7.6 per cent, 15 per cent, 22.4 per cent and 23.6 per cent. Add to these injuries two or three oranges per



box cut by the finger nails and another two or three and frequently more bruised by nails and splinters in the box. A large amount of damage is possible, therefore, before the fruit has left the grove on its journey to the market.

**Long Stems.**—Considerable emphasis in the past has been placed by orchard men on having the fruit cut with the stems short. It has been realized that an orange with a long sharp stem was capable of doing much damage. The long stem in itself causes no trouble; it is only when the stem has been brought into contact with another fruit and the rind punctured that damage is done. The amount of injury, therefore, depends largely on the extent and the nature of the handling of the fruit after picking. More puncturing is done if the fruit is dropped eighteen inches or two feet into the picking bag and then for an equal distance into the box, than would be if it were possible to lay the orange carefully into the bag and box. A long haul over a rough road with a considerable number of oranges with long stems in boxes will do plenty of damage.

It is not necessary to have much shaking of the fruit in the box in order to do puncturing, for the field crate used almost universally in Florida is so large that the weight of the fruit in the box is sufficient to force a sharp stem through the peeling of an adjacent orange near the bottom of the crate.

The number of long stems left by different pickers varies largely. Some pickers work steadily without leaving scarcely a long stem. Others cut practically all the stems too long. The following figures show the percentages left by different individuals: 5.9 per cent, 14 per cent, 18.8 per cent, 8.7 per cent, 15 per cent, 7 per cent, 14.1 per cent, 0.7 per cent and none. The following are averages for gangs: 2.9 per cent, 2.3 per cent, 16.1 per cent, 1.0 per cent and 9.7 per cent.

As in the case with the clipper cutting, when the attention of the picker is called to the number of long stems he is leaving, and when he knows his fruit is being inspected the number of cut incorrectly generally decreases.

**Careful Handling.**—The third point in connection with good picking has to do with careful handling. There is nothing in connection with the citrus business of Florida that so impresses a person accustomed to handling different fruits than the roughness with which the oranges are treated. To see the fruit dropped several feet into the picking bag or basket as the laborer holds the branches with his left hand and clips the fruit with his right, starting it toward the mouth of the basket at a lively speed with his clipper, one would think an imperishable product was being handled instead of a very delicate living fruit. When the picking basket is full, the fruit takes another severe fall into the field crate, and the usual method of locating the gang in the orchard is to listen a moment for the rattle of the oranges in the box. I need not call your attention to all the places in harvesting and packing the crop where rough handling is practiced. If anyone doubts the statement that a large percentage of the fruit falls somewhere at least eighteen or twenty inches, a trip with this in his mind through his own grove and packing house will probably satisfy him about the matter. At least such a trip through his neighbor's grove will convince him. On his journey let him stop for a moment at the side of the hopper, one of those real large ones, holding fifty boxes or more, and watch the results. Let him place his hand on one of the fruit, and allow the other oranges to hit against it. Just then have him forget that he is watching oranges and imagine that they are apples or perhaps Georgia peaches. I wonder how successful a shipper of such fruits would be if the handling was as rough as that to which the oranges are subjected. Yet the experiments last year indicated that with oranges dropped once eighteen inches, one out of every five would rot within a short time. This year the skin of the fruit seemed rather thicker and tougher, and but 10 per cent rotted. But in test after test where the oranges were dropped eighteen inches decay developed where it did not where the fruit was carefully handled.

**Poor Keeping of Florida Fruit.**—Among the results shown there is a confirmation of the belief held by the fruit trade in general that it is not a

safe thing to handle Florida oranges, for even if there is but little decay on arrival the fruit will not hold sufficiently long for the retailer to sell his stock. There is probably no other one thing that has more to do with low prices or small demand for Florida fruit at any time than this. The quality of the fruit is such, and the texture and general appearance so good, that there should be a healthy demand for your fruit throughout the season. But as long as the buyer must figure on losing perhaps one-quarter or even one-half of a box by decay, if it is necessary for him to hold it some days, he cannot afford to handle such fruit if there is on the market a brand which he is sure will hold an equally long time with but a slight amount of waste. The sound, carefully handled lots shipped this season answer all his requirements. Is it possible, then, to handle your fruit in any better way than is being done at present?

**Handle the Fruit Like Ripe Peaches.**—Those who think it is impossible to handle the fruit with care should visit a large peach ranch in Georgia, where under one general foreman and with colored help, ten cars and more of peaches are shipped in one day, and the fruit is so delicate that a heavy pressure by the finger in picking damages the carrying quality.

The outlook, then, is hopeful. Decay—at least damaging decay—is not necessary. Fruit, sound and carefully handled has been held in the packing houses two weeks with but slight decay. Other lots have been shipped and arrived on the market with almost no loss and has stood the market holding test remarkably well. On the other hand, roughly handled and injured fruit should not be expected to keep, and it does not. The methods of harvesting and packing at present in operation are extremely rough and should be expected to produce a poor-carrying product. Experiments show that this is true. It is not impracticable on the other hand to change these methods sufficiently so that a great improvement in keeping quality may be expected.

#### CITRUS GROWERS' TARIFF MEETING.

A meeting of the citrus growers of California was held at Los Angeles, Tuesday of this week under the auspices of the Citrus Protective League. Representative men were in attendance from all orange and lemon growing sections of the State. The object of the gathering was to protect the citrus interests against a revision of the tariff. At the present time an import duty of one cent a pound is charged for all oranges and lemons imported. Representative Needham of the Ways and Means Committee of the House has sent a word of warning to the effect that it would be wise to have a strong representation of citrus growers to appear before his committee when it meets, just after the coming election. Tariff revision is in the air, and every industry that does not make a vigorous fight for the retention of existing import duties may find itself on the outside. Congressman McLachlan sounded a note of warning and reminded the growers that it would take as hard a fight to retain the present duties as it took to have them put on. He called attention to the dark days before the tariff bill passed, and how he went before the House committee with a handful of freight bills showing that in some cases fruit had not brought money enough to pay the charges. We have not got that argument this year, and he felt a great deal of fear as to results unless growers united in pushing anti-revision to the last ditch.

An executive committee of 30 was appointed to confer with fruit and vegetable growers all over the country, with a view to uniting all interests in the fight and to plan other measures of conducting the campaign. The committee will hold its first meeting in Los Angeles on July 8.

### The Field.

#### WEED KILLING WITH CHEMICALS.

In the PACIFIC RURAL PRESS of June 13 we gave an interesting account of weed killing with chemicals in the State of Maine. This seems surely to

be the coming way with some weeds in some crops which it is desired to free from them.

Experiments in spraying to eradicate weeds in grain fields have been conducted at the North Dakota station from season to season for the past 10 years. The results obtained show that the general use of this method of combating certain weeds will save the farmers of the United States millions of dollars annually. It is not expected that spraying will supplant other methods of keeping weeds in check, but that it will supplement these methods and prove available in fighting many of the most pernicious weeds that come up in fields of grain. The possibility of success in killing weeds in a grain field by the use of a chemical spray which does not injure the grain, will not surprise those who are familiar with the use of spraying compounds to destroy various forms of fungi, which are plants of a lower order. Only by experience is it possible to learn what weeds can be killed by a spray which will not injure the growing grain stalks among which the weeds are growing.

The best time to do the work is while the weeds are young, succulent and making a rapid growth. Those which develop slowly under dry conditions are much harder to kill.

Mustard or charlock can be readily killed by spraying with solutions of either iron sulphate or copper sulphate. It requires about 52 gallons of spraying liquid per acre. To make the liquid use from 75 to 100 pounds of iron sulphate for each 52 gallons of water, or 12 to 15 pounds of copper sulphate. Common salt can be used with fair success, dissolving one-third of a barrel in 52 gallons of water, but there is some danger that it will injure the grain.

King-head, or greater ragweed, can be controlled in the same way, but should be sprayed while quite young. The same sprays are to be used, but the greatest strength mentioned.

The Canada thistle can be checked in growth in grain fields by spraying, but is best fought by frequent sprayings without regard to the grain. The most effective spray for this weed is sodium arsenite, at the rate of one and a half to two pounds to each 52 gallons of water, but owing to the extremely poisonous nature of this spray, a solution of common salt is recommended. If the object is to kill the thistles, without regard to what they are growing among, use half a barrel of salt to fifty-two gallons of water. Spray as often as the plants get a few inches above the ground, and if shoots appear the second season, operate on them again the same way, and usually the pest will be fully eradicated. When scattered through grain fields it is advised that the first spraying be done with a spray of one-third barrel of salt to each 52 gallons of water at the time when the plants are about 10 inches high. Spray a week later with a spray of 15 pounds of copper sulphate to each 52 gallons of water. After the grain has been harvested, spray again.

The sow thistle is becoming very troublesome in North Dakota. It spreads by underground roots, like the Canada thistle, but cannot be killed by spraying.

Weeds which can be controlled by the sprays that kill mustard are false flax, shepherd's purse, pepper grass, corn, cockle, chickweed, bindweed, plantain, rough pigweed and cocklebur.

Weeds of a grassy nature cannot be so controlled, because a spray strong enough to kill them would also kill the grain or grass among which they are growing. Frenchweed, pink cockle, lamb's quarter and hare's ear mustard are weeds that can be controlled by spraying.

#### THE LAW AGAINST JOHNSON AND THE THISTLE FAMILY.

Following is the California law approved March 22, 1907, relating to that pest, Johnson grass, and to the various thistles:

Section 1. It shall be unlawful for any person owning, controlling, leasing, or possessing land in the State of California, to knowingly permit that certain grass known as Sorghum halepense, otherwise known as Johnson grass; Cnicus arvensis, otherwise known as Canadian thistle; Salsoli kali, otherwise known as Russian thistle; Onopordon acanthium, otherwise known as Scotch thistle, and Cnicus lanceolatus, otherwise known as the bull



thistle, to mature and disseminate its seed on land so owned, leased or possessed by such person.

Sec. 2. It shall be unlawful for any person knowingly to sow or disseminate, or cause to be sown or disseminated, any seed of *Sorghum halepense*, otherwise known as Johnson grass; *Cnicus arvensis*, otherwise known as Canadian thistle; *Salsoli kali*, otherwise known as Russian thistle; *Onopordon acanthium*, otherwise known as Scotch thistle, and *Cnicus lanceolatus*, otherwise known as bull thistle, upon any land owned or possessed by another.

Sec. 3. It shall be unlawful for any person to knowingly sow, disseminate, or cause or permit to be disseminated any seed of *Sorghum halepense*, otherwise known as Johnson grass; *Cnicus arvensis*, otherwise known as Canadian thistle; *Salsoli kali*, otherwise known as Russian thistle; *Onopordon acanthium*, otherwise known as Scotch thistle, and *Cnicus lanceolatus*, otherwise known as bull thistle, over or along any roadway, highway, or right of way for ditch purposes, adjacent to premises owned or possessed by him.

#### GRAIN EXPERIMENTS AT TULARE STATION

Mr. J. T. Bearss, foreman at the Tulare branch station of the Agriculture Department of the University of California, gives a representative of the Tulare Register some interesting statements about what is doing under his charge:

There are at the station nearly 150 varieties of grain, including hybrids and all. In the plots there are about 75 varieties. These are being sown for the purpose of determining the yield and milling qualities of each variety, all to the end that California grain-growing may be made more profitable. In Minnesota five years of scientific experiments produced a variety that increased the production of the same area 2,000,000 bushels, and experiments in this State will yet make California produce more wheat to the acre, and better wheat.

We noted one variety of wheat that produced 98 pounds of wheat on one-fortieth of an acre, or at the rate of 65 $\frac{1}{3}$  bushels to the acre, and it had no better care than is possible to give grain in the field. There is some alkali in the soil in which it grew, and it had no irrigation. This wheat, which gave a much higher production to the same area than any other, is said to be much better milling wheat than any of the native varieties. There will be none of the seed for distribution this year, however.

There is barley that yielded at the rate of 85 bushels to the acre. A circumstance that indicates there may be something after all in changing seed was that, from wheat grown at the station, planted at Modesto, and from Modesto seed was returned to the station and planted right alongside some of the original seed, with the result that there was a better yield from the Modesto wheat.

These grain experiments are under the supervision of Prof. Shaw of the State University, and by the process of selection and elimination, and the introduction of new varieties, it is expected that great results will be attained.

### Patrons of Husbandry.

#### CHILDREN'S DAY AT TULARE GRANGE.

To the Editor: Tulare Grange convened in its hall on the 20th. It was children's day in the grange and there was a happy crowd of them there.

There was an excellent lunch with abundance of fruit, pie, cake, coffee, ice cream and candy and such things as appeal to the hearts and appetites of boys and girls. Before the lunch the children occupied their time in games, playing on the piano and singing. A program had been prepared, which was gone through after lunch and until time to adjourn for the public concert in the park. The instrumental performances, singing and recitations, for children, were well given, many of them being "tots," and their parts were well enjoyed.

After the children's program was over they and all visitors left and the grange was duly opened; the minutes were read and approved and

four applicants elected to receive the degrees conferred in this grange.

It was agreed to hold a special meeting for degree work on Saturday, the 27th ult.

It was agreed that Tulare Grange will co-operate with Dinuba and Orosi Granges in organizing a Pomona Grange for Tulare county. The secretary was directed to correspond with Dinuba Grange and have it take the necessary proceedings to organize a Pomona grange. It is hoped the Worthy Master of the State Grange, Griffith, will be present.

The program subject of the day, "What are the three most important industries in Tulare county?" was opened by Sister Morris, who declared them to be: First, chickens and eggs; second, fruit, deciduous and citrus; third, dairying. There was a general discussion and it was agreed that the subjects named, and in the order named, are the most important industries of the county, soil, climate and market conditions being considered.

The duty of supporting home industries was discussed and a committee to encourage and promote them appointed.

A committee was appointed to prepare a program for the next six months. It was agreed that all subjects discussed should be such as are incidental to the necessities, the requirements and the opportunities of this county. J. T.

#### A GRANGERS' LIVE STOCK SHOW.

The annual picnic and live-stock show of the united granges of Whitman county, Washington, and Latah county, Idaho, will be held at Lyle's grove, six miles west of Pullman, July 2, 3 and 4, and will be much larger and have several more departments than any previous show.

The live stock show is to be made the feature, and more than \$1,000 in premiums will be distributed. In order to encourage the dairy industry a milking contest, with prizes aggregating \$410, will be held, in which there must be forty entries. The capital prize will be \$125; second prize, \$85; third prize, \$85; fourth prize, \$75, and the fifth, \$40.

"Instead of giving \$50 to \$100 for a race between scrub cayuses and giving a blue ribbon to a fine dairy cow, the management will place the cow in the front, where she belongs, as she is one of the foundations of agricultural prosperity, and there will be no 'horse races,'" said one of the grangers. There will be a pulling match for teams over and under 1,300 pounds, with liberal prizes in each class, the farmers preferring to encourage the breeding of heavy draft horses rather than fast animals. There will be numerous prizes for hogs, sows, beef cattle, horses, mules, colts and sheep. There will also be a good program of sports each day, with patriotic addresses July 3 and 4.

A new feature this year in which the women are taking a deep interest, is a woman's department, with liberal prizes for all kinds of work, from the best loaf of bread to the finest embroidery, there being twenty-five first and twenty-five second prizes, ranging from 50 cents to \$8. The latter is the first prize for the best fitting and best made calico or gingham dress, worn by the maker, who is other than a dressmaker, and prizes of \$6 and \$3 for the best and second best dresses made by girls between the ages of 12 and 16 years and worn by the maker.

#### THE GRANGE THRIVING IN OREGON.

A letter from Mrs. Clara H. Waldo, the retiring lecturer of the Oregon State Grange, says: "The Grange in Oregon has more than doubled its membership in the past eight years and requires only a continuance of enthusiastic co-operation among ourselves to raise our membership to 40,000, which was the ambitious hope expressed at the State Grange. With such a number we could predict the success of any reform or progressive measure the grange should support."

Mary S. Howard, the state secretary, says: "We now number 121 granges and 7,641 members and our jurisdiction extends into twenty-one counties and all but seven granges paid up to March 31, 1908. We had no losses last year, and let us all strive as never before that the present year may be the banner year in all lines of work for the uplift of our beloved order."

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

#### CONTENTS BY CHAPTER HEADINGS:

- |  |   |
|--|---|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.   |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.  |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                      |
| 4 The Wild Fruits of California.                         | 23 The Quince.  |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                         |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                          |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                         |
| 8 The Nursery.   | 27 The Date.  |
| 9 Budding and Grafting.                                  | 28 The Fig.   |
| 10 Preparation for Planting.                             | 29 The Olive.   |
| 11 Planting Trees and Vines.                             | 30 The Orange.  |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                  |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                  |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                 |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.               |
| 17 The Apricot.  | 36 Injurious Insects.                                     |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                           |
| 19 The Peach.  | 38 Injurious Animals and Birds.                           |
|  | 39 Protection from Winds and Frosts.                      |
|  | 40 Utilization of Fruit Wastes.                           |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7 $\frac{1}{2}$  × 10 $\frac{1}{2}$ , 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### BUTTE.

The fruit crop in eastern Butte promises to be a banner one. Drying of apricots and peaches in the district south of Oroville is in full swing, and the orchardists are pleased with the quantity and quality of the fruit. Reports from the mountains say the apple, pear and late peach yield will be better than in several years past. Citrus fruits and olives never promised better at this date.

Harvesting is on in earnest in the Gridley section. J. F. Schaeffer commenced with the harvesting of some 1000 acres of grain. The first to be cut is a barley field that did not promise much early in the season, but it is turning out about eight sacks to the acre. Other grain fields which were sown earlier will yield fully double the above crop. Luckche Bros. are cutting 500 acres of late sown barley which will yield 10 sacks to the acre. J. F. Harriger and J. Westwood of Central House report good crops of oats. E. F. Biggs of that region is shipping potatoes by the carload.

### COLUSA.

There has already been considerable grain harvested in the Arbuckle locality, and in every case the yield is much better in quantity and quality than had been expected. Standing barley that was guessed at 8 or 10 sacks is yielding about 15. A. H. Abele, a Dunnigan farmer, said recently that he was harvesting late sown barley that had not to exceed a half inch of rain, which was yielding 18 sacks per acre. The yield of grain will run as high as 20 sacks per acre, and the grade is good. On the island the yield is said to reach as high as 40 sacks, and the grain is exceptionally clean. The grape and fruit crops are unusually heavy, and 1908 will be noted as a good crop year.

### FRESNO.

Most of the apricot growers near Ridley have commenced cutting. Few are selling the fruit green on account of the low price offered.

The indications for the coming peach crop are excellent. There are a few places in the county reported to have been injured by frosts, but these spots are scattered, and in general a good crop is on the trees.

Sanger Herald: We are informed by a large grower that his grain field of 200 acres, situated 10 miles north of town, averaged less than half a ton of hay to the acre. Similar reports of a shortage in the hay crop are common from one end of the valley to the other. Grain hay is selling at \$12 to \$15 in the field, and alfalfa at \$9 to \$10.

### GLENN.

Willows farmers are learning from the irrigated farms now maintained there that for years they have been letting their lands go to waste. Three crops of hay are produced now where one was the limit before, and the income is three or four times as great.

B. B. Glasscock, of Willows, has demonstrated what can be done by pumping for irrigation. He has commenced cutting his alfalfa on 150 acres, the crop running over a ton and a half to the acre. He expects to get two more crops this season, and stated that the next yield would be not less than two tons to the acre. The farmers of this county have been in the habit of dry farming and getting one crop of hay each year. Glasscock has sold the entire crop for \$8 per ton in the field, which will make \$12 per acre for one crop, and for the three he expects to realize \$40 per acre. A vast difference from \$8 per acre, as is being done by the majority of farmers.

### IMPERIAL.

Carload shipments of grapes have begun from the Imperial Valley. Malagas, Emperors, Tokays and Sultanas seem to be in the lead.

Bee-keepers of Imperial Valley have organized under the name of the Imperial County Bee-keepers' Association. They have filed articles of incorporation with the county clerk, and have their association capitalized at \$10,000.

Spineless cactus sent by Luther Burbank to Paul Boman, at El Centro, continues to astonish all familiar with cacti. Leaves are shooting out from every plant, and the new growth has now exceeded the original plants. It is calculated that the cactus will bear fruit the third season, but four or five of the Malta variety have set fruit since they were transplanted.

Solid trainloads of cantaloupes are leaving Imperial Valley every day. The valley expects to ship not less than 1500 carloads, and the crop may run more. The seed is all the best Rocky Ford grown. Because there is no co-operation among distributors, the market has become congested at many points. Prices have fallen to such a low figure that several of the associations proposed to cease shipments for several days.

### LAKE.

The wheat and barley crops in Scott's valley are heavy, but corn and potatoes are somewhat backward on account of the late frosts. Haying is progressing new.

### MERCED.

The warm weather is welcomed generally by the farmers. It is said that the sweet potatoes in the Atwater district have been checked in their growth by the unseasonably cool weather.

### NAPA.

Three hundred and seventy-one men, women, girls and boys are busy at the big cannery in East Napa packing apricots. The 'cots are shipped in from Winters. The fruit is of first-class quality. Manager Martin expects to be packing apricots for three weeks, when the peach pack will begin. He reports that he has orders for as much fruit as he can pack.

### NEVADA.

The pupils of Washington school, Grass Valley, harvested their crop of vegetables and carried them home. They prepared a good-sized piece of ground in the school yard, planted it and carefully cared for the many varieties of vegetables which came up. The result was a fine garden.

### ORANGE.

Frank E. Crawford, who recently purchased 1,000 acres near Orange, expects to plant it all to eucalyptus. Another eucalyptus grove of 350 acres is to be planted near Fresno.

News: Orange county is the greatest producer of English walnuts in the world. This is a very remunerative crop, and by many is considered more desirable than any other. The culture of the walnut requires but little care and under favorable conditions the returns are most satisfactory. The trees are usually set 40 to 50 feet apart, being an average of 20 to 25 trees to the acre.

### RIVERSIDE.

Apricot drying is beginning early this year at Elsinore. The crop will be a heavy one and the fruit unusually fine.

The apple crop this year, according to Beaumont reports, will exceed \$90,000, or 40 per cent better than last season, while prunes and pears are showing much better than in other localities.

The Arlington Heights Fruit Co. of Riverside has recently shipped 100 cars of lemons from storage, leaving only 70 cars on hand in the packing house. This com-

pany has also recently shipped 60 cars of Valencias for the Fourth of July trade; the prices received being from \$3 to \$3.15 for orchard run.

Blackberry fields in Beaumont have been known to yield at the rate of \$500 to the acre, and from red raspberries the production has reached \$350 per acre.

The Redlands Golden Orange Growers' Association has just sent out reports to its patrons which show that for the season just closed the average price paid for navels of all grades was \$1.80 per hundred pounds. This is an excellent showing, and will probably be at the head of the list when reports from other districts are made up.

### SAN BERNARDINO.

All previous records for onion raising in Coachella valley have been beaten this year, but prices have been low. Those who were fortunate enough to push the crop off early received a good price. Efforts will be made next year to put the crop on the market at least a month earlier than this season. It is more profitable to ripen and market smaller onions than to wait for a heavier tonnage but get a much lower price.

### SAN JOAQUIN.

Orchardists in and around Lodi have their fruit cutters busy gathering the enormous apricot and peach crops. The colony near Lodi is a great tent city, and families from near and far are flocking in to engage in fruit work, which will last until the middle of November, taking in the grape packing season.

### SANTA BARBARA.

Reports from Guadalupe are that the grain is turning out better than expected. It is said that grain threshed has averaged from 110 to 117 pounds per sack, which is unusually heavy, as 100 pounds per sack is considered good weight for common barley.

Guadalupe Moon: An interview with farmers shows the prevailing opinion to be that there will not be more than half a crop of beans. Some think it will be even less. Foggy days are the delight of the bean farmer. Especially is this true in a season with scant rainfall. The prospects are good for beets on Guadalupe ranch this season. It is the opinion that there will be a better yield this season than last.

### SANTA CLARA.

Representatives from all the Granges in the county were present at San Jose at the annual meeting and feast of Pomona Grange. The reports as to the apricot crop were to the effect that there will be a fair crop; that many of the apricots were small; that the canneries have not yet made a bid, and that the growers will dry all their best fruit.

Three hundred thousand dollars is the amount of Eastern money that will be brought into Santa Clara county from this year's shipments of cherries, says Secretary Brooks of the San Jose Chamber of Commerce. This does not take into account the cherries that are being put up by the canneries. Mr. Brooks states that not less than 100 cars have been shipped, and the average price has been about \$3000 per car.

### SOLANO.

Vacaville is well supplied with laborers from San Francisco, Oakland, Alameda and Berkeley. All the trades and professions are represented. It is noted by observers that there is a better class of workmen this year than heretofore. The majority are sober, steady men, and willing to work when an opportunity is offered them.

Harvesting of the barley crop in the vicinity of Dixon is in full blast. The

yield is much better in most cases than anticipated. Considering that there has been no rain of any consequence since February, the yield is marvelous, there being a fair crop from fields that have had no rain since planting. The yield so far reported ranges from 8 to 40 sacks per acre. Eggert Bros. harvested from 140 acres of land near Tremont Station 4657 sacks of barley, weighing about 250 tons, which at the present price is worth \$6000. This is the best average for a field of that size; smaller places, however, have been reported as high as 40 sacks per acre.

### SONOMA.

It is announced that the berry growers of the Gold Ridge district who made a pool of their crop, representing some 900 tons, had entered into a three-year contract with the Fruit Canners' Association whereby they receive \$35 a ton at the time of delivery and \$40 a ton for all the berries sold between the time of canning and the following January. While this price is not quite as large as it has been in some years, the contract is deemed a good one.

### SUTTER.

A meeting of the wine grape growers in the vicinity of Yuba City was held recently to effect a permanent organization. As far as can be learned, it is expected that the prices this year will be about the same as last. The growers who had not previously contracted sold last year for about \$14.50 f.o.b. The crop this year will be good.

### TEHAMA.

The first cuttings of oats and barley are yielding far better than expected. The oat crop on the Peine ranch, south of Red Bluff, turned out 435 sacks from 30 acres that was considered a poor crop.

On the Chard and Tait ranches the cutting of barley has been begun, and the yield is from 20 to 25 sacks. While the stalk is very short, the heads are of good size and the grain well matured.

Hay is coming in in good quantities and the second cutting of alfalfa is now in progress in some places, with a fine crop.

Alfalfa hay is being hauled into Red Bluff from all sections of the county, and finds a ready sale at from \$8 to \$12 per ton, according to quality, which is an indication that the old grain-hay fields are fast giving way to the more nutritious and profitable alfalfa.

### VENTURA.

It is stated by an authority who keeps a close tab on the crop conditions in the county that the grain crop will be better than has been looked for any time this season. On account of the cool weather of the entire spring there have been many large fields of grain that have slowly filled out in fine shape. Wheat and barley alike are much better than it was thought possible even after the latest rains of the season.

James Birkenshaw of Moorpark stated that his apricot crop will be very good this year, although the drying season will not begin until two weeks later than usual. He says that crops as a whole in the county will be very satisfactory for the season.

Democrat: M. H. Mendelson, the bee man, says this season's honey crop will be the lightest in several years. The output from southern California, he thinks, will not exceed 25 carloads, as compared with 300 to 500 cars in some previous seasons.

### YOLO.

Heavy shipments of fruit at Winters continue, and fair prices East are the rule. Heavy buying of apricots for outside canneries, and some dried apricots are being brought in to the warehouse.



## Live Stock and Dairy.

### SILOS AND SILAGE.

By E. W. MAJOR.

California dairymen have not given this matter the attention it deserves. A few years ago a number of silos were erected, but for various reasons the owners seem to have discontinued using them. During the past year the question has again received attention, but there ought to be many more dairymen who put up silage for feed during the dry season. The old idea that corn could not be raised successfully in California has died out. Today in nearly all parts of the great interior valleys as fine corn can be seen as you will find in any of the so-called "Corn States." No feed makes a more economical supplement to alfalfa than silage.

Some of the reasons leading to the discontinuance of the silo by some dairymen were: poor construction, putting the feed in when too mature and too dry, and lack of attention to packing down of the silage so as to exclude all air.

In constructing a silo it is well to keep in mind a number of points. In the first place, shallow silos give less satisfactory results than deep ones, as there is more danger of air-spaces, owing to lack of pressure. As a general rule it is safe to say that a silo not less than 24 feet deep gives better results than one of less depth. The diameter of the silo should be not less than one-half its height.

There are a number of varieties of round silos, and, if they are well built, all of them will be satisfactory. The important thing to remember, in constructing a silo, is to have it perfectly airtight, and so built that the silage can be packed down close enough to exclude all air spaces. Probably the cheapest round silo is the ordinary stave silo. This is built very much like a water tank; the staves are held together by iron hoops. The objections to a stave silo are that the staves shrink during the dry weather, when the silo is empty, and unless they are kept tight there is danger of the silo falling to pieces. If the hoops are tightened, then when the silo is refilled attention must be given to them or else when the wood becomes saturated with moisture and swells, the hoops may burst.

A stave silo, like all others, should be provided with a good foundation of concrete, and the floor of the silo should also be of concrete.

In putting the hoops on, the first one should be placed about six inches from the bottom of the stave; the next one 18 inches above that; then increase the distance between each hoop six inches each time until they are 3½ feet apart, after that four feet apart the rest of the way to the top.

Doors must be provided, one above the other, so that the silage can be conveniently thrown out at different depths. These doors must be put in with beveled edges and firmly clamped so as to make an air-tight joint.

When a more permanent silo is required, one may be built of studding. First, sill pieces 2 inches thick and 4 inches wide should be cut with the proper groove and embedded in mortar or cement on top of the foundation wall; 2 by 4 studs are set 12 inches apart from center to center. The studs should be toenailed to the sill, flush with its inner edge and must be kept plumb. The inside lining consists of a half-inch sheeting nailed to the studding, a layer of tarred paper on top of this, and a second layer of half-inch sheathing put on top of this to break joints with the first. The sheeting is put on horizontally. The silo

may be covered on the outside in the same way. If this is done, a six-inch opening should be left at the bottom and at the top, and these openings should be covered with wire screening so as to keep out rats. This provides for ventilation and the drying out of the wood. If the silo is outside of the barn, where it should be, it must be provided with a roof. It will not be necessary, however, to make a tight joint between the roof; perhaps it will be better to allow for some ventilation.

At the present time a good deal of attention is being given to the building of concrete silos, and they may prove to be the most economical in the long run. In building concrete silos reinforcing irons must be used, otherwise cracks are likely to appear.

The crop available for the silo is, of course, Indian corn, although sorghum, alfalfa, peas and oats are frequently used. In the Southern States soy beans and cow peas are being used with success. The larger dent varieties of Indian corn are the ones usually used. It should be cut when the grain is just about in the dough stage. If cut much earlier the ensilage is too sour, and if cut later the stalks are too coarse and hard. Corn should be cut into short lengths before being put into the silo, and the shorter it is cut the easier it is handled when fed. From one-half to three-quarter lengths has been found to be the best. The important part in filling the silo is to have the material packed in as thoroughly as possible. For this purpose it is necessary to keep a man, or in a very large silo, two men, spreading the feed and tramping it down thoroughly, especially at the outer edge.

The silo should be filled as rapidly as possible, and then when the silage has settled more can be put in, but if it has stood several days the upper inch or two must be scraped off before adding fresh material.

Cattle take to silage very readily, and it provides succulent feed for them at a time when there is no green feed, and enables the dairyman to keep his cows up to their full flow of milk.

### The Scrub Sire.

By E. W. MAJOR.

It may seem ridiculous to write anything on this subject at this time. But a recent trip through several counties shows that the scrub sire is still in use. When this is the case it means that no progress is being made; at the very best there can be only a standing still, and in the majority of cases there is a going backward. While grade animals are not always scrubs by any means, yet as far as using them for sires, they should be classed together. The grade has in him many of the defects of his scrub ancestry, and these will crop out in his descendants. Select your breed, stick to it, and use nothing but pure bred sires.

### Cow Testing Associations.

By E. W. MAJOR.

In the most progressive dairy countries of the old world, and States in this country, the formation of cow testing associations has been going on for some time. It is, however, only recently that they have been taken up in this State. Humboldt county has taken the lead, as befits one of the leading dairy counties of the State. The good work should not stop there, but spread to all other dairy sections.

The object of these organizations is to provide an economical way of determining the butter production of each cow in the herd, so that the boarders may be disposed of. In nearly every dairy herd

there is a large number of animals that do not pay their feed and care. It is important that the dairymen should know just which animals these are, and the only sure way to determine it is to weigh and test the milk. By this method poor cows are discarded and only the good ones kept as breeders. In a few years the owner by this method can increase the annual yield from his cows very materially. Let the dairymen in every district organize associations of this nature. The Division of Animal Industry of the University will help you in every way possible.

### Is This the California Conception of a Cow?

A writer for the Live Stock and Dairy Journal is rather inclined to impeach the California conception of a cow. We doubt if our farmers are worse than those of many other States in this line, but it will not hurt perhaps to swallow the medicine. He writes:

During a few little visits to various sections of the Sacramento Valley, I have made it a point to ask the farmers with whom I came in contact as to dairy conditions in their neighborhoods. In these brief interviews, the object has been to discover the exact conditions of the community along dairy lines and to find the trend of the dairy industry in that section. From these short talks, a few personal visits and general appearances on all sides, I have deducted the following facts as to our present dairy conditions:

The majority of our farmers have not, as yet, grasped the dairy idea at all. Many have discovered the value of the dairy industry, but are trying to scrape cream and butter off the hides of the square, beef animals or the skin and bones of some scrub stuff. Some are getting into the game in good shape, but are trying to create a new breed of cattle without knowing what they are about—usually crossing Holstein and the Jersey

## Bumper Crops

## DE LAVAL

## Cream Separators

With the finest crop prospects ever before American agriculture—big crops of all kinds practically assured in nearly every locality and a world wide shortage of grain and other food supplies that insures good prices—there was never a better time to make that most profitable of all farm investments—the purchase of a DE LAVAL CREAM SEPARATOR.

Nobody who has the milk of one or more cows to separate can have good reason to delay making this investment, nor for being tempted to try "something else"—with the wide gulf of difference in every practical way between the new and improved 1908 De Laval separators and any other possible means of cream separation.

A De Laval separator tells its own story best. Order direct or through the nearest agent. A catalogue, to be had for the asking, is the next best thing.

### DE LAVAL DAIRY SUPPLY CO.

108 SO. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

### MORE MILK—MORE MEAT

IF YOU USE  
**LILLY'S**  
BEST  
**FLY**  
**KILLER**

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.  
A. F. CHAPMAN, Monahan, Wash.

For Sale by Dealers

or the milk (?) Durham breeds. And a few are settled down to business with a good, solid breed of dairy cattle, these few being the men who are making the most money in the business.

Now, if you are a beef man and want to raise good beef, there is better money in it than there is in selling your crops direct from the farm and the thing to do is to get good beef animals and breed and feed them for the top markets. If you want to go into the dairy business, there is big money in it, and the thing to do is to get good dairy animals and breed and feed them up for large and rich production and plan for the greater part of your farm crops to pass through your cows and some good hogs to the market.

But if you don't know what you want and are trying to produce both beef and



## The Poultry Yard.

### POULTRY FOR THE HOME.

#### Part IV.—The Diseases of Poultry.

By M. R. JAMES.

Disease is the first and most discouraging difficulty that meets the novice in the poultry yard. Yet with healthy foundation stock, suitable housing, feeding and care, there will be no disease. An occasional ailing bird, certainly, but no disease proper. The experienced poultry raiser wastes little time over such birds and has no parley with disease; but the novice cherishes every invalid and weakling in his flock. He buys expensive medicines, fusses and doctors, and is greatly elated when he has "cured" a particularly bad case. In reality, he not only wastes his money and his time, but he is nursing disease—sowing its germs among his poultry. His fowl may have been snatched from an untimely end; still it is liable to a recurrence of the malady and will surely transmit this tendency to its offspring. Prevention should be the watchword of the poultry yard—an ounce of prevention is worth a ton of cure-alls. If a case of real disease should break out in the flock, use the experienced poultryman's quick and safe cure—the hatchet! And burn the carcass. This is the only safe way and it is also the most humane treatment.

**AN INFIRMARY.**—There are, however, a number of ailments common to poultry and easily relieved which if neglected might run into disease. Connected with all poultry quarters there should be a comfortable coop and yard, small or large, according to requirements, to be used for ailing birds or broody hens.

The poultry medicines should be few and simple and such as are ready at hand—and used sparingly. I recall one especially bright novice from the city who thought he had solved the question of work by making the fowls' water yellow with copperas and Douglas mixture in the stead of washing the drinking vessels and battening up the cracks in the poultry houses. But he soon dropped out of the business and his ingenious mind was lost to the poultry industry. Coal oil is one of the safest and most effective remedies for nearly every chicken ill. Even in roup, when one insists upon doctoring that loathsome disease, two parts of coal oil to one of sweet oil is as efficacious as anything. In fact, this cured a larger proportion of roup fowls in an experiment at one of the stations than any other remedy used. It is amusing, though somewhat pathetic, to see the complete medicine chests sometimes kept for fowls. The treatment and medicines advocated in some poultry journals would require the skill of a trained nurse. One need not go outside of a well-appointed home for poultry remedies. Coal oil, sweet oil, lime, carbolic acid, sulphur and lard, these are kept on almost every place and are all that are required in the poultry yard. Coal oil will blister if the air is excluded, but not otherwise. Notice the fowls when caring for them, and when one is droopy or "off its feed" remove it to the hospital quarters and apply such simple remedies as seem needful.

**DETECTING TROUBLE.**—Go through the poultry houses at night and listen for any choking or wheezing. Colds may be readily cured if taken at the start, but neglected and the fowls kept under unfavorable conditions, they are liable to run into roup and other contagious diseases. Notice particularly the half-grown

chickens, and if the nostrils are stopped up with dirt wipe them out with a clean cloth wet in coal oil. Dirty, dusty poultry houses likewise tend to catarrh.

**COLDS.**—For watery discharge from eyes or nose or rattling in the throat and wheezing, fill a machine oil can with two parts coal oil to one part sweet oil; spray out the nostrils and wipe the face and legs with a clean cloth dampened with oil; if there is sore throat or wheezing give a scant tablespoon of the mixture. Treat night and morning till relieved.

**INDIGESTION.**—A deep red comb with darkened edges is the sign. Put the fowl out on range where there is growing green feed if practicable and give only a light ration of grain night and morning until the fowl is in condition.

**CROP BOUND.**—Caused by irregular feeding, also by long, tough grass or fodder, rinds, etc., that stop the passage of food from the crop. Give a spoonful of sweet oil and gently massage the crop and allow no food until it is emptied; then treat as for indigestion.

**PROLAPSUS,** the protruding of the egg sac from the vent. Wash clean the exposed portion in warm water and absorb the moisture with a soft cloth; apply carbolated vaseline or sweet oil and gently press the sac back. Keep the hen in a clean coop with no perch and away from all other fowls.

**GAPES;** caused by filthy and infected ground and feed thrown into the filth. Swab the throat with a feather dipped in coal oil and give a teaspoon of sweet oil. Clean up, spade and disinfect the soil or move the chicks to new yards.

**LIMBER NECK;** caused by eating decaying carcasses and spoiled food. Treat the same as for gapes—and *never* toss a dead chick, cat or fowl into the bushes. Cholera is due to the same cause.

**CONSUMPTION,** "going light" and liver complaint; general break-down—the hatchet.

**BUMBLE FOOT;** caused by high perches and stony, sun-baked ground. If the foot is badly swollen, lance the bruise and remove the pus; wash with water containing a few drops of carbolic acid, apply any good salve and wrap with a strip of cloth. Keep the bird in a coop without perch until healed; and remove the cause by lowering the perches and spading the yards and raking off the clods.

**SCALY LEGS;** due to dirty perches and infection and caused by a parasite. Old fowls and those of the heavier breeds are most subject to it; but a hen with a bad pair of legs will infect her chicks, and care should be taken to free the hen from this pest before allowing her to sit. If the scale on the fowl's legs is like the bark on a tree, they must first be soaked in strong sal soda water and the loosened portion gently removed; then work well in under the scales of the feet and legs a salve made of a teacup of lard, a tablespoon of carbolic acid, and sufficient sulphur to make a stiff paste. Continue this until the legs are clean and smooth. Keep the perches clean and frequently spray them with coal oil.

**DIARRHEA.**—A serious case of this is often taken for real cholera. Give the fowl a tablespoon of sweet oil and a few drops of laudanum; clean the poultry quarters and sprinkle with lime, and see to the conditions thereabouts, whether there be foul water, decaying flesh or soured and soiled food accessible to the fowls. The healthy excrement of all birds is hard with a portion of it white; whenever the droppings are discolored and generally loose, look into the conditions and feed only good grain and pure water for a few days.

**FEATHER-EATING;** caused by ill-feeding and overcrowding. Give the fowls more room and more meat and green feed; keep them busy by having grain in deep litter and raw vegetables hung up for them to peck at. Egg-eating is due to the same cause. Care should always be taken to remove all soft and broken eggs from the nests and quarters. When a fowl becomes a confirmed egg-eater market her.

**MOULTING.**—This natural function often becomes a severe drain upon the hens, especially those of the Mediterranean class. The larger breeds usually moult so leisurely as to cause them little discomfort, but the sprightly Leghorn and her class, after a long season of laying, suddenly drops into full moult and with her it is the last feather that is her undoing. Her strength and appetite fail and if she has scant consideration from her owner whom she has served long and well there may be a complete collapse. Put the moulters by themselves in clean, comfortable quarters; feed generously and plenty of green food with once a day all they will eat of good, meat mash to which has been added chopped red-pepper pods and linseed meal.

**BROODINESS.**—In no other condition is the hen treated with so little reason. If she *won't* sit when we do want her to it is contrariness; and if she *will* sit when we don't want her to it is meanness, and she is often treated with a cruelty little short of barbarism—yanked off the nest by the neck or tail and thrown against the wall; a red rag tied to her tail; ducked in cold water, or flung into a pen of cockerels—these are some of the fiendish devices resorted to and all because the poor hen is responding to the demands of the Great Mother who governs all natural instincts and functions. Only a short time since in one of the coast poultry papers the last device was recommended by a poultry writer who ought to have known better, even if he has not heart for the creatures in his charge. Broodiness is a fever that calls for rest and quiet and nature has so arranged that the hen shall take to her nest and recruit while performing her matronly duties. Remove biddy gently from the nest, and it is well to dust her with insect powder at the same time, as the unnatural heat of her body tends to a brood of lice, and place her in the detention quarters. Give her plenty of green feed and pure water and little other food. Let her rest and recoup and in a short time she will be herself again and cackling gaily over a fresh-laid egg.

**LICE, MITES AND FLEAS.**—The latter two infest the nests and houses. Clean up and burn all trash; spray with coal oil or strong carbolic acid water; then white-wash and daily sprinkle the quarters with air-slacked lime. Lice remain on the fowls, mainly about the head, neck, vent and under the wings. Dust buhach thoroughly among the feathers and wipe the head, neck and legs with a cloth dipped in coal oil. A mixture of coal oil and sweet oil is the best remedy for head lice on chicks.

**PREVENTION.**—Guard against contagion and infection. No strange fowl, however fine its appearance, should be turned loose at once with the flock. It may be lousy or it may have contracted some disease in transit. Take no chances; dust it with buhach and wipe its head and legs with coal oil, then keep it confined a few days to await developments. And never risk buying fowls in the open market either to add to your flock or to start with. You are likely to get a start you little bargained for. Strong, healthy, pure-bred stock from reliable and well-established yards may seem dear to the novice, but he will find them worth the price; while the other kind at any price or at no price will prove dear, very dear.



### Old Harness Like New

Keep your harness pliable and lively with Eureka Harness Oil, and no matter what its age, it will be good as new



## EUREKA Harness Oil

is a positive benefit to leather—Nothing injurious in it. Gives the fine dressy appearance every harness should have. Made by  
**STANDARD OIL CO.**  
(Incorporated)

## DEMING

Hand, Knapsack, Barrel and Power Sprayers



for the poultryman, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it is possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio  
(CRANE CO., Pacific Coast Agents, Portland, Seattle, Spokane, Tacoma, San Francisco, Salt Lake City.)

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN,** Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 520 McAllister St., S. F.

**A BARGAIN** 3000 S. C. WHITE LEGHORN HENS, Carrington strain, hatched in March and April, 1907. For sale in lots to suit. Address  
**MAMMOTH POULTRY FARM, Napa, Cal.**

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.



**Horse Owners! Use****GOMBAULT'S  
Caustic  
Balsam**

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUSTERY OIL FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

milk from the same "critter," or trying to make money on the milk you can sell from a beef animal, borrow a piece of paper and pencil from your more thoughtful neighbor, let your wife go to town one afternoon and you figure out just what you are making on your cows per month or per year. A cow is too large an animal to keep on the farm as a family pet unless she can pay for her board, and there are few men (or women either) who care to feed and milk her for the pleasure of the thing.

California is the greatest natural dairy section on earth and, with our diversity of dairy feeds, our dairy production should outclass any other State in the Union. Our greatest difficulty at the present time is the kind of cattle being kept on most of our farms. A scrub animal is a nuisance on any farm and the first thing for our people to do is to sell all such and put the money into some cows that will pay. Pure bred cows are not a necessity for success in the dairy business, but the nearer they are pure bred the better they are as individuals because they come that much nearer producing animals like themselves.

There are many good grade animals, but it pays to know that they are good before buying. Appearances are often deceiving and unless you are a good judge of dairy stuff do not buy an animal until you have seen her tried or tried her yourself. There are thousands of cows in America giving over 6,000 pounds, or 700 gallons of milk per year, and we, of California, might just as well have them as anyone else. A cow giving an average of three gallons per day is more worth \$75 than is a cow giving two gallons worth \$50, because there is not the corresponding cost of the feed. This same rule will apply to the two individuals giving milk of different richness.

The breed to be used must depend on the man himself, as what would suit one man may not suit another. There are, however, already at least four good dairy breeds of cattle in our country, and it is not necessary for us to spoil two good breeds to produce a new one to our liking. Owners and breeders of different breeds

are always willing to send literature and information concerning their respective animals and we should make our choice, plan for the change and start at once, though that start be small.

**Sorghum for Forage and Grain.**

The Kansas Experiment Station publishes a discussion of sorghums which will be read with much interest in our interior valleys where this group of plants is largely grown:

Kafir-corn really requires a longer period to fully mature seed than many varieties of corn commonly grown in this State. The Black Hulled White Kafir-corn, the common variety, will mature seed in 110 to 125 days, depending upon the season. Red Kafir-corn is somewhat more leafy and may be preferred for fodder. This variety matures a few days earlier than the Black Hulled White, but yields a little less seed. Dry or cool weather may check the growth of Kafir-corn and cause it to mature several weeks later than its ordinary season.

Dwarf Milo is less valuable for fodder than Kafir-corn, but produces good yields of grain similar to Kafir grain, and will mature seed in about 100 days.

Jerusalem corn and brown durra are of less value than Kafir or Milo, both for grain and fodder, but these crops mature early and produce well in the drier western counties of the State.

Such varieties of cane as Early Amber, Black Dwarf and Folger will mature seed in a favorable season in about 100 days. Later maturing varieties, such as Kansas Orange, Coleman, Red Top and White sorghum, requires 110 to 130 days to mature seed. There is usually a sale at a good price for a limited quantity of cane seed for late planting, for forage and pasture.

Kafir-corn and cane are not as good crops for late planting for the production of grain or seed as corn. Early Amber cane and Red Kafir-corn planted June 19, 1903, were nearly mature when cut and shocked in October 8, but made rather low yields of seed and stover, due in part to a thin stand. Date of planting trials with Black Hulled White Kafir-corn and Orange cane were carried on at this station in 1905 and in 1906. Plantings made after June 20 in 1905 did not mature seed fully before frost. The largest yields both of seed and fodder were produced from late May and early June plantings. The late plantings yielded less fodder and only about half as much seed as the earlier plantings. The average yields by the several plantings from May 19 to June 3 compare as follows:

Kafir-corn, 5.35 tons stover and 47.24 bushels grain per acre.

Cane, 7.36 tons stover and 25 bushels grain per acre.

The average yields by the several plantings from June 9 to June 28 were as follows:

Kafir-corn, 3.89 tons stover and 28.86 bushels grain per acre.

Cane, 5.29 tons stover and 12.61 bushels grain per acre.

Thus it appears that corn is a safer and more profitable crop for planting late for grain production than Kafir-corn or cane. If Kafir-corn fails to make good grain it may make good fodder, but this is true of corn also.

During the past five years corn has out-yielded Kafir-corn at this station, the average yields comparing as follows:

Corn (ten best producing varieties), 66.92 bushels per acre.

Kafir-corn (average yield of Red and White), 53.61 bushels per acre.

Corn has about ten per cent greater feeding value than Kafir-corn. If the grain is desired rather than the fodder, and good seed of an early or medium early variety can be secured, then plant corn after June 15 rather than Kafir-corn or sorghum.

The Alturas creamery in Modoc county was sold at public auction a few weeks ago to Dr. E. F. Auble and R. L. Sloss, for \$1260. It was built about six years ago, at a cost of \$5000.

According to State Veterinarian Keane, there are 3,000,000 sheep in this State. Of this number, 2,500,000 have already been dipped, with the northern counties to hear from.

Of 3225 acres in the Yakima valley, Washington, devoted to hop raising last year, only 1609 acres are cultivated to that crop this season. Over 2000 bales of last year's crop are still held in the valley. The new crop is not expected to bring over 5 cents per pound.

**SAVE MONEY** by using our Self-Cleaning Curry Comb, sample 50c., and our Harness Dressing that keeps harness looking like new, sample can 10c. Send us your dealer's name. Agents wanted. CHARLES BRYANT, Shreve Building, San Francisco, Cal.

**Cutter's Anthrax and Blackleg Vaccines**

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

**Pasteur's Anthrax (Charbon) Vaccine**

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**

(General Agents U. S. A.)

161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.

PARIS  
THE PASTEUR  
INSTITUT  
VACCINE CO. LTD.

**PASTEUR**

IN ORDERING  
SERVO-VACCINES  
**VACCINE CO. LTD.**

SPECIFY "PASTEUR"  
AND GET THE GENUINE

LONDON  
WHEN your animals are  
vaccinated be sure that it  
is with

**Pasteur Vaccine Co., Ltd.**  
**Anthrax and Blackleg Vaccines**

Always safe and reliable. Our Blackleg Vaccine is produced exclusively for us by the discoverers, Profs. Arloing, Cornevin and Thomas. Furnished in powder, cord and pellet form. Our improved Anthrax Vaccine now keeps longer than heretofore. It is furnished only in our established blue tube and always bears our name, trade mark and expiration date for your protection. Do not accept any other.

**PASTEUR VACCINE CO., Ltd., 7 Rue Meyerbeer, Paris**  
**CHICAGO 828-825 Dearborn Street**  
Local trade supplied by Richardson & Erlin Co., 680 Mission St., San Francisco, Cal.

**DURABILITY**

Rosendale, Wis., Mar. 23, '08.  
I have used a U. S. for 15 years.  
It has always been perfectly satisfactory  
and I never hesitate to recom-  
mend it to anyone. CHAS. L. HILL.

CLEAN SKIMMING  
EASY RUNNING  
LONG WEARING

This word is the secret in separator construction. Compare these two letters, please. In not Mr. Kroyer's experience, with this "cheap" apology for a separator, sufficient proof to any fair-minded reader, about to purchase a separator, the wise move to make? Read Mr. Hill's testimony, please, and compare—15 years of perfect satisfaction as compared with 8 months' use and "all played out." The ever-ready-to-use

**IMPROVED 1908 U.S. CREAM SEPARATOR**

has more practical improvements than any other separator made, having a solid, low frame; most simple yet efficient bowl, waist low supply can and numerous other advantages. Send to-day for catalogue No. 148, describing fully this labor saving, money earning, reliable separator.

**VERMONT FARM MACHINE CO.**  
BELLOWS FALLS, VT.

16 Distributing Warehouses in U. S. and Canada.

New Market, Minn., Mar. 19, '06.  
I bought an "Economy" Separator  
8 months ago and it is all played out  
now. Ordered a No. 6 U. S. and am  
now satisfied. A. KROYER.

**PROMPT DELIVERY ASSURED**

CALIFORNIA CUSTOMERS FROM STOCKTON WAREHOUSE.  
No Delays. Address all Letters to Bellows Falls, Vermont.

**HORSES AND CATTLE.**

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

**SWINE.**

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

**SHEEP.**

FOR SALE—Thoroughbred Southdown and Merino bucks, and Merino ewes. Jersey heifers. Chas. C. Perkins, 820 J. St., Sacramento, Cal.



## The Home Circle.

### Of Post-Mortem Praises.

I've noticed when a fellow dies, no matter what he's been—  
A saintly chap or one whose life was darkly steeped in sin—  
His friends forget the bitter words they spoke but yesterday,  
And now they find a multitude of pretty things to say.  
I fancy when I go out to rest some one will bring to light  
Some kindly word or goodly act long buried out of sight;  
But if it's all the same to you, just give to me instead  
The bouquets while I'm living and the knocking when I'm dead.

Don't save your kisses to imprint upon my marble brow,  
While countless maledictions are hurled upon me now;  
Say just one kindly word to me while I mourn here alone,  
And don't save all your eulogy to carve upon a stone!  
What do I care if when I'm dead the Bloomingdale Gazette  
Gives me a write-up with a cut in mourning borders set;  
It will not flatter me a bit, no matter what is said.  
So kindly throw your bouquets now and knock me when I'm dead.

It may be fine, when one is dead, to have the folks talk so,  
To have the flowers come in loads from relatives, you know;  
It may be nice to have these things for those you leave behind,  
But just as far as I'm concerned, I really do not mind.  
I'm quite alive and well today, and while I linger here,  
Lend me a helping hand at times—give me a word of cheer,  
Just change the game a little bit; just kindly swap the decks,  
For I will be no judge of flowers when I've cashed in my checks.

—Louis E. Thayer in New York Sun.

### Consumption of Coffee.

The people of the United States are not only the greatest consumers of sugar and coffee per capita of any people in the world, but so far as coffee is concerned, they consume well on to half of the world's total product. United States Consul James E. Dunning of Milan, Italy, reports that, according to the statistics published in the leading coffee trade journal there, the world's consumption of coffee in 1907 amounted to 16,825,000 sacks, of which 6,980,000 sacks were consumed in the United States, 3,050,000 sacks in Germany, 1,625,000 sacks in France, 5,170,000 for consumption in all other countries. The consul adds that the consumption of coffee in Italy is less than one and a half pounds per capita. Considering the great consumption of coffee in the United States its small consumption in Great Britain is remarkable, black tea there, drunk with milk and sugar, being in nearly as general use as coffee in the United States. Both coffee and tea are free of duty in this country, whereas both are well tariffed in Great Britain; but this does not explain the small use of coffee in Britain, because tea is largely consumed despite the tax.

### A Monument to the Potato.

Among the gifts of America to the Old World are tobacco and the potato. While appreciation of the one is perpetuated in ever-rising clouds of incense from the pipe and the cigar, the other has been honored with a monument.

Tourists who visit the little village of Offenbourg, on the borders of the Black Forest, may look upon this monument which is of huge dimensions. Upon its pedestal is the figure of a man in the dress of the Elizabethan courtiers. Loosely piled upon the projecting base are quantities of potatoes.

The figure is that of Sir Francis Drake. The figure of the famous sailor and discoverer holds extended in one

hand a potato plant. On the four sides of the pedestal are inscriptions voicing the gratitude of a great people for the blessing the Creator had been pleased to bestow upon them in time of famine.

### Medicinal Foods.

Watercress is an excellent blood purifier.

Lettuce has a soothing effect on the nerves and is excellent for sufferers from insomnia.

Tomatoes are good for a torpid liver, but should be avoided by gouty people. Celery is a nerve tonic; onions also are a tonic for the nerves.

Spinach has great aperient qualities and is far better than medicine for sufferers from constipation.

Beetroot is fattening and good for people who want to put on flesh.

Parsnips possess the same virtues as sarsaparilla.

Cranberries correct the liver.

Asparagus stimulates the kidneys.

Bananas are beneficial to sufferers from chest complaints.

Celery contains sulphur and helps to ward off rheumatism.

Honey is a good substitute for cod-liver oil.

The juice of a lemon is excellent for sore throat, but should not be swallowed, but used as a gargle.

Carrots are excellent for gout.

### Pie in England.

Pie came to the fore in England many centuries ago. It originated in the form of mince pie and was used in the celebration of Christmas. In its primitive stage it was baked in a deep sided dish, lined and covered with rolled out dough. The filling was of forcemeats, richly sweetened and spiced. This spicing and flavoring stood for the presents which the wise men bore to the Christ in the manger. For years and years this custom of having the Christmas mince pie prevailed, but finally it was denounced far and wide by the puritans as a form of idolatry, and the government after parliament had suppressed the celebration of the birth of Christ took steps to stop the baking and the eating of the mince pie. Eventually saner reasoning led to the taking off of the ban, and the pie eating custom was renewed. —London Standard.

### The Scent of Flowers.

As a rule the scent of flowers does not exist in them as in a store or gland, but rather as a breath, an exhalation. While the flower lives it breathes out its sweetness, but when its dies the fragrance usually ceases to exist. The method of stealing from the flower its fragrance while it is still living is no new thing, and it is not known when it was discovered that butter, animal fat or oil would absorb the odor given off by living flowers placed near them and would themselves become fragrant.

### The Cotton Plant.

So far as we know, the cotton plant originated in India, probably in Mandalay. The earliest writings of that country, dating back as far 600 B. C., speak of the manufacture of cotton cloth. Herodotus speaks of "trees in India that bear a white fleece like wool." He had in mind the cotton plant. Cotton was cultivated by the Peruvians and Mexicans before the discovery of America, as the records clearly show. —New York American.

### She Looked Worried.

"What's the matter with that old hen?" asked the guinea fowl; "she looks worried."

"Oh," replied the bantam rooster, "she's a temperance crank and she's worrying for fear some of her eggs will be used in making eggnog."



**FREE TRIAL** in your own home  
**6 MONTHS** time to pay

**You don't have to save up your money**

to own the world's greatest musical instrument, nor do you have to pay a penny down. We will send to you a

## VICTOR Outfit Absolutely FREE

records and all, on trial, you don't have to pay a penny unless you want to keep it, and we believe you will keep it, when you listen to the greatest music from everywhere, the world's best bands, choirs, singers and solos on violins, banjos and every known musical instrument.

We are "The Victor Dealers of California" and we are making this great offer to you by special permission from the Victor Talking Machine Company, and while this liberal offer lasts we will send "Our Great Free Trial Offer" without cost to you; write your name and address on a postal and send it to us, that is all you have to do, and the fairest and squarest offer ever made will be sent to you by return mail.



**Clark Wise & Co.**  
THE VICTOR DEALERS OF CALIFORNIA  
1420 VANNESSE AVE. SAN FRANCISCO.

**Write Now Don't Delay**

When answering this advertisement please mention the PACIFIC RURAL PRESS.

### Epigrams of Eve.

A girl can't understand how her devilish small brother could ever grow up to be a decent man.

Lots of people who are whining because they don't get a show want to be the whole show.

It's an unreasonable man who doesn't allow for a red-haired girl having a little fire in her disposition.

A woman never begins to realize that she is getting old until someone tells her how young she is looking.

Who could question the devotion of the man who doesn't wince when his wife calls him pet names in public?

Lot's of men who couldn't be held with hoops of steel are helpless before half a dozen yards of pale blue ribbon.

A wedding invitation is either a ticket of bliss or a "touch" according as you are the groom or the friend of the groom.

The difference between Laura Jean and life is that in the latter the orange blossoms are not thornless and scented with violet water.

The fluffy maiden who comes to work in a pink silk shirtwaist may have a head for business, but appearances are tremendously against her. —New York Telegram.

### The Roman Forum.

The Forum Romanum, the first that was erected in Rome, served equally for the purposes of trade and all public meetings as well as for the administration of justice by consuls and other Roman magistrates. Later on, when the fora numbered some 18 or 20, they were divided into two classes, some for public meetings and the proceedings of the law courts and others for the various requirements of trade. The Roman Forum corresponded to the agora, or market place, of the Greeks, and no Roman city was without this important center of judicial, political and commercial life. —New York American.

### The Same Old Mother.

"Now, Jamie," said a school teacher, "if there were only one pie for dessert, and there were five of you children and papa and mamma to divide it among, how large a piece would you get?"

"One-sixth," replied Jamie, promptly.

"But there would be seven people there, Jamie. Don't you know how many times seven goes into one?"

"Yes'm — and I know my mother. She'd say she wasn't hungry for pie that day. I'd get one-sixth."



## Ruddy Harvester Oil

For Harvesting Machines, Mowers, Hay Tedders, Feed Cutters, or any farm machinery, this will be found superior for all around use, and particularly on loose bearings. It is a heavy bodied oil, never turns rancid, never gums. Flows freely, no matter what the temperature. It lessens friction, saves wear and tear on horses, and cuts down repair bills.

Put up in one and five gallon cans, half barrels and barrels.

At all dealers in farm machinery.

**STANDARD OIL COMPANY**  
(Incorporated)



## Pith, Point and Pathos.

Evil is only what one class of mortals look upon as their highest good.

Youth is the result of the ability not to worry over the past nor to fear the future.

Complexion is a thing devised to swell the income of the patent-medicine drug-gists.

When a man announces that he has dyspepsia it is a sign he thinks he is getting rich.

A bachelor is a man old enough to appreciate the value of doing just as he pleases.

Love is a dream and the wise man is one who manages to keep from being awakened.

A girl gets to be a woman just as soon as she stops looking forward to birthday parties.

Generally it is better to admit belief in theory than to submit to having it proved to you.

A woman would just as soon have you tell her how young she looks as how pretty she is.

The best sermons have been given the world by those who did not know they were preaching.

A woman can make a fool out of a man by merely smiling pleasantly and letting him talk.

The easiest way to win a man's friendship is to pretend to be interested in what he is saying.

According to the ideas of most people there is going to be but one soul roaming around in heaven.

It is a lot easier to grasp the meaning of a play that hits the other fellow than the one that scores you.

You can never know the strength of the swimmer until you know that of the current against which he swims.

## Hash.

Hash is one of our American dishes that we should be proud of instead of affectedly despising. It is not only an economical dish, but tasty and may be varied almost indefinitely.

At its best it is made of corned beef, one part of meat to one and a half or two of potatoes, using a very little fat but discarding all gristle. The potatoes used may be cold boiled or baked. Chop very fine rejecting every particle bone, gristle and skin. Season to taste with salt, pepper, and if desired a finely grated raw onion. Put a tablespoonful butter in the bottom of frying-pan and when it melts so as to cover the bottom of the pan, tip so as to butter the sides of the pan. Now turn in the thoroughly mixed hash, pour over it a cupful or less (according to the amount of hash) of beef stock or put liquid in which the beef was cooked. Place a tight-fitting cover over the pan and set where it will cook gently but uninterruptedly for about half an hour. Do not let it get too dry, but do not stir. When it has absorbed the liquid and formed a soft brown crust on the bottom, slip a limber knife or pancake turner under the hash, fold over into omelet shape, and slip off on to a hot platter. Garnish with a little parsley or watercress. If desired, place poached eggs over the hash.

**APPLE SAUCE CAKE.**—Cream together  $\frac{1}{2}$  cup butter, 1 cup sugar, add a little salt,  $\frac{1}{2}$  teaspoon each of cloves and nutmeg, 1 teaspoon cinnamon, and 1 cup raisins. Dissolve a teaspoonful of soda in a little warm water, then stir it into 1 cup of sour apple sauce, letting it foam over the other ingredients. Beat all thoroughly, add  $1\frac{1}{2}$  cups flour and bake in loaf three-fourths of an hour.

It is a noteworthy characteristic of President Roosevelt that he never tells an impure story and that few men ever dare tell one in his presence. It is, in fact, his proudest boast that during his campaign in the Spanish War, no man at his mess ever told a story before him which a lady would blush to hear.

## Why He Married Again.

An Ohio lawyer tells of a client of his—a German farmer, a hard-working, plain, blunt man—who lost his wife not long ago. The lawyer had sought him out to express his sympathy; but to his consternation the Teuton laconically observed:

"But I am married again."

"You don't tell me!" explained the legal light. "Why, it has been but a week or two since you buried your wife."

"Dot's so, my frent; but she is as dead as effer she vill be."

## Wealthy Women and Woe.

"Don't marry a poor man, unless you know that he is a man in every sense of the word, is my advice." So says a poor rich woman who married a worthless chap who never tried to earn a dollar after his wedding. The advice is good, but it would be better if the woman who had had so much bitter experience had said: "Don't marry any man, rich or poor, unless you know he is a man."

## BOOKS FOR THE FARM

## For Sale by PACIFIC RURAL PRESS

**BEAN CULTURE.**—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth .....\$0.50

**CELERY CULTURE.**—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**TOMATO CULTURE.**—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**FARM CONVENIENCES.**—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00

**THE NURSERY BOOK.**—A complete handbook of propagation and pollination of plants. It tells, plainly and briefly, what everyone who sows a seed, makes a cutting, sets a graft, or crosses a flower wants to know. It is entirely new and original in method and matter. The cuts number almost 100, and are made especially for it, direct from nature. The book treats of all kinds of cultivated plants, fruits, vegetables, greenhouse plants, hardy herbs, ornamental trees, and shrubs and forest trees. By L. H. Bailey. Illustrated.  $4\frac{1}{2}$  by 7 inches. 365 pages. Cloth .....\$1.00

**THE BOOK OF ALFALFA.**—Its history, cultivation, merits, and uses as a forage and fertilizer. This little book on alfalfa, which appeared a few years since, has been a complete revelation to thousands of farmers throughout the country, and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is by far the most authoritative, complete and valuable book on this forage crop ever published. The book is printed on fine paper, with many full-page photographs that were taken with the especial view of their relation to the text. It is unquestionably the handsomest agricultural reference book that has ever been issued. By F. D. Coburn, Secretary Kansas Department of Agriculture. Illustrated.  $6\frac{1}{2}$  by 9 inches. 336 pages. Cloth...\$2.00

**FEEDING FARM ANIMALS.**—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated.  $5\frac{1}{2}$  by 8 inches. Cloth...\$2.00



## A True Plane

When you buy an ordinary plane you have to find out by actual use whether it is true or not.

You know a Keen Kutter Plane, or any Keen Kutter tool, is true before you buy it, because it is stamped with the trademark which guarantees it.

You know it will be perfect in hang, balance, temper, finish and adjustment, because all Keen Kutter Tools are tested and inspected and found worthy to uphold their well-earned reputation as Tools of Service before the name and trademark are stamped upon them. This mark is your safeguard in buying tools. It costs you nothing, but means if anything goes wrong you shall not be the loser. To be sure of lasting, accurate, and practical tools, ask for

# KEEN KUTTER

## Tools and Cutlery

The name Keen Kutter covers Saws, Chisels, Bits, Drills, Gimlets, Awls, Planes, Hammers, Hatchets, Axes, Drawing-knives, Screw-drivers, Files, Pliers, Glass-cutters, Ice-picks, and a full line of Farm and Garden Tools—Forks, Hoes, Scythes, Trowels, Manure-hooks, Lawn-mowers, Grass-shears, Rakes, etc. Also a full line of Scissors and Shears, Pocket-knives and Table Cutlery.

Keen Kutter Tools have been sold for nearly 40 years under this mark and motto:

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons.

If not at your dealer's, write us.

**SIMMONS HARDWARE COMPANY (Inc.),**  
St. Louis and New York, U. S. A.

## Dividend Notice.

## SAN FRANCISCO SAVINGS UNION

N. W. Cor. California and Montgomery Streets.

For the half year ending June 30, 1908, a dividend has been declared at the rates per annum of four and one-quarter ( $4\frac{1}{4}$ ) per cent on term deposits and four (4) per cent on ordinary deposits, free from taxes, payable on and after Wednesday, July 1, 1908.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from July 1.

LOVELL WHITE, Cashier.

## DIVIDEND NOTICE

The German Savings and Loan Society  
526 California Street.

For the half year ending June 30, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

GEORGE TOURNY, Secretary.

## DIVIDEND NOTICE

THE SAVINGS AND LOAN SOCIETY.  
101 Montgomery St., Cor. Sutter St.  
San Francisco.

For the half year ending June 30, 1908, a dividend has been declared at the rate of 4 per cent per annum on all deposits, free from taxes, payable on and after Wednesday, July 1, 1908. Dividends not called for are added to and bear the same rate of interest as the principal from July 1, 1908.

WM. A. BOSTON, Cashier.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25; Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular

## Palo Alto—Stanford University

For Sale—40 acres with good improvements which will prove a profitable investment as a Summer and Winter resort or a gentleman's home. Only four and one-half miles out in low foothills. Fine views. Good roads. Write for circular.

JOHN F. BYXBEE,

Palo Alto, Santa Clara County, California.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

## Large Land Sale

## The John Crouch Lands

## Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company.



## THE MARKETS.

San Francisco, Cal., July 1, 1908.

## WHEAT.

The prices on wheat, which have remained stationary on the San Francisco market for several months past, took a drop recently, and the market remains weak and quiet at the new quotations. There is but little trading being done in spot wheat, and at present no trading in futures is taking place. The visible grain supply as computed on June 27 was 14,369,000 bushels, showing a decrease of 1,596,000 bushels for the week preceding.

California White Australian..	Nominal
California Club.....	\$1.65 @ 1.60
California Milling.....	1.65 @ 1.67½
California lower grades.....	1.40 @ 1.55
Northern Club.....	1.60 @ 1.65
Northern Bluestem.....	1.65 @ 1.67½
Northern Red.....	1.60 @ —
Turkey Red.....	Nominal

## BARLEY.

The demand for barley for immediate use which sent prices up for spot grain, has been filled, and the trading for several days past has been on a lower level, though the market still remains firm. Little buying is being done in a speculative way, as sellers are holding at prices above the ideas of buyers. The demand for feed purposes remains good and takes a good part of the arriving grain. Some business is being done in futures, sales being made at \$1.26¼.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctt.....	\$1.27½ @ 1.30
Common to Fair.....	1.25 @ —
Shipping.....	Nominal

## OATS.

The oat market here has declined somewhat on the report that all crops will be big this season. The Eastern markets are lower also for this commodity. At present the tone of the market is weak, with little trading being done, as future changes are anticipated.

Choice white, per ctt.....	\$1.42½ @ 1.45
No. 1, white.....	1.35 @ 1.40
Gray.....	1.35 @ 1.42½
Red.....	Nominal

## CORN.

The corn market is dull, along with all the other grains. There was a slight change in some grades recently, prices going a little higher. While little trading is being done except in a milling way, the prices are very firm and promise to remain so until the harvesting of the new crop. Considerable grain has arrived from the Middle West, and there is enough on hand for immediate demands. Very little Egyptian corn is offered on the market, and that is bringing \$1.82½ to \$1.85 per cental.

California Small Round Yellow, per ctt.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow, in bulk.....	\$1.85 @ —
White, in bulk.....	1.80 @ —
Mixed, in bulk.....	1.78 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

California new, to arrive.....	\$1.40 @ —
--------------------------------	------------

## BEANS.

The steady demand for the varieties which are wanted for shipping purposes has kept the bean market very firm, with further advances in large and small whites. The bean crop of 1908 will be large, but the prices offered so far are good for the producer. Large white beans are being contracted for in some places in the river district at 3 cents on the bank. The prices on all varieties not noted remain unchanged.

Bayos, per ctt.....	\$3.20 @ 3.35
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.75 @ 3.10
Garvanzos.....	2.50 @ 3.50
Horse Beans.....	2.00 @ 2.50
Small White.....	4.35 @ 4.50
Large White.....	4.40 @ 4.50
Limas.....	4.90 @ 5.00
Pea.....	4.40 @ 4.50
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	2.75 @ 3.00

## SEEDS.

The usual inactivity of the season in the seed market still rules, and no trad-

ing of importance is reported. Prices remain steady at the last quotations.

Alfalfa per lb.....	17½ @ 20 c
Broomcorn Seed, per ton.....	\$18.00 @ 20.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4 @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

There is no change in the dullness that has prevailed in the flour market for some time. Prices are being maintained firmly at the familiar quotations, and there seems little probability of a change in the immediate future.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

Arrivals of hay continue to increase, the arrivals for the last week being 4290, in comparison with 3860 for the week preceding. As might be expected, the market has weakened in sympathy, and some dealers report that the situation is now one of demoralization. A few claim to be selling for less than they paid in the country. Generally speaking, local dealers are decidedly bearish, and insist that prices in the country must come down materially in order to meet the conditions. Certainly buying at present figures must stop until the selling price goes ahead of the buying price, but some who have watched conditions closely believe that holders in the country will carry their stocks rather than cut their present asking prices very materially. The market for new crop hay is now pretty well established. We quote present prices, though it is to be noted that the tendency is decidedly downward.

Choice Wheat, per ton.....	\$15.00 @ 16.00
Other Grades Wheat.....	11.00 @ 14.50
Wheat and Oat.....	11.00 @ 14.00
Tame Oat.....	11.00 @ 14.50
Wild Oat.....	10.00 @ 13.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	45 @ 75c

## MILLSTUFFS.

The decline in the wheat market brought a similar one in all wheat products under this head. Bran, shorts and middlings all range lower. A feature of this market recently was the offering of Japanese milling products on the San Francisco market. Whether this competition will be serious, with the present 20 per cent tariff, remains to be seen. All other lines remain unchanged, rolled barley not being affected by the fluctuations of the grain market.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	30.00 @ 31.00
Broom Corn Feed, per ctt.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	26.00 @ —
Jobbing.....	27.00 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	34.50 @ 35.00
Mixed Feeds.....	25.00 @ 29.00
Oil Cake Meal, per ton.....	36.75 @ 38.25
Rolled Barley.....	28.50 @ 29.50
Shorts.....	31.00 @ 32.00

## VEGETABLES.

With the exception of one or two hot days, when the offerings showed the effect of the weather, the vegetable market remains in a very satisfactory condition. The arrivals of most varieties are about equal to the demand, but peas, cucumbers and summer squash come in in rather light quantities. Corn has arrived in quantities too large to dispose of, and is lower. Asparagus was considerably damaged by the heat during the warm days and sold at very low figures, but during the balance of the week the normal prices prevailed. The offerings of string beans have mostly been of a poor quality and have dragged on the market, while the arrivals of green peppers and tomatoes have been larger than necessary for the regular trade, and both varieties are lower. The onion market remains about the same, with the principal trading confined to new reds. Yellow onions arrived in considerable quantities during the week, and were offered at 1 cent per pound, with only a light demand for

them. In some of the onion producing sections the crop is about harvested, and there will soon be a falling off of receipts in the local market.

Garlic, per lb., new.....	5 @ —
Green Peas, lb.....	3 @ 4 c
String beans, lb.....	4 @ 5 c
Cabbage, per ctt.....	40 @ 50 c
Onions—	
Australian, per ctt.....	Nominal
New Red, sack.....	65 @ 75 c
Summer Squash, box.....	60 @ 85 c
Tomatoes, crate.....	75 @ 1.25
Carrots, sack.....	75 @ —
Turnips, sack.....	75 @ —
Rhubarb, box.....	75 @ 1.00
Asparagus, lb.....	4 @ 6 c
Green Peppers, Bell, lb.....	12½ @ 15 c
Green Peppers, Chile.....	5 @ 7½ c
Cucumbers, box.....	75 @ 1.00
Green corn, sack.....	\$2.00 @ 2.50
Egg Plant, lb.....	7 @ 8 c
Cauliflower, doz.....	50 @ —

## POULTRY.

The poultry market has had a firmer tone the past day of two, while the prices remain practically unchanged. All offerings of good stock sold readily at quotation prices, however, and price cutting was not resorted to to any great extent. The arrivals of Eastern poultry were confined to two carloads, and receipts of native stocks were moderate, so dealers had a chance to dispose of the surplus which they have been carrying. The demand for most lines is very good, and there is a prospect of an improvement in the market in the near future.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.00 @ 2.50
Fryers.....	4.50 @ 5.50
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	4.50 @ 5.50
Small Hens.....	3.50 @ 4.50
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	6.00 @ 7.00
Young Roosters, full grown.....	8.00 @ 9.00
Pigeons.....	1.00 @ 1.25
Squabs.....	1.25 @ 1.50
Ducks.....	4.00 @ 7.00
Geese.....	1.50 @ 2.00
Goslings, per pair.....	2.00 @ —

## BUTTER.

With the coming of a few hot days the butter market shows a smaller demand and lower prices. Very little trading has been done on the exchange, and the merchant on the street finds the demand diminished greatly. The market closed steady at the new figures, being about 1 cent per pound under the prices of last report. Only good and solid offerings of store butter sold at the top quotations.

Cal. (extras) per lb.....	22 c
Firsts.....	21 c
Seconds.....	20½ c
Thirds.....	20 c
Fresh Packing Stock, No. 1.....	Nominal
Fresh Packing Stock, No. 2.....	Nominal

## EGGS.

Egg prices were also affected by the warm weather. The demand decreased sharply for a few days, but a corresponding decrease in receipts followed, and the prices dropped only ½ cent. The market closed firm at the new quotation. Reports from points of production say that the daily receipts have fallen off considerably. Little trading has been done on the exchange, and offers of eggs at the lower quotations found few buyers.

California (extra) per doz.....	22½ c
Firsts.....	21 c
Seconds.....	18 c
Thirds.....	17½ c

## CHEESE.

The cheese market has shown no change whatever since last report, remaining dull and inclined to be weak. The quotations have been maintained, but trading is light, while the receipts are large. The storage interests continue to take a good part of the arrivals, but the demand through the regular trade channels is very small.

Fancy California Flats, per lb.....	11 c
Firsts.....	10½ c
New Young Americas, Fancy.....	13½ c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	—
Cal. Storage, Fancy flats.....	—
Oregon Flats.....	11½ c
Oregon Y. A.....	14½ c

## POTATOES.

The potato market saw some improvement during the week, with prices for the new crop a little higher. Old crop Oregon Burbanks remained in bad shape, but the demand for new potatoes was quite brisk, and all desirable offerings were easily disposed of. Choice new

whites were in greatest demand and sold at advanced prices. The lowest quotation for these is only for very inferior offerings, all good stocks going at \$1.10 or over.

Oregon Burbanks.....	75 @ \$1.00
New Whites.....	75 @ 1.50
Early Rose.....	85 @ 90 c

## FRESH FRUITS.

For the most part fresh fruits have been lower than during the preceding week. The warm weather damaged the stocks somewhat, and very poor grades were sacrificed at figures under the inside quotation. Good firm fruit of all varieties has been in demand and has sold at the top quotation. Berries have been soft for the most part, and go at prices much lower than last reported. The arrivals of cherries have not been so great, and the fruit is not so good as formerly. Apricots went to the canners at \$12.50 to \$20 per ton. Open crates of peaches sell from 50 to 60 cents, while the offerings of plums bring the widest range of prices. Some very poor lots have gone as low as 10 cents a crate, while the greater part of the stock has gone above 25 cents. The demand for cantaloupes was greatly stimulated by the warm weather, and the market for them is firmer than it has been for some time. They are arriving in carload lots daily, however, and there is always a plentiful supply. Watermelons are arriving in larger quantities and finding good demand.

Cherries—	
Packed, drawer.....	50 @ 65
Royal Anne, lb.....	4 @ 5½ c
Bulk, other grades, lb.....	3 @ 5½ c
Apples, new green.....	50 @ 1.00
Strawberries—	
Longworths, chest.....	\$6.00 @ 8.00
Large varieties, chest.....	4.00 @ 5.50
Blackberries, chest.....	3.00 @ 4.00
Raspberries.....	5.00 @ 7.00
Loganberries, chest.....	2.00 @ 3.00
Gooseberries, lb.....	7 @ 10 c
Currants, chest.....	5.00 @ 6.50
Apricots, crate.....	40 @ 60
Plums, crate.....	25 @ 40
Peaches, crate.....	25 @ 40
Figs, single layer, drawer.....	25 @ 40
Cantaloupes, standard crate.....	1.25 @ 1.75
Watermelons, lb.....	1½ @ 2 c
Grapes, crate.....	1.00 @ 1.50

## CITRUS FRUITS.

The citrus fruit market remains firm with no changes of note. The Valencia orange crop is arriving and the fruit is of a very good quality. Prices remain almost the same as last quoted, while some offerings of Valencias have gone as low as \$2.50 per box.

Choice Lemons.....	\$2.00 @ 2.50
Fancy Lemons.....	2.50 @ 3.50
Standard.....	1.00 @ 1.50
Limes.....	4.50 @ 5.50
Oranges—	
Valencias.....	2.50 @ 3.50
Mediterranean Sweets.....	2.75 @ 3.25
Grape Fruit.....	3.50 @ 4.00

## DRIED FRUITS.

There has been no change in the dullness of the market. Little buying is being done either in spot or future fruit. The prices which seem to prevail for the 1908 crop, as offered at the present time are: Apricots, 6 to 8 cents; peaches, 5½ to 7½ cents; prunes, 3 size basis, 3½ to 4 cents; pears, 6½ to 8 cents; raisins, 2 crown, 4½ cents; 3 crown, 4½ cents; 4 crown, 4½ cents; seeded, 6½ to 6¾ cents; Sultanias, 4½ cents; London layers, \$1.05 per box; London layers, clusters, \$1.50 to \$1.75. The amount of fruit changing hands is so small that it is difficult to establish quotations.

Evaporated Apples.....	5 @ 6 c
Figs.....	2½ @ 3 c
Apricots, per lb.....	8 @ 9 c
Peaches.....	7 @ 8½ c
Prunes, 4-size basis, 1907 crop.....	3 @ 3½ c
Pears.....	7 @ 8½ c

## RAISINS.

2 Crown.....	3½ @ —
3 Crown.....	4 @ —
4 Crown.....	4 @ 4½ c
Seeded, per lb.....	6 @ 6½ c
Seedless Sultanias.....	4 @ —
London Layers, per box.....	9 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

Almonds, Nonpareils.....	11½ @ —
I X L.....	10½ @ —
Ne Plus Ultra.....	10 @ —
Drakes.....	9½ @ —
Languedoc.....	9 @ —
Hardshell.....	— @ —
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12½ c



## HONEY.

The receipts of honey are still quite light and everyone is preparing for a short crop. Prices remain unchanged but firm. All honey is sold readily on arrival.

Water White, Comb lb.....	16 @ 17 c
White.....	15 @
Water-white, extracted.....	8 @ 8 1/2 c
Light Amber.....	7 @ 7 1/2 c
Dark Amber.....	5 1/2 @ 5 3/4 c
Candied.....	5 1/2 @ 5 3/4 c

## WOOL.

No change in wool prices is noted, though there appears to be a gradual improvement in the market. Reports from the Eastern market show it to be improving. Little wool is being sold at the present low prices.

Humboldt, year's staple.....	15 @
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 14 1/2 c

## HOPS.

The hop market shows absolutely no change, all lines being about as dead as possible. Reports from Oregon state that growers are plowing up their fields, feeling that, at present prices, crops are not worth harvesting.

1906 crop.....	1 1/2 @ 3 c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

In dressed meats there is little to say. Spring lamb is marked down a cent, but other lines are holding at former prices. Live spring lambs are also quoted a little lower. In steers, No. 1 and No. 2 grades are a little closer together, the former being off a little and the latter a little firmer. Other lines are, as a rule, fairly firm at the old figures.

Beef: Steers, per lb.....	6 @ 7 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7 1/2 c
Small.....	8 @ 9 c
Mutton: Wethers.....	8 @ 9 c
Ewes.....	7 @ 8 c
Spring lamb.....	9 @ 10 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	3 1/2 @
No. 2.....	3 @
No. 3.....	2 1/2 @ 3 c
Cows and Heifers, No. 1.....	3 @ 3 1/2 c
No. 2.....	2 1/2 @ 3 c
Bulls and Stags.....	1 1/2 @ 1 3/4 c
Calves, Light.....	4 1/2 @
Medium.....	4 @
Heavy.....	3 1/2 @
Sheep, Wethers.....	4 @
Ewes.....	3 1/2 @
Spring Lambs, lb.....	4 1/2 @ 5 c
Hogs, 100 to 200 lbs.....	6 @
200 to 300 lbs.....	5 1/2 @ 5 3/4 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## PUBLISHER'S DEPARTMENT.

The PACIFIC RURAL PRESS has been under new management now for six weeks. During that time we have been busy familiarizing ourselves with the details of the business, securing help, both in the editorial assistants to Prof. Wickson and in the business departments.

With this issue we believe our readers will notice quite a change in the paper; that is, not so much change as additions. New writers have been secured for the Viticultural, Poultry, Dairy and Stock departments. Special citrus and deciduous market reports have been secured to add to our already ample local market review.

Other new features and additions are contemplated, our aim being to give more and better service. We want to give value received, heaped up and running over. That our efforts are being appreciated is evidenced by increased business and many kind words received from old as well as new subscribers.

We want a word personal to every reader and a friend of the PACIFIC RURAL PRESS. If you feel that we are trying to help you by giving you a better paper, won't you help us as you have opportunity? One of the best ways to help at this time, is to speak a good word for the paper to your neighbor, and ask him to subscribe. Another way to help is to mention the fact to our advertisers when dealing with them, that you saw their ad. in the PRESS. This will help us and please them, and you will get better service.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

July 1.—There has not been much change in the f.o.b price on deciduous fruits in the past week, but the demand in the East has been somewhat better, especially during the last two days, inasmuch as the jobbers are buying more freely for their July 4 trade.

The demand for peaches on the part of the cash buyer is not very great, and as a result the price on this variety of fruit is low; Hales selling at 20c., Triumphs 30c., and St. Johns 30c., packed, f.o.b. However, a fairly good demand for California peaches in the East is expected during the balance of this week and the first of next, inasmuch as Georgia shipments are light, and it will be fully a week before Georgia and Texas begin shipping their Elbertas in earnest. It is understood the crop of Georgia Elbertas is large, and taking this fact into consideration, high prices are not expected. It has been said, however, that quite a large percentage of Georgia peaches will be canned, and this undoubtedly will reduce shipments from that State.

The demand for first class plums to date has been very good, and the market is firm on this variety, on a basis of about 65c. f.o.b. Other varieties of plums are selling as follows: Simoni 65c., Climax 65c., Botan 50c., Red Junes 50c., and Abundance 50c., f.o.b., although the cash buying price is about 15c. below the above figures. It is expected that plums will continue to sell well in the East, and from advices just received, the tendency of the market is upward on this fruit.

The first lots of Bartlett pears are now being shipped, and of course these will go to auction, where high prices are always realized on the first arrivals. It is expected that pears will sell to good advantage in the East, as at this early date orders are being received for this fruit.

Taking the deciduous situation as a whole, we look for good prices on all varieties of fruit, with the possible exception of peaches. Of course, fruit this year will not bring as high figures as were realized during the season 1907, as we must take into consideration the large crops both in California and the East, but better prices are expected from now on, inasmuch as the financial conditions are steadily improving in the East, and there is also a better demand for labor.

Comparative shipments of deciduous fruits from California since last report: For 1908, 253 cars; for 1907, 154 cars.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, June 30.—(Special correspondence).—The orange market is in a very healthy state at the present time. While the demand is comparatively light it is only for the reason that dealers are at the present time fully stocked up for the holiday trade and will await developments before ordering fruit very extensively.

That all of the oranges now out will clean up at good prices is a foregone conclusion. Shipments for the past week have been very light. At this time there are not over 300 cars of Valencia out in the whole country and this comprises cars that are rolling, sold and unsold, and all fruit that is on the side tracks at the different marketing points. This is a splendid showing and speaks well for the conservatism of all shippers.

There appears to be a division of opinion as to the proper asking price, and while the greater part of the available supply is being held up to \$3.00 a box, F. O. B., there are dealers who are quoting prices 25 cents lower and who claim this is all that the market will stand. They say that it was a mistake to put prices up at the start, but this does not seem to be borne out by the present conditions.

The lemon market has been greatly stimulated by the hot weather in the East and the better grade of lemons are now going out freely at from \$3.00 to \$3.25 for fancy fruit. There are now less than 250 cars of lemons rolling and the old stock is nearly all cleaned up.

The importations of foreign lemons continue very large. During the past three weeks, 275,000 boxes of lemons have been sold in New York city alone. This stock sold at low prices, as the fruit was generally weak.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

## SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## FARMER'S CYCLOPEDIA OF LIVE STOCK.

By Earl V. Wilcox, Ph.D., and Clarence Beaman Smith, M.S. This is a new book treating of the whole subject of animal husbandry. It gives in one volume a clear, concise, accurate account of the world's knowledge to date of every phase of live stock farming. Animal industry in America is an enormous business. The subject has heretofore never been adequately and concisely treated in a single volume. Some vital phases of it have always been neglected. This volume treats animal industry as a rounded whole, and from many standpoints not previously touched upon. This has been made necessary by our advancing knowledge of the subject along all lines, by the recent enactment of National laws regulating the transportation of animals, the handling and curing and sale of meats, and the control of certain contagious animal diseases of national importance.

A marked feature of this work is the exclusive character of its many superb illustrations. The book contains a series of anatomical and physiological models especially prepared for this volume at great cost; these appear here for the first time. The models are entirely new, and are original, authoritative and comprehensive. They add the knowledge which has heretofore been omitted from books of this character—the very information most sought. They will therefore prove of greatest value to everyone—teacher, student, stockman, farmer or general reader.

The models show in detail the exact location and appearance of all the muscles, bones, arteries, veins, internal organs and external conformation of cattle, horses, sheep, hogs, and poultry. They are lithographed in colors on heavy, serviceable paper, the whole arranged to fold flat and compact when the volume is closed. Each model is an exact representation of the structure of the animal illustrated, and the various flaps are intended to fold one upon the other in the order shown in nature, the deeper details becoming visible only when all the outer layers have been in their proper turn exposed. Each flap is printed on both sides, each side representing a different anatomical feature. The models are accompanied by an elaborate explanatory key to provide the reader with the requisite knowledge to their successful manipulation.

In addition there are about 500 magnificent half-tone illustrations and drawings, many of them full page plates, in all the various phases of animal industry, especially of the different breeds.

The work here offered is fresh in every detail, and so thoroughly indexed under common and scientific names that every topic can be easily found. The book is unique in that it combines in one volume not only complete directions for the breeding, handling, feeding and care of farm animals, but an exhaustive account of the diseases affecting each; and of the production and preservation and inspection of all animal products, like fresh and cured meats, sausages, ham, bacon, milk, cream, butter, eggs, cheese and the like. The book contains 768 royal octavo pages (9 1/2 by 7 inches). Beautifully printed on superior paper, type large, clear and easily read, and the bindings are all that the most fastidious would possibly desire.

Price in cloth, \$4.50. For sale by the publishers, the Orange Judd Co., 439 Lafayette St., N. Y., or from this office.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	10
Beckman, Geo. V.....	10
Bird & Co., J. A. & W.....	15
Blake, Moffitt & Towne.....	15
Bray Brothers.....	15
Breeders' Directory.....	10
Bryant, Charles.....	10
Bryant, John F.....	13
Croley, George H.....	11
Clark Wise & Co.....	12
Cutter Laboratory, The.....	10
De Laval Dairy Supply Co.....	9
Deming Co., The.....	11
Dewey, Strong & Co.....	16
Dietz Company, R. E.....	16
Disbrow, F. H.....	16
Doak Gas Engine Co.....	16
Driver, Aber & Co.....	15
Driver, E. S.....	10
Fresno Agricultural Works.....	—
Galloway, A. J.....	16
German Savings & Loan Society.....	13
Hamlin, Miss Sarah D.....	15
Hart, Ed.....	11
Hopkins & Son, G. H.....	15
Howard Cattle Co.....	10
International Harvester Co.....	—
Jackson & Co., T. W.....	16
Lawrence-Williams Co.....	10
Lilly Co., Chas. H.....	9
Lister, Henry B.....	13
Lynch, John.....	10
Mammoth Poultry Farm.....	11
Meacham, Frank A.....	—
Mountain Copper Co.....	16
Murphy, P. H.....	10
National Wood Pipe Co.....	16
Oakland Poultry Yards.....	11
Pasteur Vaccine Co.....	10
Pear Blight Remedy Co.....	16
Perkins, Chas. C.....	10
Rix, O. A.....	15
Robinson, John R.....	13
Roeding, Geo. C.....	10
San Francisco Sulphur Co.....	—
San Francisco Savings Union.....	13
Savings and Loan Society.....	13
Sharples Separator Co.....	10
Silva & Bergholtz Co.....	16
Simmons Hardware Co.....	13
Smith, Francis.....	—
Sorby Vaccine Co. (Inc.).....	10
Southern Pacific Railway.....	16
Standard Oil Co.....	11, 12
Stowe, C. A.....	10
Sullivan, W.....	11
Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Ellixir Co.....	—
Van Der Naillen, A.....	13
Vermont Farm Machine Co.....	10
Wagner, J. B.....	16
Waite, Thos.....	10
Western Gas & Power Co.....	11
Woodin & Little.....	16

We learn that one of our advertisers, Mr. Thos. Waite, of Perkins, Cal., expects to engage more extensively in raising Jersey cattle and Berkshire hogs. To that end he has secured a tract of land in Yolo county.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St.,

Buyers of Grain and Beans. San Francisco, Cal.

Members Merchants Exchange.

Established in 1855. Correspondence invited.

**THE BOSS LADDER**

We have been making the Boss Ladder since 1875, and thousands of them are now in use. They are lighter, stronger, and stiffer than any other make. A 10-ft. ladder weighs 7 1/2 lbs. and girls and boys can handle them. Each step is braced with four wire braces. We will ship one to you on any S. P. R. R. Station in California, no matter of price—10 cents per foot and prepaid freight.

Drives, Aber & Co., San Leandro, Cal.

## Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.

## Almond Hullers

For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

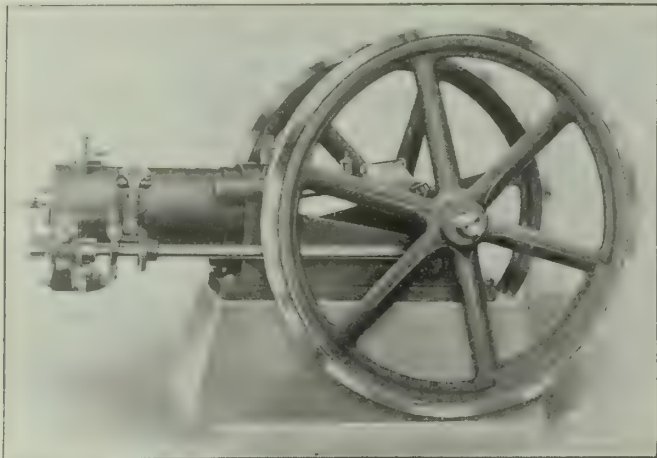
## Blake, Moffitt &amp; Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.

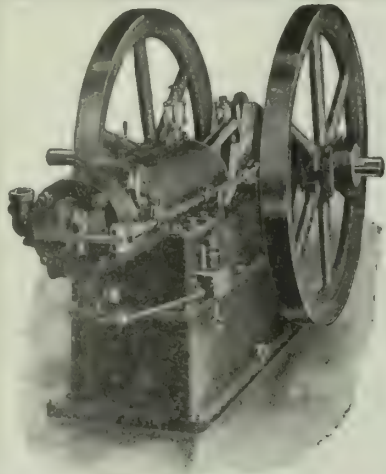


If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

## DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



## FAMOUS Stover Gasoline Engines BUILT UPON HONOR

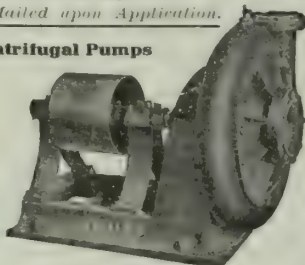
They develop more than the rated horsepower. Simple, Durable, Easily Operated, Economical in Fuel Consumption and Guaranteed. We carry in stock from 2 to 50 horsepower.

Catalogue Mailed upon Application.

### Gould's Centrifugal Pumps

are more efficient and take less power to operate them.

All sizes from 1 to 10 inch in stock.



WOODIN & LITTLE PUMP HOUSE, 70-72 Fremont Street SAN FRANCISCO, CAL.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. It resists them all. Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

## National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

# PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.



## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

## The Mountain Copper Company, Ltd.

150 PINE STREET, SAN FRANCISCO.

# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

July 6, 7, 8, 21, 22, 23, 28, 29.

August 17, 18, 24 and 25.

Sept. 23, 24, 25 to Kansas City Only.

HERE ARE SOME OF THE RATES:

Omaha	\$ 60.00
Council Bluffs	60.00
Kansas City	60.00
Chicago	72.50
St. Louis	67.50
New Orleans	67.50
Washington	107.50
Philadelphia	108.50
New York	108.50

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

"THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1890  
PIONEERS AND LEADERS

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco.  
Established 1880.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$80 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 2.

SAN FRANCISCO, SATURDAY, JULY 11, 1908.

Thirty-eighth Year.

## PLANTING AND CULTIVATION OF ALFALFA.

By MR. JAMES W. McCORD.

Alfalfa to make a good stand must be properly planted, more especially in the arid or semi-arid land. My experience has been on such land in Kings and Fresno counties, California. This land is naturally adapted to the perfect growth and development of alfalfa. Therefore all that is necessary is the proper planting and caring for it to get good returns.

The first thing to do is to prepare the land. This should be done the season before you wish to sow. The land should be plowed from six to ten inches deep. Should then be leveled, checked and ditched in order to irrigate to good advantage.

After this has been done the land should be thoroughly plowed again. It should then be first harrowed with light spike-tooth harrow, to level the surface, then it should have the sub-surface perfectly packed, in order to close all air spaces that have been left by the plow. One of the best implements for packing the land is a roller made of old mowing machine wheels with spaces of two or three inches between each wheel. This roller packs the under surface and breaks all clods and by cross-rolling and then harrowing leaves a perfect seed bed.

This treatment of the land is necessary in order that the moisture be retained and be brought up from below, that the long, slender roots of the plant may penetrate the moist land in order to withstand the drouth of the following summer. It is not best to irrigate young alfalfa so long as there is sufficient moisture to keep it in good growing condition. The longer it goes without irrigation the deeper the tap root penetrates and the drouth resistance of the plant is greatly increased. When the seed bed is properly prepared I rather favor sowing in the spring months, as the weather is then ready for the plant to germinate without standing still through the cold weather.

The quantity of seed sown to the acre varies greatly in different localities. In the San Joaquin

valley from ten to twenty pounds is plenty. The seed should be sowed evenly over the land and then lightly harrowed or brushed in. It should not be covered deeply, as it is a plant that loves the sunshine and will come up stronger when covered lightly. When the plant has from four to eight leaves, it is well to roll the land if dry enough. But it should not be rolled if the ground is wet or the plant wet from rain or dew. When about eight inches high the plant should be cut back with the mowing machines. I have sometimes sown a nurse crop of wheat or barley, but have decided that it is best to sow alfalfa alone.

It is necessary, for a perfect stand, that the seed be as nearly perfect as can be obtained. The seed should be reasonably plump and a good

called in as referees they will decide that the alfalfa has paid you for every lick of work you have given it in plenty of care and cultivation.

In the foregoing paragraphs Mr. James W. McCord of Hanford gives in condensed form the conclusions from long and successful experience, for Mr. McCord is a farmer and stockman whose wisdom is highly esteemed by all who know him. He could have extended his observations to almost any length, but evidently desired to particularly emphasize what he considered ruling points by throwing them out with as little detail as possible.

In connection with Mr. McCord's approval of fine preparation of the surface, light covering of

the seed and getting a start without irrigation we desire to remark that the best stands of alfalfa which are now growing in California were put in that way. But quite a different practice in all respects is now being discussed in this State and may perhaps be systematically tried. It consists in not securing the fining and smoothing of the surface, but rather to stop with an ordinary harrowing and leave the land rather more like a good preparation for wheat or barley. The seed is then to be broadcast and covered with a harrowing instead of brushing. The result is a somewhat deeper covering of the seed, which it is claimed may not mat-



"ALFALFA GROWING WHERE RICH DEEP LAND AND SPLENDID SUPPLIES OF WATER ARE BROUGHT TOGETHER."

color, and above all, should be free from "dodder," or other foul seed. The best way to steer clear of foul seed is to buy only of responsible parties who only handle the best of seed. Tulare lake in Kings county and Summit lake in Fresno county are both noted for the excellent quality of alfalfa seed produced.

In regard to the cultivation of alfalfa, there is not a plant that responds more readily or gives better returns for care and labor bestowed in a judicious manner. The land should never be trampled by stock when wet. If from any cause the land should become packed or hard on the surface it should then be thoroughly cultivated with a cutaway disc or spading harrow, followed by a light spike-tooth harrow. It will look as though you are putting it down and out, but you will soon find that it is up and at you again with a heavier crop than ever, and when the cows are

ter if the surface is not to be crusted by heavy rains or by irrigation, for the young plant will come well from a deeper start if the surface is loose, and when subsequently irrigated the coarser surface will not be likely to run together. It is also possible that sowing with a drill may get a more uniform depth of cover. If these things will work well it may show a way to start alfalfa during the summer independently of rain as it would be possible to irrigate the seed up to better advantage because there would not be such a running together of the surface as when water comes upon brushed, rubbed or rolled land. In places of heavy fall frosts this would allow a summer start which would bring the plant into an older and hardier growth by the time the frosts come. If any one has had experience with such a method we would be glad to know what results

(Continued on Page 19.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor

FRANK HONEYWELL - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., July 7, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	...	...	.03
Red Bluff.....	...	...	...
Sacramento .....	...	...	...
Mt. Tamalpais.....	...	...	...
San Francisco.....	...	...	...
San Jose .....	...	...	...
Fresno .....	...	...	...
Independence.....	...	...	...
San Luis Obispo.....	...	...	...
Los Angeles.....	...	...	...
San Diego.....	...	...	...

## The Week.

The popular assembly to emphasize the importance to California of non-interference with the provisions of the Dingley tariff of 1907, which gave new life to so many of our special industries, has been called off. It will not be held in this city on July 16 as we have announced in recent issues. In place thereof a conference is being held this week in accordance with an invitation issued by Governor Gillett, and of this meeting we shall have an account next week. The interference with the earlier-announced meeting seems to an outsider to be due to a conviction of the political higher-ups that it is not a good time to open the tariff-revision issue widely, and so some skillful back-firing was done to remove inflammable material from the face of the conflagration which might have proceeded from the proposed meeting of July 16. However this may be, we are not complaining, but explaining. We are quite of the opinion that the question does not belong to any party, but should be looked upon as an all-around American question and cannot be settled by any party platform platitudes. Therefore, if it is better not to thrust the matter into a campaign, as both parties are shying away from it like a horse from a flying newspaper and cannot be expected to render any real service in the issue, it may be just as well to wait until a re-division of the people can be made upon a sounder industrial basis. However, we do not desire the people to forget, although they may listen to other sounds for a time, and we shall quietly refer to the question from time to time, as occasion may arise, to show how thoroughly our leading industries are dependent upon a governmental policy which shall place our home producers in something like a fair relation to their foreign competitors. It is also of course true that such relation is not merely of advantage to such producers, but to the whole producing and consuming interests of the country, as figures will show—but perhaps it is not time to show that now.

Perhaps we are not right in considering the action of Governor Gillett as due to a desire to get the question out of a campaign which would do nothing but make a political football of it. That does not matter anyway. Whatever the immediate motive, there is some information and a great deal of patriotism in the letter which he addressed to civic bodies and we take this extract:

“There will undoubtedly be a revision of the tariff at an extra session to be called after the adjournment of Congress on March 4, 1909.

“The products of our State, under the present tariff bills, are splendidly protected, and it is very important that we should strive to maintain the same protection that we are now enjoying.

“Congressman Needham is a member of the Ways and Means Committee of the House that will have the tariff revision in charge, and he would like to meet the different interests of the State and formulate some plan for obtaining data and information that each needs.”

That is certainly good sense, and the Chronicle was also right in saying of it: “The conference is intended to be a conference of industries in which none but those actually engaged in some industry can speak with much knowledge or any authority, and it is to be hoped that it may be wholly a deliberation of practical men of affairs and not an exploitation of the oratory of political or other amateurs. Let the business men first agree upon what they need and then the press and the orators may try to help get it for them.”

We take it that the term “business men” means producers and manufacturers as well as commercial men and are therefore content to wait and see. This statement does, however, confirm our suspicion that heading off the meeting previously called was to get the patient out of a political draft in which he might catch cold and not be in good shape for the fight which will probably have to come later unless Congress should be of the Dingley type which did the great work in President McKinley’s time. But we have concluded to be quiet and yet we keep on talking!

There is, however, one question which often agitates us and is surely not political, and yet might be for all the good or harm it will do. We read a notice of a new book by Mr. Bolton Hall which has this title: “A Little Land and a Living.” The writer of the notice says that Mr. Hall, who is one of the sociological leaders of the country, “is bending all his efforts to remove the poorly paid laborer from city slums to the healthful conditions of country life, and to this end he stands as an ardent advocate of intensive farming. The book is eminently practical, and presents many figures to show the generous incomes to be gained from a small truck farm within easy reach of the city. To those who have steady employment he recommends that they first try to get gardens, on vacant city lots, etc., to which they can give their spare time without losing their present positions. Then, as skill and experience is acquired, they can give their full time to the new enterprise.” From one point of view this is the most rational of its kind of exhortations, because it really suggests that one might have to know something before pulling down one of those generous incomes and advises the beginner to learn. Most of the exhorters seem to take it for granted that any one can grow things to fill a bank account. But the weak things about it are two: First, the city laborers as a rule prefer to live in a city and will submit to almost any deprivations to stay there; second, profits are not within easy reach of small truck farmers unless they are willing to work harder and longer and

perhaps to live lower than even the lowest-paid city worker is willing to do or is by his union allowed to do. And so such books are not practical from the point of view of their purposes because so few of those for whom they are intended are willing to live and work as proposed. Again, why try to drive such people to farming? Why not teach them how to work overtime at writing books or running banks or making their own clothes or boots? It is simply because the writer of such a book neither knows the people for whom he tries to write nor the business to which he would drive them. Farming is no picnic; it is a steady business for a person who knows how to work and has accumulated something to work with. The few people from the city throng who have taste and energy for such a life do not need hortative books.

Mr. G. Harold Powell and his associates, who have done so many interesting things for the orange shippers, as our columns have shown, are to take up grape shipping experiments this year on a larger scale, and a meeting of grape growers was held at Lodi last week to consider them. Mr. A. V. Stubenrauch, who worked with grapes last year, is to continue the experiments this season. Two lines of investigation will probably be followed this summer: First, an effort will be made to determine the relation of the different methods of handling grapes to the decays in transit, and second, cold-storage experiments will be continued so as to develop more fully the relation of the different methods of handling and packing the fruit to its keeping qualities in cold storage. In experiments of 1907 it often happened that grapes handled to prevent mechanical injury of all kinds would keep from two to four weeks longer than the same varieties handled under ordinary conditions. These undertakings will be very instructive in our constantly increasing business in long distance shipment of table grapes.

It seems, according to current report, that the berry growers of Sebastopol have refused to ratify a sale of blackberries which their own committee arranged with the canners. The committee had 800 tons of berries under agreement, and the cannery offered them \$35 a ton straight and \$40 for all the fruit sold by the cannery between the fruit season and the first subsequent January. The growers believe they should secure \$40 straight for their crop, and expect to find a market for it at that figure. There is a great impulse, of course, when berries have been sold before at \$50 per ton not to drop to \$35, and it may be that the refusal may cause the buyers to bid higher. From a point of view of co-operative selling, it is, however, bad to have a committee in charge of a pool and then not support the committee. It is said that those who refused to sign the agreement represent considerably more than 300 tons, and leaves the growers’ combine, which was working through the committee, with insufficient tonnage to control the market. This is unfortunate because it enforces the old claim that farmers cannot hold together on anything, and the buyers will get them all right in the long run if that is the case.

It will grieve many fruit growers to learn of the death last week of Mr. Alexander Craw, who rendered such long and distinguished service to the fruit interests in connection with the work of the State Board of Horticulture. A few years ago Mr. Craw accepted a position as entomologist for Hawaii and served until recently, when, to seek health, he returned to California. He was



tenderly cared for, but the summons could not be postponed and he was laid away in Los Angeles. His work will survive in the annals of our great fruit industry which he did so much to build up.

Governor Gillett has made two good appointments in the persons of M. T. Freitas of Marin county, who was recently appointed a member of the State Dairy Bureau, and Benjamin F. Rush of Solano county as a member of the State Board of Agriculture. Senator Rush succeeds himself, as our readers know, and this fact will be generally rejoiced in. He is a most modest, conscientious and at the same time a most energetic man whose public services are widely known and appreciated.

The Washington hop growers are apparently acting upon the only known plan to raise the price of hops and one which has been followed ever since American hop growing began. The report is that throughout the Yakima valley half of the yards are not under cultivation this year. In 1907 hops were grown on 3,225 acres. This year only 1,609 acres are being cultivated. The hop vines on 902 acres have been plowed up and the land used for more profitable crops. Over 714 acres planted in hops are being allowed to remain idle. About the only way to make money in hops is to stay in everlastingly and not to hop in and out.

## Queries and Replies.

### Peach Mildew.

To the Editor: Enclosed are some samples of peach tree limbs afflicted with some kind of mildew blight. Last year the same thing appeared and resulted in the death of the small limbs. What is the proper spray to use in order to eradicate it?—Grower, San Francisco.

Your peach samples are affected with mildew (*Podosphaera oxycanthas*), the continuation of which so late in the season this year is undoubtedly due to the lack of usual summer heat and drouth thus far. Although this mildew is almost always to be found on peach trees, it is not counted a great pest, because it is usually restricted to spring growth by our climatic conditions, as just indicated, or yields readily to treatment. The spraying just before the blossoms open, with lime, sulphur and salt for the peach worm, practically destroys the mildew spores and leaves the tree practically clean. If you have not the peach worm, or twig borer, as it is sometimes called, to contend with, the use of the Bordeaux mixture just before the blossoms open is effective. It is now too late to undertake treatment; although the Bordeaux mixture applied now would check the spread of the trouble on the leaves it would be very likely to spot the fruit and make it unhandsome and unmarketable. The best recourse would be to look for it and apply preventive measures at the beginning of another growing season.

### Pruning Bearing Apple Trees.

To the Editor: Kindly give me your views in regard to pruning young apple trees in their second year of bearing. The frost destroyed the crop in the bloom this season. I wish to prune before this season's growth ripens. I have about 1000 trees which were not pruned last winter.—JAMES CASS, Cayucos.

It is not usually necessary to prune apple trees severely after coming into bearing. Care has to be taken that there are not too many small branches, which would make the tree too dense and brushy. Cutting back is also undertaken for shape when the tree has a disposition to become

lop-sided or to run out long, streaming branches. Whether you undertake anything more than this in the handling of the young trees of which you write would depend entirely upon good judgment after observation upon the way in which they are now growing. There can be no general rule laid down to be rigidly followed.

### The June Drop.

To the Editor: Under separate cover I am forwarding a sample of Hemskirk apricot. These apricots are dropping very freely, and this appears to be the case every year. It does not matter how little fruit is on the tree, a large proportion drops just the same. Blenheim apricots, on the same ground, and subject to same general conditions behave differently. Is this peculiarity of the Hemskirk general and have a cause and remedy been discovered?—Grower, Mountain View.

It looks to us like a case of June drop—a phenomenon known everywhere but satisfactorily explained nowhere. We have not grown Hemskirkes to know whether they are worse that way than other kinds. Perhaps some other growers will give their experience on that point. On our trees the St. Ambroise did the drop this year, nearly covering the ground with large fruit which did not know enough to hang on. The Blenheim did not drop at all, but the Kaisha dropped a little. The trouble seems to be to some extent at least a varietal weakness.

### Legumes as a Soil Fitter.

To the Editor: We have a ranch in the Imperial valley which has been in wheat or barley two years. This year we planted cantaloupes and they did not do well at all. The people, with hardly an exception, who had alfalfa land raised the finest kind of melons, while those with raw or barley land, with hardly an exception, raised hardly any crop at all. I would rather not seed to alfalfa if we can get the same results in less time; otherwise of course we will have to seed to alfalfa. Can you give any advice about inoculated vetches or peas for a substitute?—Farmer, Imperial valley.

There are some facts about crops following grain in your valley which are not yet worked out and it would not be profitable to guess at them or to explain them. Your country is so new that much has to be learned by local experiment and observation. Theoretical conclusions are apt to go astray. Presumably the growth of any leguminous plant would help toward the growing of cantaloupes as alfalfa does, except that alfalfa is more deeply rooting and might, therefore, produce a somewhat different effect upon the soil than a shallow growing legume like peas or vetches. This matter could only be determined by an actual test. All these plants—peas, vetches, burr clover, cow-peas, etc.—grow readily; in fact in most places in California they grow without inoculation, providing the moisture and temperature conditions suit them, and you would have to determine by a local experiment.

### Treatment of Bark Burn.

To the Editor: I own a small Newtown Pippin apple orchard. On visiting the orchard a few days ago I found a score or so of the 10-year-old trees injured (I presume) by sunburn. The injury is limited to the west side of the bole of the tree and extends from near the ground upward for from 12 to 30 inches. The width of the affected surface is 4 to 5 inches. Old bark is adherent to the injured surface. On stripping this off I found repair beginning around the entire edge of lesion, and the appearance of latter indicates that the burning took place last year. The exposed core of tree is streaked vertically with very narrow fissures. I am afraid this core will be invaded by dangerous enemies. I thought of using a weak lotion of corrosive sublimate and then applying a coating of pine tar or asphalt

paint. Would this be advisable treatment, or can you suggest something better?—Owner, San Francisco.

Your treatment for sunburn on apple trunks is thoroughly rational, except that we would not use pine tar; coal tar is safer, and better than that would be such a paint as you describe. Wood must be kept from decay until sealed in by the new bark.

### Irrigating Young Trees.

To the Editor: Is it necessary to irrigate a young orchard (set out last winter) which yet looks well, although all surrounding young orchards are suffering for water and the owners are putting in pumping plants. Do you advise putting on water? Which way is the best—to flood the entire surface, or just to apply water to each tree? The latter may necessitate hand watering. Some here say that irrigating very young trees such as these are causes the roots to grow upwards. Will you kindly answer at once, because we must wait until you do so before doing anything to the orchard.—Planter, Sutter county.

If your trees are still making good growth while adjacent young trees are suffering, you must have a more retentive soil or you have done much better cultivation. The probability is that a young tree which looks well now will pull through the season without irrigation if good surface cultivation is continued. We would, however, give them some water if they do not continue to show they have enough. We would not think of flooding. If you cannot irrigate in a furrow a couple of feet from the tree, it is better to get out the water-wagon and give them about five gallons each now and five more later, hoeing well afterwards, so that you do not bake your tree in a brick. There is no rule about this sort of thing. You must give the trees water if they call for it. Never mind about the upward roots; it is better for them to turn up their roots than their toes.

### Chemical Weed Killing.

To the Editor: Will you please tell me what will kill the poisonous milk weed roots and all. I tried salt, 25 pounds to 4 feet square, but it overflowed and did not kill it. Digging it out 18 inches deep failed. I have about six bunches and have lost five sheep by it.—Reader, Hopland.

A spoonful of gasoline poured into the root crown of a plant (just in the joint of the lowest leaves with the stem) is the easiest and most energetic killer we know of to treat individual plants. To apply broadcast, and to kill the land from growing anything for a time, dissolve one pound of caustic soda or potash lye in two gallons of water; then dissolve in this solution two and a half pounds of arsenious acid (white arsenic). After the arsenic is dissolved add water to make twenty gallons. Make application in any way which will assure you that the solution wets the ground deeply.

### PLANTING AND CULTIVATION OF ALFALFA.

(Continued From Page 17.)

were attained. We are now putting in such great areas of alfalfa in California that any method which would secure a good stand beyond the short fall and spring seasons during which the plant can be raised up would be very helpful.

Our illustration is taken from a newly developed part of Glenn county where the Alfalfa Farms Company of San Francisco is rapidly extending its alfalfa acreage. It is a typical scene in those great valley regions of California where rich, deep alfalfa land and splendid supplies of irrigation water are brought together. Well managed work under such conditions is surely a great wealth producing procedure.



## Horticulture.

### SOME RELATIONS BETWEEN SOILS AND FRUITS.

By PROF. W. W. MACKIE of the U. S. Bureau of Soils, Washington, D. C., at the Riverside Fruit Growers' Convention.

Although the relations between soils and fruit crops are extremely important, these relations have been generally overlooked on account of the very apparent influence of climate. Thus, without any direct reference to soil conditions, we have divided our State into climatic fruit belts. We have citrus belts, prune belts, raisin belts, etc., each with its own peculiar climatic feature, and have assumed that these areas were eminently fitted for these especial crops. This is true, in a measure, but within each of these fruit belts exists many kinds of soils, some of which are unfit for the fruit crop to which the region is mainly devoted.

Many a failure could have been avoided by proper attention to this feature of soil selection alone. In our citrus belts may occur soils too sandy or too gravelly for proper growth of trees. Again, the subsoils may contain hardpan, which would seriously interfere with the percolation of water or penetration of roots. The water table may be too close and drainage poor. Prune districts may contain soils with gravelly subsoils, which allow the moisture necessary for maturing the crop to escape during the growing season, thus reducing the size of the fruit crop. The peach orchard may be planted in heavy or hardpan soil, where cold spring rains sour and destroy their roots, finally ruining the orchard. Many such effects of soil variation within a well recognized fruit belt could be given.

**Soil Selection.**—On the other hand certain success may be secured by selecting soils which especially favor the crop to be grown. Prunes produce heavier crops and larger fruit when grown on deep alluvial soils ranging from deep sandy loams to silt or clay loams. Such soils more readily carry moisture through the dry summer while the crop is growing. These soils likewise hold irrigation water better, and are usually richer than more porous or gravelly soils. Peaches prefer sandy soils of a light color, possessed of good drainage and free from close hardpan. The Muscat, or raisin grape, which has proven so successful in the San Joaquin valley, does best on a light brown or gray sandy loam. When the soil changes into a light loose sand, adobe or red soil, this grape fails to do its best. The Tokay grape, which depends almost entirely upon its rich flame color for its success, shows great variation within the belt known as the Tokay belt. These variations can be traced, as a rule, to the changes in the soil. The best colored Tokay grapes usually grow on a red or light red sandy loam or loam soils most of which are underlain by hardpan or heavy clay. When grown on light gray sandy soils, or rich dark alluvial loams or silt loams, a large grape is produced, but its color is very inferior, being either too light or too dark and unevenly colored. So well recognized are these soil effects, that some types of soils are known as Tokay soils.

It is the work of the Bureau of Soils to definitely identify these soils in many cases in California, completely outlining them upon maps, which show the exact location of the various soil types encountered. The characteristics of these soils, such as origin, topography, color, texture, depth, fertility, etc., are then described, together with their special crop adaptation and special methods of culture best adapted to them.

With this aid it becomes possible for those desiring to enter into the field of fruit growing to select the soils and localities best suited to the fruit they desire to grow, whether it be Tokay or Muscat grapes, shipping or canning peaches, prunes or oranges.

**The Ideal Soil.**—The ideal soil may be described as one which readily permits the percolation of rain or irrigation water and, at the same time, has capillary power to draw the moisture from its depths to the surface for the sustenance of crops. Such a soil is deep, very uniform in tex-

ture, with almost imperceptible demarkation between soil and subsoil. A fine sandy loam may be termed an ideal soil.

While the soil just described may be best for general crop production, variations from it often meet the conditions required by special fruit crops. It happens in this manner that certain soils, not generally ranked very high for general cropping, become very productive under the culture of special fruit crops, such as the orange, grape and olive.

Deciduous orchard fruits are perhaps the most exacting in their demand for ideal soil conditions. While many of them show considerable range in soil adaptation, as a rule they are limited to the better types of soils. Impervious subsoil and hardpan usually show their injurious effects by the presence of die-back rosettes at the end of twigs, and early or unusual dropping of the leaves and fruit. Poor drainage and the presence of alkali also injure those orchards. The effect of changes in soil types upon the various deciduous orchard trees is often plainly marked. It has been observed in the case of apple orchards grown in the same valley with similar climatic and topographic features that a change in soil texture produced a striking change in quantity and quality of the crop. A variety grown on sandy loam soil produced a large crop of bright, highly colored fruit, while the same variety in the same orchard but on clay loam soil produced almost no crop at all, and this of an inferior color.

The peach shows similar variations due to change in the soil. A superior shipping peach is produced on the coarse granite sandy loam in certain districts in the Sierra foothills, while the better grades of canning peaches are grown on alluvial river and valley soils. The light sandy plains soil produce a better drying peach. The cherry, aside from its climatic preferences, demands a deep loose soil free from heavy subsoil, hardpan or close ground water.

The prune thrives best in a mellow soil of medium to heavy texture, varying from sandy loam to clay loam. A uniform silt loam which holds moisture easily is its ideal. Other deciduous fruits show like preferences.

Citrus fruits show similar preference in soil types. They prefer soils with good surface and subsoil drainage with favorable exposures. Rich soils when low and too moist produce fruit low in acid and sugar, practically eliminating them from the citrus class. The citrus fruit does not show the same degree of aversion to shallow soils as do some of the deciduous fruits, like the cherry, peach and apricot. When drainage is good, oranges and lemons often do well in four feet of soil over very impervious hardpan. Where blasting is practiced, even less depth has grown good orchards. Such land should be planted, however, only when all other suitable soil has been occupied.

The olive, which is now attracting so much attention in portions of California, grows on a wide range of soils, growing in either sandy or heavy soils, shallow or deep ones, and will tolerate a considerable amount of alkali and drought. The ripening of this fruit, however, varies greatly with the change in soil. The red sandy loams and light loams ripen the fruit sometimes many weeks ahead of the heavy dark colored soils, which are often so cold that the fruit never fully colors. This makes it imperative to select early ripening varieties for the heavy soils, while late ripening sorts, like the Mission, can be planted on the early maturing soils.

It can be said of most orchard fruits that the soils suitable for successful growing are somewhat restricted. These soils are usually of the highest class, clearly placing the orchard districts in the first rank of soils.

**Grape Soils.**—The grape shows a much wider range of soils than orchard trees. Vineyards have followed the clearing of brush upon the hill-sides, have again covered the abandoned grainfields with profitable crops, and have even covered wind blown sands and desert areas. As California has almost a natural monopoly of the vinifera or European grape, the soils suitable for its culture become of prime importance. In bringing the abandoned grainfields back to a state of high cultivation and profit, the grape has done more, perhaps, than any other crop now grown in the State. In this work it is scarcely well started.

In the San Joaquin and Sacramento valleys are many such abandoned grainfields. On many of them, especially on the red sandy loam or hardpan land, wine and table grapes have converted those fields into the most prosperous of farms. The Tokay grape has been found to produce best on just such soils. Wine grapes show fine returns, and produce a grape excellent in quality and color on these abandoned fields. Many areas of loose or wind blown sand, which were either wholly unfit for cropping or had been abandoned for grain farming, have been found to be suitable for grape culture. In some of these areas irrigation with pumps is possible for grapes, because a small amount of water in furrows will go a long ways. When water from ditches is scarce, the planting of vineyards is welcomed in such sandy soils in irrigated districts on account of the conservation of the water for such crops as alfalfa, which requires flooding. Other important soils reclaimed by the grape are those found in un-irrigated districts which can not be irrigated. Many such soils, when planted to grapes and cultivated at such time that moisture from the sky above or subsoil below is carefully retained, give good returns. Such culture in areas of deficient rainfall may be called dry farming or the "Campbell" system applied to perennial crops. These crops are much more certain than grain crops, and are well adapted to this culture. Soils thus treated range from wind blown sands to adobe or clay soils. The sands of the San Bernardino valley, now being extensively planted to grapes, represent such soil and culture. Many heavy soils in the interior valley produce good vineyards by proper cultivation when no irrigation is possible or profitable.

(To be Continued Next Issue.)

## Citrus Fruits.

### GROWING INTEREST IN LEMON CULTURE.

By MR. R. C. ALLEN of San Diego at the Riverside Fruit Growers' Convention.

The lemon industry of California seems, with the present season, to have entered on a new phase of its career. First, we had the period, in common with most of the important fruit crops of this State, when production was small, and the only competition, that of the imported fruit, selling at very high prices. This was the time when Mr. Blanchard of Santa Paula and Mr. Johnson of Santa Barbara organized the lemon business and made good profits. After this, we had the boom of the early nineties and large plantings. When these plantings came into bearing and we had to invade the Eastern markets in order to find an outlet for the increasing product, methods which had served for the industry on a small scale had to be modified. There was much complaint at the poor keeping quality of the California lemon as compared with the Sicilian.

**A Rough Road.**—The general result was little profit to the grower, in many cases heavy loss, and soon there was a pretty general budding of lemon to orange trees. Though some few careful packers succeeded in building up a good name for their products, in general California lemons had a bad name. However, improved methods all along the line, in orchard handling and in the packing house, were putting the better packers and associations on the high road to success, when some three or four years ago a severe frost in Sicily cut off imports to a low figure. Since then, and up to the present season, the general markets, both summer and winter, have been so good that there has been no chance of loss, even for the most careless and inexperienced, though the shrewd and skillful reaped the largest rewards. Obviously this was a state of affairs that could not last, but a great and permanent good was accomplished during the shortage of imports in the introduction of our California lemon into many new markets, where it has become strongly entrenched and will not easily be driven out.

Nevertheless, we have plainly reached a point where competition is again to be keen, and where there will be profit only to those who turn out a good article and build up an established reputation. Nuts, dried fruit, and, in fact, many of our



products sell for what they are—on sample—and one man's is as good as another's. Not so with the lemon. It often happens that we see a considerable difference in the price that a given market will pay for two ears of practically the same value, because one has the reputation to sustain and the other has not. Therefore, the moral of the present situation is, unremitting effort in building up and holding such a reputation, for the man who wins it has something of which he can not be deprived so long as he does his part.

**Lemons Must Keep.**—Of all the important factors that go to build up a reputation, perhaps the most important is the assurance to the trade of a uniformly good keeping quality. Mr. Powell's researches have called attention to the importance of care in the handling of oranges, and, above all, he has demonstrated that with it the fruit from districts formerly supposed to produce only weak stock can be shipped so as to stand up well. If the lack of keeping quality is a serious matter with oranges, it is far more so with lemons, and moreover greater watchfulness and system are required to insure soundness in them. Not only must the lemon stand up in transit, but the purchasers may very probably be expecting to hold his fruit for several weeks, during the process of distribution. He naturally buys those brands, even at a considerable premium, which experience has taught him are reliable, in this matter of keeping after arrival.

**Oranges Need Not Keep so Long.**—From another standpoint, soundness in lemons is even more important than with oranges. Practically our only competitor is Sicily. To win our markets, we must drive her out. Now Sicily's stronghold in her lemons is their excellent keeping quality. While the best brands from California equal hers in this respect, it is still doubtless true that the average of the imported fruit excels the average of our California product in standing up. The weakness of our fruit is the one criticism which we have to meet from the Eastern trade, and it is the one serious problem which must be solved if we may expect permanent success. As I said, this question of decay, important as it is, is not of such a vital matter with oranges as with lemons. Our chief competitors there are Florida, Cuba, Porto Rico and Jamaica.

The oranges from these districts are poorer keepers than California's were, even before the reform of the last two years had cut out so much of the decay which we formerly had. The buyer of a California orange is well satisfied if it arrives sound and holds up long enough for distribution.

In so far as poor work on the part of the individual packer affects injuriously the general reputation of California lemons, it is a matter of concern to all engaged in the industry, whether as packers or growers. Such work plays directly into the hands of the importers, and we are all interested in seeing it stop.

**The Outlook.**—In spite of some low prices received for our lemons this winter, the outlook is full of encouragement. We are hardly yet producing one-half of the consumption of the country. Although we are not likely ever to shut out imports entirely, we ought to supply a far larger proportion of our home market than we now do. This year's crop has shown a sharp increase on any previous one, but it is not likely that this increase will be kept up, for there is no particular enlargement of acreage, and the larger crop is due to the remarkably favorable conditions of the last two seasons, an abundance of moisture with no damaging frosts. Also, the good prices realized have stimulated growers to take better care of their orchards than formerly. New plantings are not large, in proportion to the total acreage, and before they can come into bearing it is reasonable to expect that markets will have grown sufficiently to need all that will be produced.

The lemon business requires an expensive equipment properly to store and care for the product during periods of dull markets. Considerable loss is occasioned each season, and especially the present season, owing to the increased crop and dull markets, because of failure to supply this equipment. The large grower, who ships his own fruit, has a great advantage over the small grower. The circumstances of the case force him to realize the need for taking care of his product. In fact, unless the small growers can unite in forming associations, they can hardly expect to succeed.

This, of course, has been done for years in many localities and with excellent results, yet in other places the growers are still groping in the dark, and in such seasons as the present they become seriously discouraged. In lemons, as in all else, in union there is strength.

**Must Be Picked Right.**—In the discussion following Mr. Allen's paper, Mr. Willitts said: "The reputation of the lemons that Mr. Allen refers to as having driven foreigners out of the market, was not built upon the fruit that was taken from the tree while it was yellow. The practice is now general among the best packers to pack this yellow fruit under entirely separate brands. Any knowledge that can be given to the growing of fruit that will mature while it is still green, will do more to advance the reputation of California than anything else than can be done—even careful handling. It does not matter how carefully you handle yellow lemons, you can't make them keep very long. Mr. Rumsey said we had been neglecting oranges for lemons, but large concerns have oranges and lemons both; and in the winter, when lemons are growing fastest, we get a rain, and people can't get into the orchards to pick for a few days. Then instead of picking the lemons that are getting yellow, they pick the oranges, and the lemons are neglected, and by and by they come in yellow and go on to the market, and those are the ones that come up against the foreign lemons, in the circular that Mr. Teague read. It is not the fault of the lemons; it is the fault of the growers. We grow lemons here that will keep as well as any lemons grown on earth. Mr. Powell has called the attention of the growers to such things, as well as careful handling, and it will probably be as well received as has been his work in the oranges."

## Entomological.

### A CONFERENCE ABOUT PESTS.

There will be held at the University of California College of Agriculture at Berkeley an Entomological Department Conference on July 14, beginning at 9 a. m. and continuing through the day. Although it is a university instruction arranged by Professor Woodworth, the public is cordially invited to attend and participate. The following is a list of subjects and speakers:

#### Morning Session: 9 o'Clock.

The Entomological Problems of San Benito County.....L. H. Day of Hollister (Former Field Assistant, now Horticultural Inspector, San Benito County.)

Evidence Justifying the Pajaro Valley Spray Program for the Codling Moth.....W. H. Volek of Watsonville (Field Assistant, Entomologist for Monterey and Santa Cruz Counties.)

Eastern Insect Collections and Collectors....C. Fuchs of Berkeley (Museum Assistant)

The New Hop Flea Beetle in British Columbia.....H. J. Quayle of Whittier (Assistant Professor, Southern California Pathological Laboratory.)

#### Afternoon Session: 2 o'Clock.

Honey Bee Forage.....R. Benton of Berkeley (Assistant in Beekeeping.)

The New Prune Leaf-Folder of the Santa Clara.....Earl Morris of San Jose (Field Assistant, Entomologist for Santa Clara County.)

This Spring's Mosquito Campaign in San Mateo County....J. S. Hunter of San Mateo (Field Assistant, Entomologist for San Mateo County.)

The Invasion of the Cotton Boll Weevil....G. W. Herrick of Berkeley (Assistant Professor of Entomology.)

#### Evening Session 8 o'Clock.

Insecticide Control Work.G. E. Colby of Berkeley (Assistant Professor, Insecticides.)

Seasonal Variation in Flea Distribution.....

.....M. B. Mitzmain of San Francisco (Former Field Assistant, now with U. S. Marine Hospital Service.)

Recent Eastern Work in Parasite Studies and the Theory of Parasite Control.....

.....C. W. Woodruff of Berkeley (Associate Professor of Entomology.)

Horticultural Significance of Entomological Work in California.W. T. Clarke of Berkeley (Assistant Professor of Horticulture.)

It will certainly be a delightful day both for those who like and for those who hate bugs and interesting to everybody.

## Apiculture.

### THE REMOVAL AND MARKETING OF COMB HONEY.

By MR. RALPH BENTON of the University of California.

Harvest time is usually one of great pleasure and satisfaction, but with the bee people these pleasures and satisfactions are not infrequently married or at least mingled with fear and trepidation, and, sometimes, even pain more than that accruing from mere honest hard work is their lot. It was Langstroth, the illustrious father of American beekeeping, who said once that with proper protection and management one need not fear his bees any more than he need fear the horns of his favorite cow, and our experience in a large measure bears him out. Laying aside such matters as the possibility of keeping the gentler varieties of bees and taking matters as they really are, much of the danger and unpleasantness of stings, even with the average bees kept, may be eliminated with proper management. About the time that honey is ready for removal the honey flow has usually slackened and the bees become naturally crosses and at this time are more prone to rob.

**Time to Work to Advantage.**—Operations are better at this time and under these circumstances confined to the middle part of the day when it is warm and sunny and when the older bees are off searching for honey. At this time of the day also the danger of inviting robbing is less.

**The Smoker.**—Hives should be opened and closed as quickly as convenient and as little honey exposed as possible. Smoke should be used only sparingly when removing honey, and when used should be blown more in the air and over the hive or about the entrance rather than in upon the honey. Veils and sometimes heavy canvas gloves may be profitably worn.

It is not only undesirable to blow smoke upon the combs or sections of honey to be removed because of the danger of giving to the honey a smoky taste, but also undesirable because the bees, as it pours in upon them, in their excitement are led to bite into the cappings and so set the honey to running, resulting in later trouble in the packing and shipping of these leaky sections.

**The Bee-Escape.**—To obviate this danger the Porter bee-escape should be used. This device is in construction simply a tin passage way in which are set two springs in such a manner as to permit of the free passage of bees going in one direction, namely, down, but does not permit of the passage of bees the other way, namely, up. Such an escape placed at or near the center of a board arranged with a bee space above it and slipped beneath the supers and above the brood chamber late in the afternoon will rid the supers of bees by the forenoon of the next day, when the honey may be removed without the danger either of coming in contact with the bees or of inciting them to bite into the cappings.

**Care of Comb Honey.**—After the bees are out the supers should not be left too long on the hives especially if it is hot weather, as the bees are no longer in them to ventilate them, and the combs might melt down with the heat of the sun.

Comb honey above all is sold very largely upon its looks, and so a fine article does much for the selling of it. Sections for that reason should be carefully scraped and graded into about three



lots. Any sections that are not quite full can be profitably placed all in one super and returned to a good strong colony for completion.

**Preparations in Advance.**—When honey is being removed, a few things may be observed for guidance in preparation for the next season. It will be noted that the sections from those colonies that were not level from side to side will not be as regularly finished, as the center of the comb has swung to the lower side of the hive. Also if only foundation starters have been used it will be noted that not infrequently the sections have been filled out in drone comb, making them look uneven and giving them a watery appearance. Full sheets are better always used. Also those sheets of foundations which have been fitted in touching at the sides will have bulged out and caused an uneven section, a condition known as "buckling." There is also a noticeable difference in the way bees cap their honey. The common black or German bees cap their honey very white, but gather considerable propolis, and so daub the boxes up. Carniolans cap their honey nearly as well and gather practically no propolis and are gentler bees to work with. Italians, while fairly gentle, do not cap their honey so well and gather some propolis.

After scraping and grading the sections should be placed in shipping crates for the market. Honey for local markets is sometimes placed in cartons, which may be secured printed with name and guaranty at very reasonable rates. This adds much to the salability of a nice article.

#### A Queen Question.

Now is the time to be thinking of re-queening for next year's work. Much of the success of bee-keeping depends upon doing the right thing at the right time. Queens can be purchased cheaper during the summer and early autumn months and can be profitably introduced at this time and be in the apiary ready for early spring use.

R. B.

## Patrons of Husbandry.

### TULARE GRANGE AND PARCELS POST.

To the Editor: Tulare Grange held a special meeting at its hall on Saturday, 27th ult., for degree work. After conferring degrees an open meeting was held. A communication was read relative to a free market in San Francisco and ordered filed. A communication was read from Hon. S. C. Smith, representing this Congressional District. During the consideration by Congress of the proposed parcels post law, Mr. Smith had opposed the proposed law, which had been prepared by and introduced at the request of the Postmaster-General and recommended by President Roosevelt. Inasmuch as the proposed law has been discussed for the past six years and has been approved by and asked for by National, State and subordinate Granges, it seemed to the members of Tulare Grange that Mr. Smith's opposition to the bill does not fairly represent the best interests of his constituents.

**What the Bill Provides.**—The bill has been prepared in conformity with the recommendations of the Postmaster-General to Congress, which says: "I recommend the establishment of a special parcels-post system on rural delivery routes for packages originating on a rural-route or at the distributing postoffice for delivery by rural carriers to the patrons thereof, at the rate of 5 cents for the first pound and 2 cents for each additional pound or fractional part of each additional pound up to 11 pounds; for 2 ounces or less, 1 cent; over 2 ounces and up to 4 ounces, 2 cents; over 4 ounces and up to 8 ounces, 3 cents; over 8 and up to 12 ounces, 4 cents; over 12 ounces and up to 1 pound, 5 cents." The Postmaster-General adds: "These recommendations have been drawn up to benefit the farmer and the country storekeeper, otherwise I should not favor them, for I believe it is a good policy for our Government to do everything possible to aid small town and country districts. It is desirable the country merchant should not be crushed out."

It will be seen by the foregoing that the proposed law provides only for postal delivery of parcels "on rural-delivery routes—or originating

on a rural route or at the distributing postoffice for delivery by rural carriers to patrons thereof," and that the intent of the law is "to benefit the farmer and the country storekeeper" as recommended by the Postmaster-General. It will also be seen the weight of the package is limited to 11 pounds.

In most civilized countries parcels-post is a governmental function. Limited in Great Britain to 11 pounds; Italy, 11 pounds; France, 22 pounds; Germany, Austria and Switzerland, each 110 pounds; Belgium, 132 pounds.

**An Exception to Mr. Smith's Position.**—The members of the Grange have a high regard for Mr. Smith and expect him to support and oppose in Congress any measure he, after careful consideration, conscientiously believes the best interests of his constituents requires, but they do except to the levity with which he expressed himself in Congress on the subject when he said: "There is not a single argument in favor of parcels post that does not tend to prove by the same amount that the Government should set up a shoe factory or open a bakery for all. Rest assured that if we begin by carrying the dairyman's milk to the creamery, we will end by milking the cows and manufacturing the butter. If that supposedly all-powerful thing vaguely referred to as 'the Government' is to carry one business burden for us, why not load them all on? Father Government is not supposed to know either weight or weariness."

The Grange believes a parcels post as provided for in the bill under consideration will, as intended by the Postmaster-General and recommended by the President, benefit the farmer and the country storekeeper. Mr. Smith's talk was outside the intent of the bill, is illegitimate argument and should not have been injected into a dignified consideration of the bill.

Mr. Smith expressed a desire to visit the Grange, and the Grange, by resolution, invited Mr. Smith to visit it, to lunch with us, and to talk to us on September 19th next. He will find attentive listeners. The Grange has adjourned until September.

**The Ice Man.**—A Communication was received from W. S. Carpenter & Co. in which they expressed their intention to continue the making of ice and selling the same at the price they now charge, which is 40 per cent lower than the price heretofore charged by the Union Ice Co. The Grange passed resolutions condemning the Union Ice Co. for charging the consumers of ice in Tulare 40 per cent more than it charges in neighboring towns and more than it now, that it has opposition, offers to sell it for. The resolution recommends consumers of ice in Tulare to patronize W. S. Carpenter & Co., as it is through them the price of ice has been reduced 40 per cent.

Brother Thomas Jacob, lately returned from a visit to his parents in Iowa, gave a very interesting account of his trip East and of his return by way of Chicago, New Orleans and Texas.

After closing the Grange many members remained in the hall, had an enjoyable social half hour, discussed grange work and grange possibilities.

J. T.

### TRANSACTIONS BY WASHINGTON STATE GRANGE.

Two hundred delegates and interested friends were in attendance at the opening session of the Washington State Grange, Patrons of Husbandry, which convened in Vancouver.

The sessions were full of interest. Upon a favorable report from the committee on agriculture, a resolution was adopted asking that the next session of the legislature pass an act providing for the payment by the State for all dairy cows and horses killed by order of the State Veterinarian because of alleged infectious diseases. Another resolution adopted demanded that the several candidates for offices in the State make pledges as to their intended policy on public questions, and that these pledges be posted in public places so that voters may read the positions taken. Several minor amendments to the existing primary law were suggested and steps were taken to urge their adoption upon the coming session of the legislature.

Another resolution demanded that the State furnish free text books for the public schools.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½ × 10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER

667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The Ukiah cannery has an order for 50,000 cases of tomatoes.

Cuttings of black figs planted at Indio this spring are already producing fruit.

Muir peaches are reported an exceptionally heavy crop in the orchards about Orloff, Butte county.

The fruit crop around Redding and Corning is reported as being the best ever raised in those sections.

Fruit dryers of Hanford are contemplating the changing of the fruit cutting schedule. Instead of cutting by the box, the standard this year will be per hundred pounds.

J. P. Onstott is shipping from one to two cars of apples from Yuba City daily. Onstott has about 35 acres of apples. Norman Kells states that he will net about \$2000 on his apple crop.

From a third of an acre this year A. B. McMath has raised on his Garden Home ranch, near Elmira, Solano county, 4000 baskets of strawberries. His fruit is of good size and fine flavor.

A tract of 980 acres of melons in adjoining fields may be seen one mile south of Brawley. It is said to be the biggest melon field in the world, and is producing from 200 to 300 crates to the acre.

William H. Tracey of the United States Bureau of Plant Industry will take charge of the station at Chico. Mr. Tracey takes with him numerous varieties of new plants, with the view of introducing them into this State.

Marysville owners of orange trees, which were cut back to defoliate during the white fly campaign, are now being supplied with navel buds to be inserted into the young suckers that have sprung up from the defoliated trees.

The Pomona cannery is putting up blackberries and apricots. About 250 tons of this fruit have been contracted for and more will be brought. The total output will be about 300,000 cans. A million and a half cans of peaches will also be packed, and later, as many cans of tomatoes.

While hundreds of people have gone to Vacaville this season to work in the fruit, there is still a demand for help, especially cutters. The apricot crop is immense and the supply of cutters seems to be limited. Growers are paying from 12 to 15 cents per box for cutting, and cannot get all the help they need.

At a recent meeting of the wine grape growers of Barry district, an organization was effected, to be known as the Sutter Wine Grape Growers' Association. The purpose of the organization is to hold together in the disposition of their crops and thereby ascertain the market conditions and solicit bids for their grapes.

For the purpose of marketing their own products, thereby doing away with the long-established plan of selling through commission firms, and to erect and operate a packing house, ranchers of Lemon Grove, Santa Cruz county, have incorporated the Lemon Grove Fruit Growers' Association, with an authorized capital of \$10,000.

Fifteen tons of rare plant, vegetable, and tree life were brought to the National Plant Introduction Garden at Chico by Frank N. Meyer, who has been in China and other Asiatic countries for three years. The new importations are of great variety, and will be planted in the Chico gardens for experimentation, and from there sent to all portions of the country.

The Association and other canneries throughout northern California will be operated full time this season, it is an-

nounced, and capacities are being increased in many of them in order to handle the unusually large yield of fruits of all varieties. Prices are starting well in nearly every instance recorded, and the growers stand to reap splendid results.

In anticipation of the shipment of the apple, pear and prune crop, many fruit buyers from Los Angeles are in Beaumont valley contracting in advance for those products. Bartlett pears will bring between 3 and 4 cents a pound, and the average production will exceed \$250 an acre. Pear raising in Beaumont is particularly advantageous, as the trees are not noticeably bothered with blight.

Although the peach season is rapidly approaching, the buyers of the respective canneries are not as yet taking much of the crop. It has been reported that the Sutter Preserving Co. has made offers of \$25 and \$27.50 for clings, but has not secured any great quantity at that figure. The growers are considering the offers closely this season, and it is now expected that the price will be better than was at first reported.

At Winters hundreds of tons of apricots are on the ground going to waste. The recent hot spell, accompanied by north winds, caught many of the growers unprepared and with facilities inadequate to handle the crop, which is immense. Thousands of tons of apricots have been shipped to canneries in Sacramento, Oakland and San Francisco, and hundreds of cars have been sent East, while still many orchards are heavily laden with fruit yet to be dried, and it is a question whether or not some orchards will ever be touched.

The merchants of San Diego propose to test the Tehautepec route as a means of shipping lemons to the East. The first south-bound boat of the American-Hawaiian line will leave July 14, and it is purposed to ship a carload of lemons by her to Salina Cruz, thence by rail to Coatzacoalcas, and thence to New York by steamer. The fruit growers believe that the success of the shipment will mean that the Tehautepec route will be extensively used hereafter for lemon shipments.

State Horticultural Commissioner Jeffrey received word that a shipment of plants and trees from China, consigned by the United States Bureau of Plant Industry to the Government Experimental Station at Chico, had been tied up at San Francisco, and the plants and trees thoroughly fumigated, and in some instances defoliated. There were 152 crates of bamboo, conifers, lilacs, lemon trees, elms, and a few other varieties. The lilacs were cut back to the stumps, the elms were cut to the roots, and the lemon trees defoliated.

### LIVE STOCK.

C. D. Manning, near Holtville, Imperial county, is raising alfalfa and hogs. He has 1800 head of hogs on the place at present, of which all but from 300 to 400 will be put on the market soon.

The annual spring wool sales were held in Cloverdale, and a large quantity of wool changed hands. The prices were decidedly unsatisfactory, and many growers held for an extended increase. The general average price obtained was 13 cents, and some few sales went at 13½ cents. This is the lowest price that the spring clip has reached since 1896, when it only brought 9 cents per pound.

The vineyards of Arbuckle are being greatly damaged by grasshoppers. The injury is not reported as being very bad to the old vines. The pests are attacking the young vines which are about a year old. The grasshoppers are said to be in that section in countless numbers. Many different processes have been tried by the

vineyardists to destroy the pests, but all to no avail. It is said that one turkey will eat a large number of grasshoppers in one day, and by putting a large number in the field the hoppers should soon be exterminated. This remedy is about to be tried by many of the vineyardists.

### AGRICULTURE.

The beet crop near Pleasanton is expected to be at least 50 per cent greater than that of last year.

On June 26 John F. Shaeffer hauled to Gridley warehouse the first grain of the season, a lot of excellent barley.

With few exceptions, the Oakdale farmers who are now harvesting their grain crops report the yield better than they had expected.

The Tulare County Times predicts that the grain crop of Tulare county will be a surprise to many who have anticipated only complete failure.

From the U. S. Crop Reporter we learn that June 1 the California wheat crop was placed at 65%, oats 73%, barley 70% and Alfalfa at 90% of a full yield.

The biggest price for wheat in this part of the county this year was paid when a small bunch of grain was sold to one of the local buyers for \$1.57½, says the Porterville Enterprise.

Joseph Sexton of Goleta has a stalk of barley with four distinct heads, one head to a stalk being the rule. He has saved some of the seed to plant, with the view of producing a new variety with greatly increased productivity.

A record-breaking crop of the season was raised by Claus Eggert on what is known as the old Hahnke place, in Tremont township, Solano county. The field contained 152 acres, the yield being over 4600 sacks of barley.

W. T. Miller, 3½ miles northwest of Fowler, has a field of alfalfa on unirrigated land that was sown last year. He has made the first cutting for this year, the shoots measuring from three to four feet. He estimates that this cutting will average two tons to the acre, and he is selling hay in the field at \$10 per ton.

The prospects at the present time indicate that the hop crop on Bear river will be an unusually large one this year. At present the hops are climbing onto the top wires and are growing unusually fast. The new hop picking machines which the E. C. Horst Co. are building attract much attention and are the source of much speculation.

The warm weather could not have been more ideal for harvesting the heavy crop of Colusa county grain. The harvest of fruit is also progressing rapidly under present conditions. Crops in Colusa county will be much heavier this year than last. The quality of the grain is superior, and the farmer will do considerably better than he did one year ago.

Harvesting by moonlight is in vogue on the Green ranch, near Davis, says the Woodland Mail. A large crew of men is employed on this ranch during the day. In the evening another crew goes to work, and continues until the moon sets. In this way a large amount of grain is harvested within 24 hours, and the whole crop will be in the warehouse before many days.

The Herald's advices from Crows Landing are to the effect that the barley harvest is in full swing. Barley is ranging all the way from 22 to 25 sacks per acre, and there is lots of it. The wheat harvest has not commenced as yet, but grain experts in the Crows Landing district estimate it at from 8 to 10 sacks per acre. Reports from the county in general will show that the grain crop will average much heavier than was predicted.

### MISCELLANEOUS.

The planting of tea in Colusa is the latest.

A new vinegar plant is being installed at Watsonville for manufacturing vinegar from apples.

The people of Capay valley, Yolo county, are arranging for a harvest festival on July 29.

Marysville shipped over 15,000 pounds of cucumbers in one day recently. They were all grown in the swamp lands of Yuba county.

Large irrigating plants are being installed by farmers in Colusa. One plant will put three inches of water on 1200 acres of land in 24 hours.

Gifford Pinchot, head of the U. S. Forestry Service, is expected to meet with the reforestation committees of Orange, Riverside and San Bernardino counties at Santa Ana next week.

Ranchers and orchardists of Sutter have been placing gasoline pumps on their places of late and find them of great convenience. The orchardists especially are pleased with the results.

The fruit buyers for the canneries in Marysville and vicinity figure on taking care of about 4000 tons of cling peaches for canning purposes. A careful estimate of the probable cling peach crop places the figures at 2635 tons.

The melon growers of the Imperial valley will hardly make expenses this year. The great acreage, which was expected to realize \$1,000,000 this season, has been too much for the trade, and the further trouble of getting into the Eastern markets at same time the heavy peach crop from Georgia arrived, are the cause of the slump in melons.

Camped on the Barlow ranch in Green valley, Sonoma county, are more than 100 lads of the Boys and Girls' Aid Society of San Francisco. They are there for the purpose of harvesting the berry crop. The boys are compensated well for their work, and after paying a small amount for their board in their own established camp they have a balance they put in the bank.

According to recent dispatches, the hop market is looking a little better for the 1908 crop. It is stated that 9 and 10 cents have been offered for this year's crop, and some contracts have been made at that price. The outlook in Oregon is for a short crop, which has given tone to the present market. It is estimated that the Oregon crop will not exceed over 100,000 bales, as compared to nearly 160,000 last year.

The Napa Canning Co.'s plant, in East Napa, is now running with 473 employees. The company is shipping its product to London and Liverpool, England; South America, Africa, and all over the East and Middle West. Two cars of apricots were loaded for England. Last year the cannery handled 50,000 cases of goods; this year the total output will be about 150,000 cases. There is a lively demand for canned goods all over the United States and Europe.

It is expected that Santa Clara county will make a fine showing of fruits, wines, nuts, and other products at the State Fair. The management has arranged for the free transportation of exhibits to and from the fair, and it is expected that local producers generally will take advantage of the opportunity to set forth the resources of the county. It is proposed to make this the best State Fair ever held, and such exhibits as are suitable will be held over and taken to the Seattle Exposition next year, being finally returned to the owners, without expense to them.



## Live Stock and Dairy.

### Testing the Herd for Tuberculosis.

By PROF. E. W. MAJOR.

There is no question concerning live stock that is receiving more attention at the present time than this. As in every other question, there are two opposing sides. One probably exaggerates the danger of this disease; the other minimizes it, or refuses to consider it at all. It is not my intention to discuss this question at present from the standpoint of public health, but rather from the standpoint of a breeder.

Live stock men are being urged at all times to test the productive capacity of their stock. The dairyman tests his cows to find out whether they are profitable producers of butter-fat; the breeder of beef cattle to find whether his animals are making a sufficient gain on a given amount of feed; the trotting horse breeder tests his product by the watch; each line has its method of determining the amount of success the breeder has achieved. Important as these tests are, it is surely of equal importance, to say the least, that the breeder should know that he is working with healthy animals.

**TUBERCULIN.**—Unfortunately, with tuberculosis it is not always possible—in fact, it is not in the majority of cases—to tell by the physical appearance of the animal. The tuberculin test has now been in use for a good many years. The writer's first experience with it was had about fifteen years ago, and since that time he has used it quite extensively. Troubles that some people report as their experience has not fallen to his lot, and so faith in the test has not been lessened.

Most of the difficulties that others report undoubtedly come from a lack of understanding as to what tuberculin is, or from having it used by incompetent people. While the method of using the test is simple, yet it takes some experience and intelligence to enable the operator to apply it properly, and also, a thing of great importance, to know how to handle the animals while undergoing the test, so as to secure reliable results.

Every breeder should learn how to apply the test, and then he has the power to determine just what animals in his herd are free from disease. The fact that an animal reacts does not mean that it must at once be killed. Choice breeding females may be segregated from the healthy ones, and their calves removed from them at birth. In this way a breeder

does not have to destroy animals that may have cost him much thought, much time and money to produce.

**EASE AND PROFIT IN TESTING.**—While I have no figures to prove my statements, yet I believe that a herd free from this disease will give the owner much less trouble from shy breeding, the calves will come stronger, and be more easily raised.

There is another reason, too, why the breeder should test his herd. All this agitation that is going on is bound to have its result, and one result will be that buyers will begin to demand tuberculin-tested animals. The breeder who has put himself in shape to meet this demand will receive his reward in increased sales. Test your cattle, and have not only big producers but healthy stock as well.

### A Hint for the Times.

Just at the present time the market for all classes of pure bred stock is a little slack. This is due largely to the present condition of financial unrest. It ought not to cause breeders or prospective breeders any great worry. The reaction will soon set in, and the prices will be as high or higher than before. It is a good time for you to look over your herds and flocks and see where they need strengthening. Hold on to the best you have and dispose of the poorer ones, and then fill the gaps with the best you can secure. Many a breeder has made the great mistake of disposing of his stud or herd because things looked bad to him, selling at a sacrifice, only to find that the pendulum soon swung the other way, and when prices were higher he had nothing for sale—in fact, must needs buy or stay out of business.

E. W. M.

### Milking Machines.

There is no part of dairy work that causes more complaint than milking. Good milkers are scarce. By good is meant those who will treat the cows properly, milk clean, and keep themselves clean. Milking must be done at regular hours twice a day, every day in the year. Men soon get tired of this, and will frequently leave with no notice, and so the employer finds himself with a string of cows to milk. On account of the work, good men are not, as a rule, willing to hire out as milkers.

For many years men have been experimenting on milking machines, and at the present time it looks as though they were well started along the right road. A number of experiment stations have tried these machines, and while it cannot be said that the results secured were all favorable, yet the general indications are that when properly handled the machines are satisfactory. The important point brought out in all trials, whether at experiment stations or on dairy farms, is that the machine must be handled in the right way, cups must be carefully fitted, and the machine run at the proper speed. Cleanliness is an exceedingly important factor. If the machine is kept properly clean there can be no more sanitary way of drawing milk for commercial purposes. If, on the other hand, the tubing is allowed to get dirty, the results will be less satisfactory than with good clean hand milking.

The Division of Animal Industry will have milking machines in the new barn on the University Farm at Davis, and instruction will be given in the intelligent handling of these machines.

E. W. M.

### The Dairy in Oregon.

The report of the Oregon State Dairy Association has just been received, and is very creditable. Aside from the statistics,

it contains a number of thoughtfully prepared and extremely readable addresses on every phase of the dairy industry, of equal value to the man keeping one cow or the professional dairyman. It is the record of one of the most successful and most largely attended dairy meetings ever held on the Pacific Coast, of an industry which meant seventeen millions of dollars added to Oregon's wealth last year.

The Oregon State Dairy Association is most ably aided in its work by the Portland Commercial Club, a combination of dairy and commercial forces which has proved immensely effective in advancing the dairy interests of the State. The entire equipment of the club, in fact, is placed at the disposal of the Dairy Association in circulating this report so that dairymen all over the United States may be made familiar with ideal conditions which produce green pasturage almost every week in the year, and a product which commands the highest price paid in America.

### New York Dairymaids Draw the Line at Overalls.

The orders promulgated by the New York Board of Health are causing much concern to many of the milk producers of Orange county, especially those who have their milking done by female help, as is the case in some of the largest farms in the county.

The women declare they never will don white duck overalls and jumpers in order to be equipped to milk cows, but will continue to milk in the same costume as they have for years past, or not at all. They say they could not be induced to adopt the new costume if all the boards of health in New York State issued edicts to that effect. The farmers declare it will be a great loss to them if they are compelled to dispense with women employees at milking time. They will endeavor to secure a modification of the order.

### MORE MILK—MORE MEAT

**IF YOU USE  
LILLY'S  
BEST  
FLY  
KILLER**

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.

A. F. CHAPMAN, Monahan, Wash.

For Sale by Dealers

### Three Million Sheep Dipped.

State Veterinarian Keane has practically concluded the thorough campaign against scabies that has been waged unrelentingly in California for several months. More than three million sheep have been treated under direction of the State and Federal authorities, the latter acting under the State's authority, says the Sacramento News.

Some difficulty was experienced in finding flocks, the dry spell in the valleys encouraging animals to take animals to the mountain ranges earlier than usual. In all such cases the flocks were pursued into the mountains and dipping plants improvised. Owners generally stood in with the authorities, and thus facilitated the work of the department.

Altogether 100 men were engaged in

Warranted to Give Satisfaction.

### Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.



## EXCLUSIVE Tubular ADVANTAGES No. 2

### LOW SUPPLY TANK

Last week we told you of the light, simple Tubular Bowl—how it was different from complicated bucket bowls—how it was an exclusive Tubular feature—not found in other makes.

This week we offer you Feature No. 2. The Low Supply Tank.

Don't overlook this point in buying a separator. You know a milk pail full of milk is quite heavy and when you have to lift several a day to fill a separator tank that is shoulder-to-head-high, it means back-breaking work that is needless, for the Supply Tank on the Tubular is scarcely waist high to a woman 5'2" feet tall. These are



## 2 Good Reasons WHY

the Tubular is the separator for you. The Tubular is in a class by itself—so much ahead of others that when compared or tested in actual work the difference is at once apparent in its favor. Let us send you Catalog 131 it's full of interesting proof.

**The SHARPLES SEPARATOR CO.,**  
West Chester, Penna.

Toronto, Can., San Francisco, Calif., Chicago, Ill.

the work of dipping and inspecting. Of these the State supplied 60 and the Federal Government 40. Results amply justify the trouble and cost, for California can now, after the first and second dipping, present a clean bill of health in its animal industries.

State Veterinarian Keane is highly gratified over the outcome of his campaign, and anticipates that next year the work will be easier for the past experience.

Owners have learned that the State's interest in the protection of flocks is for their own benefit. At first there was considerable antagonism to the intervention of the public inspectors, but results have demonstrated that the real gainers are the owners. Sheepmen more than ever before realize the peril that they have been submitting to.

### The Automobile From a Horseman's Point of View.

At one of the social functions which were a feature of the recent Toronto Horse Show, Mr. George B. Holme, a well known New York horseman, made the following remarks on "The Automobile From a Horseman's Point of View":

In these days of automobiles, when a horseman is called upon to speak, he feels very much as David must have when he stood in the camp of the Philistines; but he would feel a great deal worse than he does, if we did not all of us remember what happened to Goliath.

When I was asked to speak to an automobile banquet in New York the other day, on the subject of "The Automobile From a Horseman's Standpoint," the gentleman who invited me told me that I could go as far as I liked; but he forgot that we lived in a city where there was a society presided over by one Anthony Comstock, and that if I said what I really thought, some of my remarks might have had too much gasoline in them.

Personally, as you all know, I love a horse, but I respect an automobile; I have to, it is so much bigger than I am and travels so much faster. Automobileists, however, have one or two mistaken ideas that ought to be corrected. In the first place, they have an idea that every

horseman damns the automobile. They are mistaken. Why should any self-respecting horseman take the trouble to make an ass of himself by anathematizing an inanimate creation of steel, iron, wood and rubber? No gentleman, no horseman wastes his breath in damning an automobile; he damns the chauffeur. Again, how often do we hear that so and so was out in his auto, and met so and so driving; and his horse was scared to death at the auto. Mistaken again; nine times out of ten the horse was not nearly as much scared at the auto as the horseman was at his horse.

After all, I don't see that the automobilist has any the best of the horseman; in fact, the balance is rather in favor of the latter, as I will prove to you. Once in a while an auto gets cranky and refuses to start; but a horse can be balky, too. The wheel of an auto sometimes strikes a stone, and skids, but a horse can shy; the auto can run away, but so can a horse; the auto climbs up telegraph poles, but a horse jumps over them. When a horse breaks down and dies the owner can still send him down to Barren island and get a five-dollar bill for him; but when the auto breaks down and is towed back to the garage, the owner gets a bill for much more than five dollars.

Statistics prove that the value of all the horses in the United States in 1907 increased \$20,952,000, yet the average value only decreased in cents. I am not sufficiently well posted on the automobile industry to know how much their total value increased, but from what my friends tell me, the value of a great many machines decreased until they were not worth ten cents.

Again, statistics prove that more horses were sold during 1907 than in any previous year. I don't, however, consider that altogether a bull argument for the horse, for two reasons: First, there were more horses by 245,000 to be sold; and, second, those who had horses to sell were eager to find customers before they were all killed off by the automobiles.

After all, when you come to think of it, automobiles have their uses. A few years ago the roads in our parks used to be closed for renewals about once in three years; now they are closed three times in one year. That benefits the contractor. Again, those roads used to be as smooth as a floor; now they are so full of ruts and holes that we have to send our carriages into the shops for repairs every season. That benefits the carriage builders. And many an honest dollar has been earned by the farmer by hiring out a team to draw back to the nearest garage an auto that is out of commission. That benefits the farmer. And we all know that what benefits the farmer benefits the entire country. Therefore, as the auto benefits the farmer, the auto benefits the entire country.

Well, gentlemen, there is plenty of room for both of us, except perhaps in a narrow lane, where the auto, of course, ought to make way for the horse. All we need is a little more of the spirit of give and take. Let the chauffeur show a little more consideration for the pedestrian, and the horseman a little more for the chauffeur, and we shall all get along.

The auto has come to stay, whether we like it or not; so we might as well stop kicking, and rather give this parting word of advice to our friends who own autos: "Safer is the owner of an auto in a road

full of frisky horses, than in his machine with a chauffeur full of ponies of brandy."

H. P. Eakle, Jr., purchased nine head of fine bulls at the Pierce sale at Suisun. This last importation into Yolo county is in addition to his regular stock, and added to recent importations from the East, makes an excellent herd.

The machinery is on the road and bids were opened last week, for the big packing house plant to be built at Portland, Ore., for the Union Meat Co. The main structure will be 200 by 130 feet, with an annex 130 by 75 feet, and six stories. Four other buildings, three stories high, will also be erected. This plant is to be controlled by the Swifts.

The Board of Supervisors have under consideration a petition for a franchise for another immense irrigation enterprise to be established in the vicinity of Biggs and Nelson. S. J. Norris proposes to take 60,000 inches of water from the Feather river at a point about six miles southeast of Oroville and convey it by means of large canals to lands on the West Side. He estimates that his system will be capable of putting water upon 300,000 acres of land in a portion of the county where it is most needed.

California Mutual Live Stock Insurance Assn., 712-713 Delta Building.

Los Angeles, Cal., Aug. 8, 1907.

Tuttle's Elixir Co.—

Gentlemen: I had occasion to use your elixir on one of my horses last winter, and I was very much pleased with the effect produced. The animal had fallen and bruised her leg severely, and considerable fever had set in. The Elixir was applied a few times, and she recovered very quickly and completely. I consider it the best remedy I have ever used for bruises and cuts and for any other use where a liniment would be required.

M. L. WRIGHT, President & Gen. Mgr.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

FOR SALE—Jersey bull sucking calf very fine pedigree. PERKINS & CO., Sacramento, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

**SAVE MONEY** by using our Self-Cleaning Curry Comb, sample 50c., and our Harness Dressing that keeps harness looking like new, sample can 10c. Send us your dealer's name. Agents wanted. CHARLES BRYANT, Shreve Building, San Francisco, Cal.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**  
(General Agents U. S. A.)  
161 Randolph Street, Chicago.

The E. Clemens Horst Co. will erect a plant for manufacturing alfalfa meal at Red Bluff, as there is a growing demand for the article. The encouragement from this industry will give a stimulus to the planting of alfalfa. This plant is expected to grind about four tons per hour, and in a day fully 40 tons will be worked up.

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**  
Importer and Breeder of

## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.



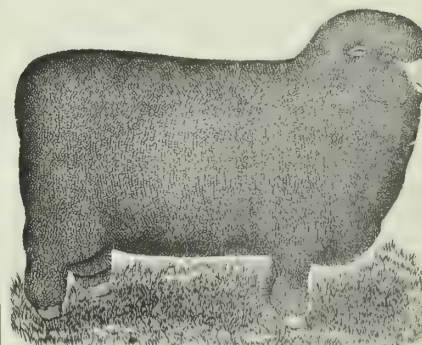
**FRANK A. MECHAM**

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a largesheep with out wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.

West of San Pablo Ave.

**KENDALLS SPAYIN CURE**  
Never failing cure for Spavin, Curbs, Splints, Ringbones, all lameness. Also a great family liniment. 21 a Bottle, 5 for \$5. Ask druggists. "Treatise on the Horse" free at drug stores or address Dr. R. J. KENDALL COMPANY, Enonburg Falls, Va.

**SERWE & PRIEN**  
(Distributors for Pacific Coast.)  
San Francisco. Los Angeles. Seattle.



## The Poultry Yard.

### POULTRY FOR THE HOME.

#### Part V.—The Hatching and Rearing of the Chicks.

By M. R. JAMES.

The little chicks are the daisies of the poultry yard. They are by far the prettiest and smartest of all new-born babies. Something is surely wrong with the heart that can feel no charm of these downy birdlings cuddling under their hover or scratching to the chirping music of their happy "sweet, sweet!" These are the well-born, well-cared-for chicks; but, alack, for the other kind, drooping, bedraggled, with their distressful "yap, yap!" Unlike some other youngsters, chicks never cry except for cause. When you hear that insistent, pitiful yap, be sure that the chicks are suffering for something, or from something; and if you cannot change it to the satisfied "sweet, sweet," your chances will be slim for fresh eggs and chicken pie from that brood.

**A SUBURBAN START.**—For the dozen or so hens kept on the city or town lot, it is the better plan to do away with the hatching and care of young chicks, and to buy pullets, or the pullet chicks just weaned from the brooder, of your choice breed from good stock hatched at the right time for fall and winter layers. In May or June is the proper time to get them, when they are two or three months old. These will require no more attention than grown fowls; while in hatching and rearing chicks in limited quarters, the louse question and other difficulties are likely to assume large proportions unless more care is devoted to the work than most city people will give. Each fall the hens may be marketed when they begin to moult, and a new set of pullets purchased to take their places. In this way one may have a constant supply of fresh eggs, with work and difficulties almost nil.

**CARE OF THE SITTER.**—In hatching with the hen, be sure your sitter is free from lice and scale—put her through the treatment for these pests even if you are confident she hasn't any. Make her nest in a new box, with an inch of sifted earth and lime in the bottom, over this fashion clean straw smoothly with the corners of the box filled and rounded. Put it in a comfortable place, away from other fowls, and when the hen is settled in it, give her fourteen, or fewer, eggs that are fresh, smooth, of medium size, and of stamina. Have handy for her a fountain of water, a hopper of grain, and a dust bath, and leave her alone; often the broken egg or the trampled chick for which the hen gets the full credit is chiefly due to the fussy interference of her care-taker; when she comes off the nest, however, notice that all is intact; if it should be fouled or an egg broken it must be cleaned and the other eggs washed in warm water. This is important. It is well, but not necessary, to test out the infertile eggs about the eighth day. This may be easily done by forming a funnel from cardboard and holding the egg to the small end between the sunlight and the eye. The infertile ones will be clear, the others dark. Where several hens are set at the same time, one or more of the hens may be re-set or eliminated by this means. Disturb her as little as possible while hatching; the hen does not leave the nest for a couple of days at this time. It is best not to remove her to the coop until the morning of the 23d day; but if she should be restless it will need to be done sooner.

Occasionally, a hen will get off with the first-comer and leave the nest to its fate. In that case, the chicks will have to be taken from her as they dry and kept warm in a soft-lined basket during the day, until the hatch is complete. Have ready a coop with an inch of clean dry sand covering the bottom, and over this in the front part a sprinkling of pounded shells; on one side a water fountain made on the principle of an inverted cup in a saucer. This may be bought at the poultry supply stores, or made from a fruit can with an inch deep, straight-edged pan for the saucer. The space between the can and the edge of the saucer should be one-half inch, which gives the chick ample room to drink, but none to put a foot in. Take the chicks from under the hen into a warm basket, dust them lightly with buhach and cover them. Now give the mother a thorough dusting with the powder, wipe her head and legs with coal oil, and turn her loose to stretch her legs and refresh herself with food, water and dust bath before settling down to the care of her brood; after which place her in the coop with her babies and sprinkle a handful of chick feed over the pounded shells.

**POINTS ON THE INCUBATOR.**—In hatching with the incubator use one of the best standard make, and follow the directions which go with it. Let it be in charge of but one person, as too many cooks spoil the broth, so much more certainly will too many care-takers spoil the hatch. Have a regular time each day to fill the lamp, and this should be just before dark, as the full lamp throws out more heat, which is needed at night. Perhaps the following "don'ts" may be of use to the novice:

Don't crowd the incubator with eggs.

Don't change the regulator to correspond with outside variations of temperature; raise or lower the flame instead.

Don't be anxious and fussy, but faithful and exact; a good machine requires no sitting up with nights.

Don't let the temperature go below 102 degrees or above 103 degrees throughout the hatch; but when the chicks are coming out of the shell it may go up to 104 degrees with advantage.

Don't open the incubator to help chicks out of the shell.

On the evening of the 21st day the hatch will be complete unless the machine has been run at too low a temperature or the eggs too old. (Eggs put into the incubator should be as good as those put under the hen—and a little better if anything, for we cannot expect conditions to be as perfect as in natural incubation; yet we hear of "incubator eggs" as if any old egg was good enough for that purpose.)

**THE ARRIVAL.**—Take the trays out now and give the chicks breathing room; and on the 22d day throw all the remaining eggs into a bucket of water, and so put an end to any hopeless struggles—it is poor policy to work with belated and helped-out chicks. If the hatch is small, the chicks may remain in the incubator, but if at all crowded or the weather hot, they should be removed at once to the brooder, which should have been in readiness, clean and well aired, with an inch of dry sand over the bottom and a nesting of cut alfalfa hay under the hover, where the temperature should be about 95 degrees. Darken the brooder and leave the chicks to complete their development until the afternoon of the 23d day. At that time open the top of the brooder and set in a water fountain such as has been described, sprinkle pounded shells over the sand in the lighted portions of the brooder, and chick feed over this. It will be lively times now with the little chaps, running and flapping their bits of wings,

tweaking each other's toes and scratching for chick feed; but they will soon tire. Right here the first attempt to huddle should be checked and the huddling habit prevented. The caretaker should remain with them during the first several feeds, and as soon as their sleepy cuddling call is heard they should be put under the hover. After the first feed they will need nothing more until the next morning, but care must be taken in keeping the temperature right and making sure that all are under the hover before leaving them for the night.

**THE SECOND BREAKFAST.**—At peep o'day the chicks will be bright and ready for their second feed, which should be just chick feed as before. Put in the fountain of fresh water and a handful of dry alfalfa or clover leaves, and sprinkle the feed over the dry leaves. The way the little feet will fly and the leaves scatter to the music of "sweet, sweet," is worth getting up early to see.

On the next day a small portion of the run in front of the brooder may be fenced off with a strip of board and the chicks allowed out; but as soon as they begin to huddle they must be put back into the brooder. At this time, if they persist in catching and nipping toes, a beef or sheep heart should be well cooked and lightly seasoned with salt and red pepper, then cut in strips like tiny angle-worms, and a small quantity of this scattered among the chicks. This will give them the "time of their lives" and relieve the craving for worms—animal food—which is the secret of toe-eating. Should a toe get nipped and bloody, dip it into tar or crude petroleum, and then into dry sand. Begin now to cut grass or clover very fine and scatter with the chick feed, and as soon as the chicks will peck at them keep bunches of fresh lettuce, chard and the like tender leaves securely tied out of the dirt just above their heads. Give them a light feed of the fine-cut cooked heart each day, and alternate cracked wheat with the chick feed. When the chicks are some ten days old, give whole wheat and cracked corn for the last feed of the day. At four weeks old the regular noon mash for growing fowls may take the place of the meat straight. Milk is an advantage to chicks, as it is to fowls of all ages, but it should never be given as a drink. It becomes unwholesome sitting about, and the fowls get bedraggled, which is always injurious to them, and especially so to chicks. Use it in the mashes or chick bread, or drain off the whey and feed the curd. Always have grain, fresh green feed and water accessible to the chicks, but feed mash but once a day, and never allow it to lie around.

Keep everything sweet and clean about the chicks; sun the hovers; scrape out the brooder and runways, then dust them with air-slaked lime, over this sprinkle sand, with clean little in the brooder. Occasionally at night dust the chicks with insect powder. By keeping the brooder and runs clean and well sanded, the troublesome balling-up of the feet may be prevented.

**FARTHER INTO THE WORLD.**—The heat under the hover should be sufficient to make the chicks spread apart, but give them plenty of room and air, and after the first two days let the entire front of the brooder remain open night and day. The third week, begin to drop the heat out of the brooder; this may be safely done by substituting a large low hover such as is used in the fireless brooder. Give the chicks more room now, by dividing the brood into bunches of not more than 25 chicks each. This may be done by furnishing flat boxes with the low hovers, for extra brooder room. A warm brooder house is essential in raising chicks; with this they may soon be

weaned from the brooder, and the sooner this is done the better. By furnishing warm nesting, and hanging the hovers directly in front of the closed brooder at roosting time, the chicks may be turned out of the brooder without knowing that they are out. These low hovers which keep the chicks from piling up, may be used at first in the weaning pens, and gradually raised until entirely removed. Then put wide, low perches in their place and make a slatted frame of lath to be set slantwise under them. With attention each evening in straightening out the chicks on the perches they will soon be roosting like grown fowls, and the trials of their chickhood will be over.

**ASSORTING THE FOWLS.**—At this time, when they are about six weeks old, separate the pullets from the cockerels, in chicks of the Mediterranean class; also cull the brood and put the slow-growing, imperfect pullet chicks in the fattening pen with the surplus cockerels for market purpose. To build up a vigorous, profitable flock requires close culling; no weakly, backward chick should be retained, no matter how high-priced the egg it came from. The cockerels and the pullets kept for breeders and layers should be given as near free range as possible, with plenty of green feed and grain at all times, but no forcing. They should never be turned out with the general flock, or even with young fowls much older than themselves. The market chicks should be put in small but clean pens and fed fattening mash morning and noon and cracked corn with some wheat at night. Market them as squab broilers, which is more profitable than keeping them longer.

**REWARDS OF SUCCESS.**—Now the poultry raiser may draw a breath of relief; and, if his work has been well done, may look with a very pardonable pride upon his flock—the pullets growing in beauty each day and putting on the airs and graces of young henhood; the cockerels, gay-combed and saucy, strutting over their first crow. There has been some drudgery and tedium connected with the care of the poultry and the rearing of the chicks, but through it all one is conscious of a note of pleasure that has given an added interest to the home. This is the point in living—to add to the interests of life, especially the home interests, which are the most wholesome of all. Perhaps the summer with the poultry has developed the latent talent of the fancier, and one enters upon the fascinating study of heredity and breeding and eventually tastes the keen pleasure of competition and victory in the show-room. Then there is, or should be, a spiritual interest connected with all our work; and we shall find it well to be brought in touch with "our poor relation," for in watching their curiously human instincts and affections we come to realize the kinship of the universe.

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN,** Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY,** 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

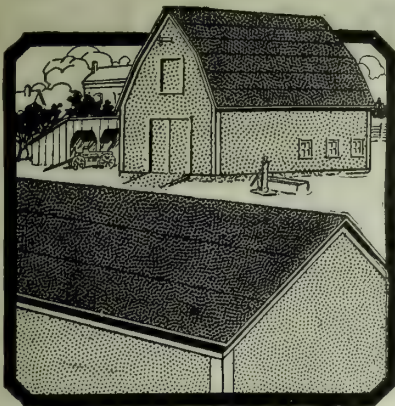
### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

**A BARGAIN** 3000 S. C. WHITE LEGHORN HENS, Carrington strain, hatched in March and April, 1907. For sale in lots to suit. Address

MAMMOTH POULTRY FARM, Napa, Cal.





### The Guardian of Your Buildings

The finest thing about REX Roofing is the sense of security it gives. You don't have to worry about REX. You know that a building roofed with it, is roofed as well as can be, and protected as thoroughly as can be. The hardest storm cannot get water through it, nor blow it off; the hottest sun cannot melt it nor open its seams; falling sparks cannot ignite it.

## REX FLINTKOTE ROOFING

Is durable; it is good all through. Its body is high grade, long-fibre wool felt, heavy, dense and durable; the saturation or water-proofing is slowly worked in until the body is thoroughly impregnated with it—REX saturation will never dry out; the coating is of special rubbery, gummy compounds that unite with the body and the saturation.

WRITE for BOOK and SAMPLES, FREE

The book will tell you all about Rex Flintkote Roofing. The samples will enable you to test its properties.

J. A. & W. BIRD & CO.,  
91 India Street, Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & Co.,  
San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Port-  
land, Seattle, Tacoma, Spokane.



### The Game Laws of California.

Arranged by C. A. Vogelsang of San Francisco, Chief Deputy California Fish and Game Commission.

Hunters' licenses are now required, and they are to be obtained from the respective county clerks or the Fish Commission or their deputies. Licenses cost as follows:

For citizens of California, \$1.00 per year.

Non-resident citizens of the United States, \$10 per year.

Non-citizens (aliens) \$25 per year.

Open Seasons — Ducks, October 1st to February 15th; doves, July 15th to October 15th; valley quail, ibis, curlew, plover, rabbits, rail and all shore birds, October 15th to February 15th; snipe (Wilson or English), October 15th to April 1st; trout, May 1st to November 15; steelhead trout, May 1st to Sept. 17th and Oct. 23d to Jan. 1st; salmon, Oct. 23d to Sept. 17th; lobster and crawfish, Sept. 15th to Feb. 15th; black bass, June 1st to Jan. 1st; crab, Nov. 1st to Sept. 1st; clam, Sept. 1st to May 1st; deer, Sept. 1st to Oct. 1st; tree squirrel, no open season.

WHAT IS ALWAYS UNLAWFUL.—To buy, sell, offer for sale, barter or trade, at any time, any quail, dove, pheasant, grouse, sage hen, snipe, ibis, plover, rail or any deer meat or deer skins.

To have in possession doe or fawn skins.

To take or kill, at any time, does, fawns, elk, antelope or mountain sheep.

To take or kill any pheasant, grouse, sage hen, swan, or imported quail.

To run deer with dogs at any time, except to follow a wounded deer in open season.

To shoot half an hour before sunrise, or half an hour after sunset.

To trap or hold protected game or birds of any kind without having first procured written authority from the Board of Fish Commissioners.

To take, possess, or destroy nests or eggs of any birds.

To ship game or fish in concealed packages, or without your name and address.

To buy or sell trout less than one pound in weight.

To take or have in possession at any time golden trout, Sacramento perch, sturgeon, or female crabs.

To take red or green abalones less than 15 inches, or black abalones less than 12 inches in circumference.

To take any abalones with diving paraphernalia of any kind.

To take trout, black bass, or steelhead, except with hook and line.

To take salmon, shad, or striped bass with a net less than 7½ inches mesh, or to use a set-net.

To fish with a boat and net without a license.

To fish for salmon, shad, or striped bass with nets Saturday and Sunday.

To take fish, in any manner, within 50 feet of a fishway.

To take, buy, sell or have in possession striped bass less than 3 pounds in weight.

To take or kill meadow larks, robins, or any other non-game birds, except bluejays, English sparrows, sharp-shinned hawk, Cooper's hawk, duck hawk, great horned owl, or California linnet.

To shoot on enclosed or cultivated land without permission.

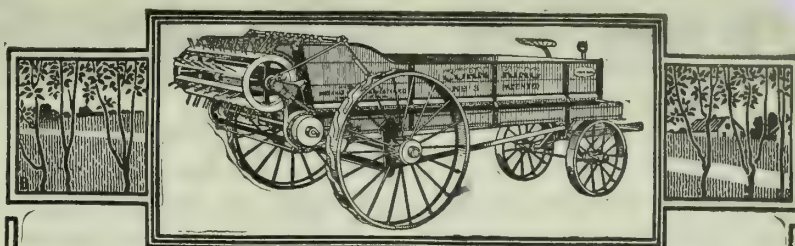
To export dried shrimp or shrimp shells.

Shipping game:— All game and fish must be shipped in open view with name and address of shipper.

Further experiments in the growing of cotton are to be taken up by Chief August Mayer of the national plant introduction garden at Chico, and two acres will be devoted to the care of twenty-five varieties. Last year a couple of acres of land were given to experiment with cotton varieties from various sections of the United States, and the plants produced in a highly satisfactory manner. Chief Mayer states the product of some of the plants was equal in quantity and quality to any cotton grown in the South. The New Zealand variety produced equally as well in Chico soil as in the South. This year the seed from the Chico-grown cotton, and not the seeds from other sections, will be planted, and this will determine the question as to whether Chico-grown cotton seed will produce as well as the Southern seed. Relative to whether cotton growing would become an industry in the Sacramento valley, Chief Mayer expressed the opinion that the labor problem would probably prevent its being profitable.

James L. Gibson, an apple buyer of London, Liverpool and Glasgow, visited Watsonville recently. He is impressed with the crop outlook, and sums up conditions thusly: "There will be a big crop of apples on the market this season, and prices probably will be low. In England we do not keep cold storage apples, but sell our stock to the consumer immediately. We have the Australian apple on our market, and it serves its purpose of supplying the demand when no other apples are on hand. While the shipments of Australian apples are growing larger each year, the Australian apple can by no means compare with the Pajaro Newton Pippin. Watsonville is well known to the English apple eaters, and I have traveled a long distance to view the select spot where this favorite fruit is grown."

THE NEW EGG FARM.—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1



## Make the manure bring you \$4 a ton

### Thousands of Successful Farmers Are Doing It

There is no charm or secret about it. You simply spread it with a machine, and thus make it go twice as far, get twice as much good from it on the first crop, do your land more permanent good, and save half the time and labor of handling.

Manure is generally estimated to be worth \$2.00 a ton handled the old way. There is no doubt that it is worth twice as much to the farmer who spreads with a machine.

Three of the most practical and valuable machines manufactured for farm use today are the Corn King, Cloverleaf, and Kemp 20th Century manure spreaders. They are each made in a number of sizes.

These machines differ somewhat in construction and operation, but all three are right working and of great durability.

They are proven machines. They embody the best mechanical ideas, the materials used in construction are the best for the purpose, they are made as simple as possible, and they handle manure in all

conditions to the perfect satisfaction of users. Proof of all this is to be found in the record each machine has made in the field.

Is it not to your interest to own and use one of these spreaders on your farm?

Figure out for yourself and you must agree that it will be a paying investment, even if you do not have over twenty-five loads of manure to spread in a year.

You can't help but be pleased with the work, the easy handling, the light draft and the substantial making which saves you the annoyance of breakage and repairs.

Call and see these spreaders with the local International agent. He will gladly point out to you the superior features of these machines, as well as supply you with catalog, colored hanger or other information.

If you cannot do this, write nearest branch office for catalog.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

(Incorporated)

Chicago, U. S. A.

### FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum

## SECOND HAND PIPE

We will sell you pipe that can be used for any purpose. Satisfaction guaranteed or money returned. We handle all sizes of standard pipe and casing. Shipments made on same day as order is received. Price of pipe is low now. Write for our prices.

### PACIFIC PIPE COMPANY

S. W. Cor., Howard and Main Sts., San Francisco.

## BOOKS FOR THE FARM

### For Sale by PACIFIC RURAL PRESS

CELERY CULTURE.—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth.....\$0.50

TOMATO CULTURE.—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth.....\$0.50

FARM CONVENIENCES.—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00

FEEDING FARM ANIMALS.—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated. 5½ by 8 inches. Cloth.....\$2.00

THE NURSERY BOOK.—A complete handbook of propagation and pollination of plants. It tells, plainly and briefly, what everyone who sows a seed, makes a cutting, sets a graft, or crosses a flower wants to know. It is entirely new and original in method and matter. The cuts number almost 100, and are made especially for it, direct from nature. The book treats of all kinds of cultivated plants, fruits, vegetables, greenhouse plants, hardy herbs, ornamental trees, and shrubs and forest trees. By L. H. Bailey. Illustrated. 4½ by 7 inches. 365 pages. Cloth.....\$1.00

THE BOOK OF ALFALFA.—Its history, cultivation, merits, and uses as a forage and fertilizer. This little book on alfalfa, which appeared a few years since, has been a complete revelation to thousands of farmers throughout the country, and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is by far the most authoritative, complete and valuable book on this forage crop ever published. The book is printed on fine paper, with many full-page photographs that were taken with the especial view of their relation to the text. It is unquestionably the handsomest agricultural reference book that has ever been issued. By F. D. Coburn, Secretary Kansas Department of Agriculture. Illustrated. 6½ by 9 inches. 336 pages. Cloth.....\$2.00

BEAN CULTURE.—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth.....\$0.50

THE NEW RHUBARB CULTURE.—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the wellknown Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Flske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50



## The Home Circle.

### When I Am Dead.

When I am dead and nerveless hands have thrust  
My body downward into careless dust;  
I think the grave can not suffice to hold  
My spirit prisoned in the sunless mold!  
Some subtle memory of you shall be  
A resurrection of the life of me—  
Yea, I shall be, because I love you so,  
The speechless spirit of all things that grow.  
You shall not touch a flower, but it shall be  
Like a caress upon the cheek of me.  
I shall be patient in the common grass  
That I may feel your footfall when you pass.  
I shall be kind as rain and pure as dew,  
A loving spirit 'round the life of you.  
When your soft cheeks by perfumed winds are fanned,  
'Twill be my kiss—and you will understand.  
But when some sultry, storm-beared sun has set,  
I will be lightning if you dare forget!

—John G. Neihardt.

### A Pardonable Deception.

Two young married women were sitting by the fire in a dressing room of an English country house at the hour of one o'clock in the morning. The elder had beauty expressive of a strong, tender character. The younger, a rag-featured, piquant little creature with eyes full of curiosity, was speaking.

"So you married a poor man?"

"A distinguished soldier."

"I know; still—"

"Exactly: I will gratify you, for if I do not tell you the truth you will invent a fiction."

The inquisitive one laughed and nodded. She who was willing to be communicative continued,—

"You know I was without family or kindred, heiress of a large income and a beautiful old home. After my school-days I attached myself to a good old lady who traveled with me over a great deal of the world. I felt unbearably solitary in this place, and I had a lively desire to visit other countries and have the experience of other lives besides my own. After some years, my dear companion having died, I found myself here, alone except for servants, and the neighbors, and acquaintances, who made me an object of their attentions."

"I wonder you did not marry at once," interrupted the inquirer.

"Many wondered; but partly because my friend had warned me, perhaps too urgently, against mercenary men, a good deal because I had not been edited or attracted by any of the marriages I had seen, and I suppose," with a sudden smile, "because I had not met with the man who was happily my fate, I shrank from all suggestions of the kind and held on with both hands to my liberty."

After a season or two of pleasure in both town and country I craved for another change. Ungrateful for my endowments I envied some others their poverty, and at last resolved to taste an experience which it seemed that Providence had hardly ordained for me. I allowed my friends to suppose that I was bent on further foreign wanderings, wound up my affairs in a preparation for a long absence, committed my home once more to the guardianship of my trusted housekeeper, and departed this (society) life."

"Imagine me then in St. Thomas's Hospital, in cap and apron, studying hard to fit myself for first class work as a nursing sister."

"Oh that was what you did, was it?" broke in the listener. "How quiet you kept it! I wish I had seen you in the cap, it must have been so becoming to you."

"It was different from this," said the narrator, touching the diamond star in her hair, "but I liked it well. There was no time to think about becomingness; I was thoroughly sick of all that, and had left it with my laces and jewels at my bankers. What I wanted was work

worth doing, an assurance that my suffering fellow creatures were ever such a little bit the better for my existence."

The listener made a little grimace and smiled.

"You were always so odd, dear," she said, indulgently.

"Just as I finished my term and received all my qualifications the war broke out, and I was soon in the thick of it, for I was of the very first band of nurses dispatched to the front."

"I can't believe it. You were not afraid of being shot, or blood poisoned, terrified into fits?"

"I just felt that I was living in earnest."

"Come to the point, however. Where did you meet him?"

"I think the very first time I saw him was when he lay in the hospital bed in Pretoria, covered with blood. You shrink at the thought. I did not at the sight. I went to work to help the surgeon and to make the patient as comfortable as I could after a cruel operation."

"And he fell in love with you on the spot?"

"He wasn't in a condition for any such prompt proceeding. He required all his energies to wrestle with the fever through which I nursed him. The first time I spoke to him about anything beyond his medicine and nourishment and the ease of his pillows was after he had been some time convalescent—one day when I saw a particularly sad look on his brown face and asked if I could do anything for him; perhaps write a letter to his friends. He thanked me and said he had no relative, no one would be specially interested in hearing about him; and I thought it a pity that somebody should not be glad of his recovery as well as of the distinction that awaited him."

"So you began to be glad yourself?"

"I did my best to cheer him, and on the long, hot summer evenings while I was fanning him we had many a quiet conversation. He was much interested in all the nurses, was always admiring their skill and gentleness, deploring their fatigues, which he considered more to be pitied than the sufferings of their patients."

"And you were jealous?"

"No. I thought of him only as a sick man under my care, and was pleased to amuse him with whatever discourse he might fancy. One day he gave me his ideas about the nursing vocation, which included the opinion that ladies with home, money and position ought not to forsake their more immediate duties for the hospital, but that the career of the care of the sick should be left open to those women who needed an occupation and the means of obtaining a livelihood. I thought it for the moment a prosaic and disappointing theory, but on reflection I admitted that it was a kindly one with regard to the less favored by fortune of our sex. I felt from that moment, however, that if he knew my little history I should be under his disapproval, and I allowed him to rank me among the mercenaries to whom he had given his sympathy."

"So you already felt—"

"That he was going to love me if I did not take pains to disenchant him; and partly because he was a sick and lonely man, partly for some other reason that I could not quite understand, I felt no inclination to do any such thing. I knew he was a poor soldier and that he thought I was a poor nurse, and I thought if this man is going to love me, why, I shall not allow the dross of world, which is, unfortunately mine, to hinder him. I kept my dreadful secret, and long before he was fit to leave the hospital he had asked me to be his wife and I had accepted him."

"You—you didn't mind at all about his being lame?"

"Mind it? Yes, I did. I loved him the more for it. Loved him the better, because, though brave and distinguished, he was no longer fit for service. He had the vaguest ideas of how we were to live. We had very little money between us when we went on board ship to return to England for my bankbook was buried deep in the bottom of my

trunk, and I did not dare to display more money than just as much as I had earned by my labors in the hospital. I urged him not to think about money, as I was a capital manager and knew how to make a little go a long way. I was exceedingly happy, knowing all that I was able to do for him, yet I found myself in a serious dilemma. The question was, how could I break the news that I had deceived him?"

"I had been humored to the top of my bent on marrying a man who loved me for myself, in ignorance that I possessed a fortune. He must be a strange man, indeed, thought I, if later on, when the truth came to his knowledge, he were to prove displeased or disappointed. But the fact remained that I had married him under false pretenses, and I felt ashamed of it."

"I felt also unwilling to hasten the inevitable moment which should see me even in seeming to lose the enviable position of a woman who has been sought by the man she loves for love alone; and so the long voyage seemed all too short passed without my having said one word to enlighten him as to the future of ease and luxury which I had provided for him."

"While he took his convalescent nap on deck in the afternoons I paced up and down thinking out my difficulty. The time was coming when I must have my mind made up as to what steps I was to take, for I had resolved not to allow my whim or mistake to cost him one day of less comfort than I was able to bestow on him. At last I hit on a plan. You know Beatrix. She is my dearest friend, so much so that she might have kept me from the hospital experience if only she had not always been so bent on marrying me to some one of her acquaintances. I wrote to her and posted the letter at a convenient moment to travel by a faster going vessel than our own. The letter ran somewhat like this:

"My Dear Beatrix:—I am traveling to England with my husband, a distinguished and at present invalid soldier, who is under the impression that he has married a penniless nurse. You can help me to break the truth to him gracefully. I know your husband is spending the summer in his yacht. Will you take possession of my house and invite me and my husband to spend some weeks with you? I shall rely on you to act well the hostess, and when I see you I will tell you the sequel."

"The result of this stroke of genius was an invitation from Beatrix, which awaited us when we arrived at our hotel."

"He was a little unwilling at first, but I overruled all his objections, and as soon as possible we were established as the guests of Beatrix here in our own comfortable home."

"Of course I found my way to my wardrobe, and it was sweet to see my husband's surprise when he saw me dressed for dinner. I had put on the first pretty gown I found; it happened to be a white satin, and naturally it made a change in my appearance."

"This is charming, Mary," he said, "but, my dear—"

"I knew what he meant."

"Beatrix had some of my old frocks in charge," I said. "You know I am a lady—"

"That I always knew," he said gravely, but I saw by the slight cloud on his face that he feared I had a taste for expensive things which he could not give me."

"You were good not to ask any one to meet us," I said to Beatrix at table. "Max is hardly ready for society as yet."

"I guessed you would not care for a house party at present," she said, "or else I should have gratified some friends who are anxious to see you."

"Quiet, happy days went past. It was delightful to see Max enjoy his comforts, to hear him admiring our surroundings of park and woodland, or commending the good taste of Beatrix in the arrangements of her house."

"Once I ventured to say to him, 'Wouldn't it be nice if you and I had a home like this, all to ourselves, every bit our own?'

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## School of Practical, Civil, Mechanical Electrical and Mining Engineering

Surveying, Architecture, Drawing, and Assaying.  
5100 TELEGRAPH AVE. OAKLAND, CALIFORNIA  
Open all Year. A. VAN DER NAILLEN, Pres't  
Assaying of Ores, \$25; Bullion and Chlorination Assay, \$25. Blowpipe Assay, \$10. Full Course of Assaying. Established in 1864. Send for circular

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings. The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada: the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1106-6 Merchants Exchange Bldg., San Francisco  
Established 1880.



"Don't let us covet our neighbor's goods," he answered playfully.

"We had been here six weeks and the time had flown. Every morning when I awoke I resolved that I would tell the truth before that day wore on, and yet somehow a nice opportunity never seemed to offer itself. Dear Beatrix was very patient, and I knew that her sense of humor enabled her to enjoy a situation which many would have thought a bore. Still, she warned me that her yachting husband would soon be on the return wave and that her own home would claim her. As the leaves began to turn yellow on the trees I pondered over my dilemma and acknowledged that I had only deepened the difficulties by my cunning plot.

"It had come to this, that I feared nothing except lowering myself in my husband's estimation by confessing that I had deliberately deceived him.

"Meanwhile I was recklessly airing a variety of pretty frocks, and even some of the old family jewelry.

"Mary," said Max, "you look charming in all these pretty decorations, yet sometimes I think regretfully of my white coifed maiden." That was both hard and sweet to hear. "I begin to think you must have belonged to people who were once exceedingly well to do. And I fear—"

"That I am one of those rich women whom you dislike, who left their luxuries for the hospital."

"I did not mean to say that," he said, but he began to appear troubled and restless at making so long a stay in the hospitable house of another. I felt that matters were coming to a crisis, and yet I do not know how I should have acted, for I was getting more and more nervous and demoralized, had not Beatrix suddenly at breakfast one morning cut the knot by saying:

"Now, Mary, I shall really be obliged to leave you tomorrow. I have enjoyed my visit extremely, but Will is coming home and I must be there to welcome him."

"Max raised his eyes and looked from her to me, then quietly went on with his breakfast. He had seen us both smile, and thought we were making a frivolous joke which seemed to him rather meaningless. But Beatrix was desperate.

"Have I not done the honors very nicely?" she said, looking full at Max. "I have played housekeeper to Mary in her own house that she might imagine she was somewhere else passing her second honeymoon."

"Max looked at her silently and gravely.

"If this jest amuses you," he said, "I can make no objection to humor one who has been so kind to us."

"Oh!" said Beatrix, "this will never do. Mary, speak out. Colonel Max, your wife has no courage."

"At the word 'courage' my husband's eyes, which had been fixed on me sternly, softened.

"She has courage," he said. His thought had gone back to the hospital.

"Oh, Max!" I said, and I began weeping like a criminated child. "I am really that dreadful woman you disapprove of."

"Beatrix was gone and I was in my husband's arms. It took us a month to talk the matter out, but after that he became reconciled to the inevitable."

"You lucky woman!" said the inquisitive one, putting her handkerchief to her eyes as the clock struck three in the wintry morning.

#### Provoking Proverbs.

"The more the merrier," yet "Two's company, three's none."

"Absence makes the heart grow fonder," yet "out of sight, out of mind."

"Fine feathers make fine birds," yet "Handsome is as handsome does."

"Many hands make light work," yet "Too many cooks spoil the broth."

"Happy the wooing that's not long doing," yet "A young man married a young man marred."

#### Hints to Housekeepers.

After touching poison try to wash the parts exposed in alcohol and avoid anything greasy.

Rose geranium leaves, when well dried are equal to the rose leaves for filling cushions and sachet bags.

If hot bread or cake is cut with a heated knife blade instead of a cold one, clamminess will be prevented.

Neither bread nor cake should be put into boxes until cold if you do not wish it to get soggy from the moisture.

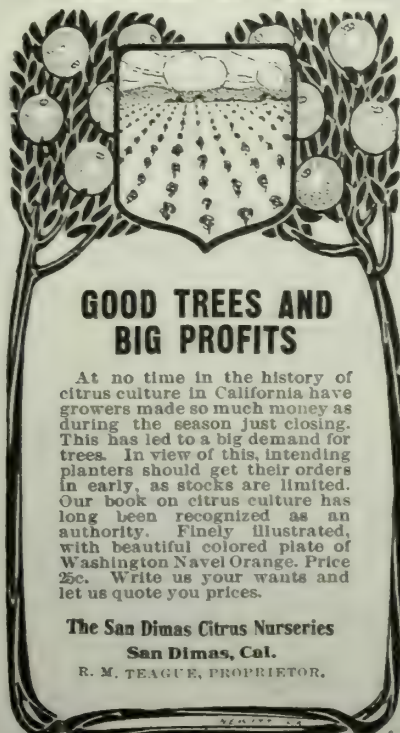
To clean finger marks from paint, wipe the spots first with a cloth dipped in warm water, then with a cloth dipped in whiting, and wipe again with a clean damp cloth.

To prevent glassware from being easily broken, put in a kettle of cold water, heat gradually until water has reached boiling point. Set aside; when water is cold take out glass. This is an excellent way to toughen lamp chimneys.

To clean Japanese matting and linoleum use bran water, which is made by taking two handfuls of bran and boiling it in a gallon of water. After this has boiled twenty minutes, strain and cleanse the matting or linoleum with a flannel cloth wet with the bran water. Wipe immediately with a dry cloth.

To find out whether butter is pure, What To Eat gives the following method: Place a small piece in a large iron spoon and heat gently over a flame. If the butter foams freely on heating, it is butter, while if it spatters and crackles like hot grease without foaming, it is oleomargarine or renovated butter. Another way to examine a sample is to put it in a small bottle, and then place the bottle in boiling water for five or six minutes. If the sample is butter the curd will have settled, leaving the fat perfectly clear, while if it is a substitute the fat is cloudy or milky.

A commuter, on his lonely way from the station, heard footsteps behind him. He increased his speed. The footsteps quickened. The commuter darted down a lane. The footsteps pursued. In desperation he vaulted over a fence, and rushed into a churchyard. "If he follows me here," he thought fearfully, "there can be no doubt as to his intentions." The man behind was scrambling over the fence. Quivering with fear, the nervous one faced his pursuer. "What do you want?" he demanded. "Wh-why are you following me?" "Say," asked the stranger, mopping his brow, "do you always go home like this? I'm going up to Mr. Brown's, and the man at the station told me to follow you, as you lived next door. Excuse my asking you, but is there much more to do before we get there?" — Everybody's Magazine.



**GOOD TREES AND BIG PROFITS**

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

**The San Dimas Citrus Nurseries**  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

**July 21, 22, 23, 28, 29.**

**August 17, 18, 24 and 25.**

**Sept. 23, 24, 25 to Kansas City Only.**

HERE ARE SOME OF THE RATES:

<b>Omaha</b>	.	.	.	<b>\$ 60.00</b>
<b>Council Bluffs</b>	.	.	.	<b>60.00</b>
<b>Kansas City</b>	.	.	.	<b>60.00</b>
<b>Chicago</b>	.	.	.	<b>72.50</b>
<b>St. Louis</b>	.	.	.	<b>67.50</b>
<b>New Orleans</b>	.	.	.	<b>67.50</b>
<b>Washington</b>	.	.	.	<b>107.50</b>
<b>Philadelphia</b>	.	.	.	<b>108.50</b>
<b>New York</b>	.	.	.	<b>108.50</b>

Tickets good for three months—some cases longer. Stopovers and choice of routes going and coming. See nearest agent for details.

**SOUTHERN PACIFIC.**

## PEAR-BLIGHT We can CURE IT


Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**



**SUPERPHOSPHATES**  
(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

**MIXED FERTILIZERS,**

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**  
150 PINE STREET, SAN FRANCISCO.

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soutre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4336.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

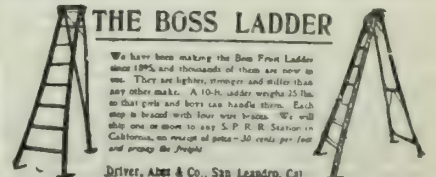
SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

## Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywines, \$2.50 per 1000; Excelstior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.



**THE BOSS LADDER**

We have been making the Boss Ladder since 1895, and thousands of them are now in use. They are lighter, stronger and wider than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire brids. We will ship one or more to any S. P. R. R. Station in California, no matter at what price—30 cents per foot and money for freight.

Dorrer, Abet & Co., San Leandro, Cal.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## Almond Hullers

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE MARKETS.

San Francisco, July 8, 1908.

Unless otherwise noted, quotations represent prices paid to the growers.

### WHEAT.

The past week has seen little change of any importance in the local wheat market and prices closed the same as last report. Slight fluctuations in the Eastern markets have followed the varying crop reports, but there has been no material change in the situation, it being a very little higher for future wheat. Little trading in futures is reported here.

California White Australian.....	Nominal
California Club.....	\$1.60 @ 1.65
California Milling.....	1.65 @ 1.67½
California lower grades.....	1.40 @ 1.55
Northern Club.....	1.60 @ 1.65
Northern Bluestem.....	1.65 @ 1.67½
Northern Red.....	1.60 @ —
Turkey Red.....	Nominal

### BARLEY.

With receipts moderate, the barley market closed firmer than at last report. Several sales of choice feed are reported at the highest quotation and the amount of business has been larger than usual. Future grain is quoted a little higher, but little trading has been done. Quotations on spot grain are about as last reported.

Brewing.....	Nominal
Chevalier.....	Nominal
Good to Choice Feed, per ctl.....	\$1.25 @ 1.30
Shipping.....	Nominal

### OATS.

The oat market is in a better condition than formerly, with higher prices asked and received for whites. Other grades are quoted higher, with but little trading being done. The quotation for reds is nominal, almost no trading being done in them. Crop reports from the East are unfavorable for this crop.

Choice white, per ctl.....	\$1.45 @ 1.55
No. 1, white.....	1.35 @ 1.40
Gray.....	1.35 @ 1.45
Red.....	1.35 @ 1.50

### CORN.

The local corn market is firm, with white corn slightly lower. Otherwise the local market is unchanged. The Eastern crops are not in as good condition as they were last month and the crop will not be as large as anticipated.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow.....	\$1.85 @ —
White, in bulk.....	1.77 @ —
Mixed, in bulk.....	1.75 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

### RYE.

California new, to arrive.....	\$1.40 @ —
--------------------------------	------------

### BEANS.

The stock of beans on hand in San Francisco July 1st amounted to about 87,000 sacks, showing a decrease of 10,000 sacks in stocks during June. This, with the arrivals of that month, brought the actual sales from this city up to 60 cars, or 25,000 sacks, of beans. The prospects for the coming crop are not so good in some places as they were a few weeks back, the hot weather having damaged the plants in some places, while in other sections the beans are not setting well. There should be an average crop, however, if no further damage occurs. Prices for spot beans remain firm, owing to the light stocks, but recent New York reports show that the demand there has decreased somewhat and that arrivals of foreign stocks are being offered on the market. There has been some demand for carload lots from the southwest and the market is still all in favor of the holders. Bayos and small white beans are higher, while the other grades remain as last quoted.

Bayos, per ctl.....	\$3.25 @ 3.40
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 @ —
Cranberry Beans.....	2.75 @ 3.10
Garvanzos.....	2.50 @ 3.50
Horse Beans.....	2.00 @ 2.50
Small White.....	4.40 @ 4.60
Large White.....	4.40 @ 4.50
Limas.....	4.90 @ 5.00
Pea.....	4.40 @ 4.50
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	2.75 @ 3.00

### SEEDS.

Definite reports for this season's crops of seeds cannot be secured and the same quiet condition which has marked this market for some time has held during the week. The only change is in broom corn seed, which is quoted higher.

Alfalfa per lb.....	17½ @ 20 c
Broomcorn Seed, per ton.....	\$20.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3½c
Canary.....	4½ @ —
Flaxseed.....	3 @ —
Hemp.....	4½ @ 4½c
Millet.....	2½ @ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

### FLOUR.

Flour is quite firm but quiet. Little or no buying for speculation has been done and sales are confined to the regular routine demands. Prices are exactly the same as they were last week. Quotations are millers' prices.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

### HAY.

The hay situation shows little of real interest this week. The railroad yards were so congested that dealers found it necessary to ask country holders to discontinue shipping, and as a result the arrivals for the week have been light as compared with recent weeks. The total was only 2,760 tons, as compared with 4,290 for the week preceding. Growers are in some cases reducing their asking prices, though, on the whole, they show little anxiety to sell. Dealers claim that the volume of local business is little more than two-thirds of what it was a year ago. There is little coastwise movement and still less in the way of exports. Altogether the immediate outlook is discouraging, but as the city consumers are still largely unsupplied, there is certain to be considerable business later on.

Choice Wheat, per ton.....	\$15.00 @ 16.00
Other Grades Wheat.....	11.00 @ 14.50
Wheat and Oat.....	11.00 @ 14.00
Tame Oat.....	11.00 @ 14.50
Wild Oat.....	10.00 @ 13.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 10.00
Straw, per bale.....	45 @ 70c

### MILLSTUFFS.

Mill stuffs show very little change. Rolled barley, which failed to follow the downward tendency of the spot grain last week, is lower, and mixed feeds are held at a lower figure. Otherwise there is no price change and the market remains rather dull, as only buying for immediate needs is being carried on. Millers' prices are quoted.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton.....	30.00 @ 31.00
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00 @ —
Jobbing.....	27.00 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	34.50 @ 35.00
Mixed Feeds.....	23.00 @ 28.00
Oil Cake Meal, per ton.....	36.75 @ 38.25
Rolled Barley.....	28.00 @ 29.00
Shorts.....	31.00 @ 32.00

### VEGETABLES.

The large supplies which arrived on Monday after the holiday on the 4th and 5th met with only the usual demand and as a result the market has been in very bad shape. In fact it has not yet entirely recovered from the effect of that day's trading. Much of the stock which arrived was in poor condition and was sacrificed by the dealers. The only articles among the perishable stocks to remain firm were cucumbers. String beans were especially weak, and much of the stock was sunburned. Tomatoes from the nearer points recovered and are now held at last week's prices. Large quantities of green corn came in and sold off fairly well at the lower prices. Other offerings suffered from the general oversupply. The first of the new crop of silverskin onions appeared and sold at from 90 cents to \$1.10 per cental. New reds remain firm with a little greater range in quotations. Australians are uncalled for on the market.

Garlic, per lb., new.....	4 @ 5 c
Green Peas, lb.,.....	2 @ 3 c
String beans, lb.....	3 @ 4½c
Cabbage, per ctl.....	40 @ 50 c
Onions—	
Australian, per ctl.....	Nominal
New Red, sack.....	60 @ 85 c
Silverskins.....	90 @ \$1.10
Summer Squash, large box.....	\$1.00 @ 1.25
Tomatoes, crate.....	75 @ 1.25
Carrots, sack.....	75 @ —
Turnips, sack.....	75 @ —
Rhubarb, box.....	75 @ 1.00
Asparagus, lb.....	4 @ 6 c
Green Peppers.....	5 @ 8 c
Cucumbers, box.....	75 @ 1.00
Green corn, sack.....	1.50 @ 1.75
Egg Plant, lb.....	7 @ 8 c
Cauliflower, doz.....	40 @ 50c

### POULTRY.

While the prices for poultry as quoted by dealers are the same as formerly, the market is in very poor shape. Several cars of imported stock have been offered on the market and sold in preference to the native fowls. The principal arrivals from local points have consisted of small hens for which the demand is light. Heavy fat hens and choice offerings in both young roosters and fryers go well, but the arrivals of such varieties have been small. On account of the large quantities of undesirable stock which continues to arrive the dealers can only make clearances at a sacrifice, and much stock has gone at the buyers' prices.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.00 @ 2.50
Fryers.....	4.50 @ 5.50
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	4.50 @ 5.50
Small Hens.....	3.50 @ 4.50
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	6.00 @ 7.00
Young Roosters, full grown.....	8.00 @ 9.00
Pigeons.....	1.00 @ 1.25
Squabs.....	1.25 @ 1.50
Ducks.....	4.00 @ 7.00
Geese.....	1.50 @ 2.00
Goslings, per pair.....	2.00 @ —

### BUTTER.

The trading in butter, both on the exchange and on the street, has been more brisk than it has been for some time and the market is firm. Receipts, however, are quite sufficient to supply this extra demand and no change in prices has occurred. Dairy exchange quotations.

Cal. (extras) per lb.....	22 c
Firsts.....	21 c
Seconds.....	20½c
Thirds.....	20 c
Fresh Packing Stock, No. 1.....	Nominal
Fresh Packing Stock, No. 2.....	Nominal

### EGGS.

With a good demand for the better grades of eggs this week, the receipts were very light. The prices for extras and firsts, consequently, have advanced rapidly. The market now shows extras at 25 cents, or 2½ cents higher than the last week, while firsts are proportionately advanced. The low grades, however, are weak and lower, little demand being found for them and they have to be sold in competition with Eastern stocks. Dairy exchange quotations.

California (extra) per doz.....	25 c
Firsts.....	22½c
Seconds.....	17½c
Thirds.....	16½c

### CHEESE.

There is little of interest in the cheese market, prices remaining the same, but being rather weaker than formerly. There has been no Eastern cheese offered on the market yet. Dairy exchange quotations.

Fancy California Flats, per lb.....	11 c
Firsts.....	10½c
New Young Americas, Fancy.....	13½c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	—
Cal. Storage, Fancy flats.....	—
Oregon Flats.....	11½c
Oregon Y. A.....	14½c

### POTATOES.

The new crop of potatoes continues to arrive in large quantities, and the price of river stocks is a little under last week's outside quotation. A greater range in the prices for Early Rose potatoes has also ruled, owing to the marked difference in the condition of the arrivals. This holds true with all new crop potatoes and all good stock goes well at near the higher quotation. Oregon Burbanks, old crop, are still offered, but the stocks will soon be exhausted.

Oregon Burbanks.....	75 @ \$1.10
New Whites.....	75 @ 1.40
Early Rose.....	50 @ 1.00

### FRESH FRUITS.

Owing to the holdovers during the holidays and the poor condition of most of the arrivals the fresh fruit market has been in a most demoralized condition. All orchard fruits are lower. Peaches have had the worst drop, the canneries taking all the extra offerings of apricots and plums. Apples are much lower, owing to the poor quality of the fruit which has come in. Pears and figs go at about the same figure, owing to light arrivals. Berries are without any stability whatever. All varieties are down, and it is hard to make clearances of Loganberries at any price. The light arrivals of currants caused the only increase of price in this list. Several cars of cantaloupes have arrived, but they were all in good condition and dealers refused to cut prices. Watermelons were just a little lower and went well.

### Cherries—

Royal Anne, lb.....	4 @ 6½c
Apples, new green.....	25 @ 75

### Strawberries—

Longworths, chest.....	\$4.00 @ 6.00
Large varieties, chest.....	2.00 @ 5.00
Blackberries, chest.....	3.00 @ —
Raspberries.....	5.00 @ 7.00
Loganberries, chest.....	1.00 @ 2.50
Currants, chest.....	9.00 @ —
Apricots, crate.....	25 @ 35
Apricots, ton.....	10.00 @ 15.00
Plums, crate.....	10 @ 25
Peaches, crate.....	25 @ 40
Figs, single layer, drawer.....	25 @ 40
Cantaloupes, standard crate.....	1.25 @ 1.75
Watermelons, lb.....	1½ @ 1½c
Grapes, crate.....	1.00 @ 1.50

### CITRUS FRUITS.

The orange market closed firm at the same quotations and the crop reports have not changed. The Valencia crop is arriving in good condition. Lemons and grape-fruit are higher.

Choice Lemons.....	\$2.50 @ 3.00
Fancy Lemons.....	3.25 @ 3.75
Standard.....	1.50 @ 1.75
Limes.....	4.50 @ 5.50
Oranges—	
Valencias.....	2.50 @ 3.50
Mediterranean Sweets.....	2.75 @ 3.25
Grape Fruit.....	3.50 @ 4.50

### DRIED FRUITS.

While there has been no change in the dried fruit market, and neither packers or brokers show any inclination to change their position, there have been some important conferences in New York between the representatives of these two classes. As a result, it is hoped that some agreement will soon be reached by them as to the terms of the 1908 delivery contracts, on which they have been squabbling for some time. As soon as these questions have been settled it will be possible for tentative prices to be established. No prices have yet been set in the East for the 1908 crop, but the latest reports say that the best grade of seeded Muscat raisins in one-pound cartons are being offered by individual packers at 6½ cents. Many experienced persons think that this will be the opening price. While the demand for the old crop still remains dead the holders of both fruit and raisins are holding out firmly for the quoted prices and believe that they will realize them where the new crop prices are set. Henry P. Dimond, manager of the Dried Fruit Association of California, returned last Friday from New York, where he conferred with the jobbers of that city and will put their objections to the 1908 contract before the association here and an important decision on the matter is expected within a few days.

Evaporated Apples.....	5 @ 6 c
Figs.....	2½ @ 3 c
Apricots, per lb.....	8 @ 9 c
Peaches.....	7 @ 8½c
Prunes, 4-size basis, 1907 crop.....	3 @ 3½c
Pears.....	7 @ 8½c

### RAISINS.

2 Crown.....	3½ @ —
3 Crown.....	4 @ —
4 Crown.....	4 @ 4½c
Seeded, per lb.....	6 @ 6½c
Seedless Sultanias.....	4 @ —
London Layers, per box.....	90 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

### NUTS.

With a bumper crop in view this season, the prices of almonds remains the same as quoted by dealers for the past month. The prices for almonds given below are for "new crop." There has been no change in the spot market for either almonds or walnuts, but the stocks of both are quite short.

Almonds, Nonpareils.....	11½ @ —
I X L.....	10½ @ —



Ne Plus Ultra.....	10 @ —
Drakes.....	9 1/2 @ —
Languedoc.....	9 @ —
Hardshell.....	— @ —
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12 1/2 c

## HONEY.

The arrivals of honey still remain very light. There is little hope now that there will be even an average honey crop this season and prices have kept firm. On this account the price of honey will be all in favor of the producers, and while prices have not changed since the opening of the season, they are more apt to go higher than to fall, according to all present reports. Most of the new honey is of good quality and the demand cannot be filled.

Water White, Comb lb.....	16 @ 17 c
White.....	15 @ —
Water-white, extracted.....	8 @ 8 1/2 c
Light Amber.....	7 @ 7 1/2 c
Dark Amber.....	5 1/2 @ 5 1/2 c
Candied.....	5 1/2 @ 5 1/2 c

## WOOL.

With the Eastern wool market in a little better shape, the buying of wool on the coast has progressed more freely. The buyers are taking long staple wools readily, while poorer grades are still in small demand. The growers are selling at the old quotations.

Humboldt, year's staple.....	15 @ —
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 14 1/2 c

## HOPS.

With no change in the quotations, the hop market remains dull. Growers are not anxious to contract at the prevailing prices and little business is being done either in spot or future hops.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

No change has occurred in the meat or the livestock market since last report. The livestock prices quoted below are for good, sound cattle delivered in San Francisco, gross weight.

Beef: Steers, per lb.....	6 @ 7 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7 1/2 c
Small.....	8 @ 9 c
Mutton: Wethers.....	8 @ 9 c
Ewes.....	7 @ 8 c
Spring lamb.....	9 @ 10 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	3 1/2 @ —
No. 2.....	3 1/2 @ —
No. 3.....	2 1/2 @ 3 c
Cows and Heifers, No. 1.....	3 @ 3 c
No. 2.....	2 1/2 @ 3 1/2 c
Bulls and Stags.....	1 1/2 @ 1 1/2 c
Calves, Light.....	4 1/2 @ —
Medium.....	4 @ —
Heavy.....	3 1/2 @ —
Sheep, Wethers.....	4 @ —
Ewes.....	3 1/2 @ —
Spring Lambs, lb.....	4 1/2 @ 5 c
Hogs, 100 to 200 lbs.....	6 @ —
200 to 300 lbs.....	5 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, July 7, 1908.

There has not been any change in price since the report of July 1st. Shipments of Tragedys are now lighter and in their place Purple Duane and Hinori are being shipped. Prices on plums in the auctions dropped a little on account of heavy arrivals, but we expect to see the market pick up shortly. Plums to date have done very well, taking into consideration the great amount of peaches which were sold at low values and the market should continue steady on this fruit.

There is a better demand for California peaches at the present, owing to the fact that Texas seems to have suddenly shut off. As the bulk of Georgia Elbertas will be shipped by July 20th, we think the yellow varieties of California peaches will do better than the earlier varieties. The buying price at present on Early Crawford is 30 cents.

The shipments of Bartlett pears are

steadily increasing and the demand for this fruit is good. The first lot of Bartlett sold in Chicago yesterday at a range of \$3.50 to \$3.65 delivery, which figures out about \$2.75 to \$2.90 f. o. b. Of course this price is no criterion as to the future market, but orders at the present are being filled on a basis of \$1.50 f. o. b. As the supply increases there may be a cut in this price, but it is not expected pears will go lower than \$1.25 f. o. b. Some growers are selling on a basis of 55 cents unpacked, which figures out about 87 cents packed.

Taking the deciduous situation as a whole, the market should remain steady on all varieties of fruit. Comparative shipments since the report of July 1st, are as follows: 1908, 208 cars; 1907, 133 cars.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., July 7.—(Special correspondence)—We are now experiencing the hottest weather of the year in southern California. The heat is welcomed by orange growers, as it will be of benefit to the new crop, giving the fruit size and enabling the tree to throw off all surplus oranges. Dropping has been quite heavy in the past two weeks, but there is yet more than enough fruit left to insure a heavy crop of new fruit for the coming year.

The weather in the East and Middle West has also been hot, scorching hot. This has not helped the orange market conditions any, but the number of cars of California oranges now rolling or at selling points is so limited that the demand, however sluggish, cannot fail to be fully up to the supply. From all information available it is not apparent that there are more than 400 cars of oranges between California and the seaboard and these cars include many that are sold. As it takes from one to three weeks for a car to reach its destination it is fair to assume that the 400 cars represent two weeks' supply, or 40 cars a day for the ten selling days. This is not a large supply and should be easily handled at good prices. Shipments have been running about 30 cars a day for the past week and on Friday, Saturday and Sunday, inclusive, only 25 cars went out.

The exchange report that they are still holding out for \$3.00 a box f. o. b. for the best grades of fancy Valencia and state that they are getting plenty of orders at this price. In view of the light supply available this price should hold in spite of the very heavy receipts of deciduous fruits, berries and melons.

The hot spell has served to put the lemon market in fine shape and the demand is good. A wide range of prices is quoted, owing to the varying quality of the offerings, ranging from \$2.50 to \$3.50 for fancy stock. Shipments from California are running to about 30 cars a day and the foreign offerings continue to be very heavy.

There are now on hand and available within the next thirty days, 212,000 boxes of Sicily lemons, as against 305,000 in 1907 and 314,000 in 1906. A total of 80,000 boxes will be offered this week in New York city alone.

The total shipments from California up to and including Sunday, July 5th, are 25,995 cars, of which 3,518 cars are lemons. To the same date last year, 24,654, of which 2,617 cars were lemons, and in 1905-6, 23,783, of which 2,900 were lemons.

## Picking, Packing and Shipping Grapes.

At a banquet given at Lodi last week by the Chamber of Commerce the Hon. Alden Anderson responded to the subject of "Adopting the Best Methods of Shipment." He spoke of the growth of the industry and compared it to the growth of other industries in other places. He briefly outlined the vicissitudes the fruit men have gone through, and the conclusion arrived at and the results attained, all of which indicate that the same thing is essential and necessary for the grape growers to pursue if they are to be continuously and regularly successful. "There are two things," said Mr. Anderson, "vitally necessary: One is the proper picking, preparing and packing of the product, and the other is transportation service combined with a certain amount of experience and intelligence in their distribution."

"On California table grapes there is no competition of their kind in the United States, and wherever grapes have gone into markets, whether in the larger or

smaller markets, and arrived there in good condition, those handling them have invariably made money. It is only when they arrive in bad condition, from whatever cause it may be, that the dealers get sore and sour and lose money and then declare they will not handle more California grapes for that reason.

"To show the wide territory they have distributed in last year we placed nine cars of Tokay grapes in Tampa, Fla., and on all but two of them the dealers informed me they made money. On two cars, however, they lost very heavily on account of arriving in bad condition. One car they lost practically all the contents and the freight. We put cars of Tokays in Montreal, Vancouver, New Orleans and to all intermediate large cities, but a great many large cities do not as yet receive them in carload lots at all, and one of the most necessary things to do is to be assured that the grapes will arrive in perfect condition in the markets and then renew endeavors to open up direct handlers and consuming centers at the places now receiving them.

"The first year I managed the California Fruit Distributors there were shipped 1,035 cars of grapes. Last year there were shipped 3,460 cars. On cars going through in good order profits were as good last year to growers as they were when only 1,035 cars were shipped. It will require experimentation, co-operation and the application of energy and intelligence to get the best results, because we have the product here and there are the markets ready for them or awaiting to be developed for their use and consummation at remunerative prices once we can be assured of getting the grapes to them on an even basis and in good condition, and I believe that growers, the Federal authorities and those working with them will be able to solve the problem and the transportation companies must for their own self defense, if for no other, do their share towards the desired consummation."

## PUBLISHER'S DEPARTMENT.

With this issue of the PACIFIC RURAL PRESS Ralph Benton, the bee expert, commences his work of furnishing our readers a regular weekly apiary department. We believe this feature will be appreciated by many of our readers, and all are invited to send in questions relating to bees that they want answered. Address this office.

The RURAL PRESS office had a very pleasant call this week from Mr. H. Sanchez Elia, who has just graduated from the Californit State University and has started for his home in Argentina. Mr. Elia has a large stock and grain plantation south of Buenos Ayres and is taking with him two California farmers to introduce our methods of farming there. He is also having shipped, by the Best Mfg. Co., of San Leandro, one of their combined harvesters to use on his ranch.

## NEW ADVERTISERS.

Our readers will notice several new advertisements in this issue of the PACIFIC RURAL PRESS. Among them are:

The Hamlin School for Girls, of San Francisco, is again asking our readers for students. If you intend sending your daughter to a private school, write them.

The Clark Wise Co. of San Francisco, who are making a very liberal offer on their phonographs. This firm is one of the largest and most reliable in the city, and our readers will receive good treatment when dealing with them.

The Pacific Pipe Co. are also new advertisers. This firm carries a good stock of second-hand pipe, and as they have been in business for many years, they are well established.

In our stock department is a new advertisement for P. H. Murphy of Perkins, Cal., one of the well known stock men of the State.

Also in this department, after an absence of two years, the well known Dr. Kendall Spavin Cure appears again. This is an old established firm and has a high standing.

Bray Brothers, the seedsmen, who used our columns to their profit last season, are again offering seed grain of all kinds.

G. H. Hopkins & Son of Burbank are also back again, offering the leading varieties of strawberry plants. All the above firms are worthy of your patronage.

## Call for Wine Grape Growers' Meeting.

For the purpose of taking action looking toward the protection of the viticultural industry of California in any revision of the tariff which may be made, the Manufacturers' and Producers' Association of California has issued a call for a meeting of the wine grape growers of the State to attend a convention to be held in California Building, Union Square, San Francisco, on Wednesday, July 22nd, at 2:30 p. m. All interested in the subject are invited to attend. In the production of wines California stands pre-eminently at the head of all the States of the Union, and the association has called the meeting to insure a proper recognition of the claims of this important industry in the hearings which are to be held before the Ways and Means Committee of the House of Representatives next November.

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	32
Beckman, Geo. V.....	25
Bird & Co., J. A. & W.....	27
Blake, Moffitt & Towne.....	27
Bray Brothers.....	31
Breeders' Directory.....	25, 26
Bryant, Charles.....	25
Croley, George H.....	26
Clark Wise & Co.....	32
Cutter Laboratory, The.....	25
De Laval Dairy Supply Co.....	24
Deming Co., The.....	28
Dewey, Strong & Co.....	28
Dietz Company, R. E.....	32
Disbrow, F. H.....	32
Doak Gas Engine Co.....	32
Driver, Aber & Co.....	29
Driver, E. S.....	25
Fresno Agricultural Works.....	32
Galloway, A. J.....	29
Hamlin, Miss Sarah D.....	28
Hart, Ed.....	26
Hopkins & Son, G. H.....	29
Howard Cattle Co.....	25
International Harvester Co.....	27
Jackson & Co., T. W.....	32
Kendall, Dr. B. J., Co.....	25
Lawrence-Williams Co.....	24
Lilly Co., Chas. H.....	24
Lister, Henry B.....	31
Lynch, John.....	25
Mammoth Poultry Farm.....	26
Meacham, Frank A.....	25
Mountain Copper Co.....	29
Murphy, P. H.....	—
National Wood Pipe Co.....	32
Oakland Poultry Yards.....	26
Pacific Pipe Co.....	27
Pear Blight Remedy Co.....	29
Perkins, & Co.,.....	25
Rix, O. A.....	29
Robinson, John R.....	28
Roeding, Geo. C.....	25
San Francisco Sulphur Co.....	29
Sharples Separator Co.....	25
Silva & Bergholdt Co.....	32
Simmons Hardware Co.....	—
Smith, Francis.....	27
Sorby Vaccine Co. (Inc.).....	25
Southern Pacific Railway.....	29
Standard Oil Co.....	—
Stowe, C. A.....	25
Sullivan, W.....	26
Teague, R. M.....	29
Temple Pump Co.....	32
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Van Der Naillen, A.....	28
Vermont Farm Machine Co.....	—
Wagner, J. B.....	29
Waite, Thos.....	25
Western Gas & Power Co.....	—

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St.,

Buyers of Grain and Beans.

Members Merchants Exchange.

Established in 1855. Correspondence Invited.

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.

937 Pacific Bldg., Fourth and Market Sts.

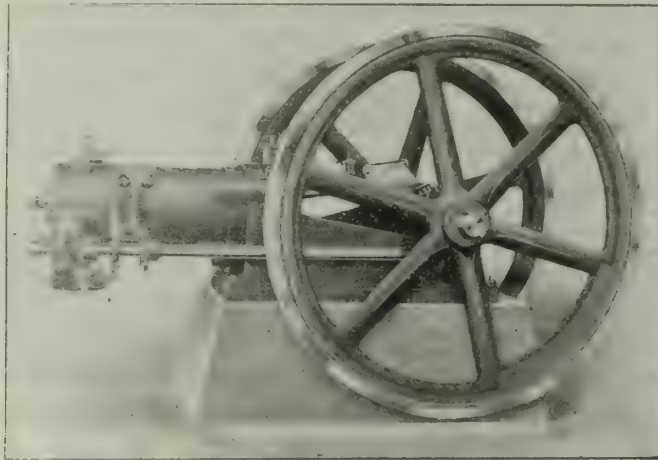
San Francisco.

THE NEW ONION CULTURE.—By T. Greiner. Rewritten, greatly enlarged and brought up to date. A new method of growing onions of largest size and yield, on less land, than can be raised by the old plan. Many farmers, gardeners and expert stations have given it practical trials which have proved a success. Illustrated. 140 pages. 5 by 7 inches. Cloth.....\$0.50



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.

Sales Office and Factory: 4th and Madison Streets, Oakland.

## PIPE

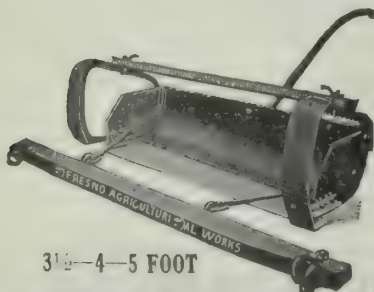
500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft. black.	Price per 100 feet dipped.
1 inch	.84 lb.	2.25	3.25
"	1.12 "	3.35	4.35
1 1/4 "	1.67 "	4.00	5.00
1 1/2 "	2.24 "	5.65	6.90
2 "	2.68 "	6.50	8.00
2 1/2 "	3.61 "	9.00	11.00
3 "	5.74 "	15.00	17.50
4 "	7.54 "	18.25	21.25
5 "	10.66 "	28.50	32.50
6 "	14.50 "	41.00	46.00
8 "	18.76 "	57.00	63.00

### ALEXANDER PIPE CO.

1083 Howard St., San Francisco, Cal.

## The Fresno Scraper



3 1/2-4-5 FOOT

Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS

FRESNO, CALIFORNIA.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1890

PIONEERS AND LEADERS

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## NATIONAL WOOD PIPE CO.

Patent Machine Banded

Patent Continuous

404 Equitable Savings Bnk. Bdg.  
Los Angeles

Olympia, Washington

A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

## WOOD PIPE

Made from California Redwood

or Selected Puget Sound Yellow Fir.

318 Market St., San Francisco

Dooly Block, Salt Lake City, Utah

## GREENBANK

Powdered Caustic Soda and Pure Potash.

Best Tree Wash.

T. W. JACKSON & CO., Temporary Address,

Sausalito, Cal.

# PHONOGRAPHS

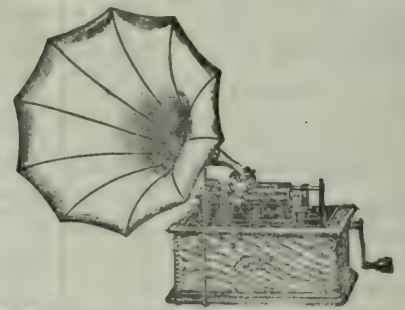
Records and All

## ABSOLUTELY FREE



VICTOR TALKING MACHINES

On Trial in Your  
Own Home



EDISON PHONOGRAPHS

We will send them to any one—anywhere—right now—and it won't cost you a penny.

This is the greatest and most liberal offer ever made on the world's two greatest musical instruments—don't delay—write today to

## CLARK WISE & CO.

"The Victor Dealers of California"

1426 VAN NESS AVENUE

SAN FRANCISCO, CAL.

Send us your name and address and we will send to you lists of all the new Records as they are issued each month. This will keep you posted. It will cost you nothing.

If you have a Disk Talking Machine—send us your name and address and we will send you free samples of new multiply Needles. One Needle can be used ten times—gives better tone and saves the Records.

**DON'T BUY GASOLINE ENGINES** UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 16th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 3.

SAN FRANCISCO, SATURDAY, JULY 18, 1908.

Thirty-eighth Year.

### Bee Keeping: A California Industry.

By MR. RALPH BENTON.

THE GREAT WEST never does things by halves, and this seems doubly true of California, agriculturally speaking. It is a land of varied enterprises and many of the smaller things of the farm and ranch have grown to be relatively large. One of these is bee-keeping. This industry of necessity always will be among the smaller ones, yet it is worth locally from a half million to a million dollars annually. This is near a twentieth of the annual value of the industry in America, and California leads America in the production of extracted honey, having shipped in one year some 800 carloads out of the State. In such a year as this, when the honey consumed locally is taken account of, together with the by-product, wax, the million dollar mark is passed and over 40 per cent is realized by our local bee-keepers. It is true that this is not a sustained percentage, but the State as a whole averages one full crop in three years, and that is well within the paying mark. Then, too, there are so many and varied localities within the State that, should drouth or cold, cloudy weather in one locality injure the crop, there are other localities to fall back upon. There are also the great inland valleys, which are becoming irrigated more and more, affording miles of cultivated ranges which, while not quite so productive as the sage belts, are at least more constant and relatively splendid sources of honey. There are some bee-keepers who practice migratory bee-keeping, moving their bees from the mountains to the cultivated valleys for the late summer, and so increase their yields sometimes by a hundred per cent.

Bees in the early days were at a premium, selling as high as a hundred dollars a swarm, and honey brought a dollar a pound. It was in those early days that John S. Harbison brought some sixty-five colonies from New York by way of the Isthmus of Panama and located them first in the Sacramento valley, and later in San Diego county, where he still has his home apiary, and though now he is an aged man he is still vigorous and

active. At one time he owned and operated as high as six thousand colonies of bees in frame hives and records some very large crops.

Honey was formerly shipped in heavily-braced cases of five gallon cans by boat around the horn, but now it goes almost wholly by rail as does other freight. This may account somewhat for the fact that there is very little comb-honey—not near enough for local demand—produced. Honey in this form is annually shipped in by the carload from Nevada to supply the market demands.

Although there are few places in the State where bees cannot be profitably kept, yet, as in other things, there are certain localities better suited to the industry. The great natural ranges are along the coast from Monterey county southward, culminating in the sage belt of Ventura and Los Angeles counties and the buckwheat

bee-keeper in point of total number of colonies, as he operates only about the same number of colonies as does Mr. Mercer. Another well-known apiary is the Sespe apiary, belonging to J. F. MacIntyre, the son-in-law and successor of R. Wilkin, one of California's pioneer bee kings and ranking along with Harbison.

Probably the largest bee-keeper in the State is Mr. J. J. Bone of Bakersfield, who has upward of two thousand colonies, all in well-painted ten-frame hives, distributed in a number of out-apiaries. He is representative of what may be done in an alfalfa county on a cultivated range. In these inland valleys the heat is great and the bees have to be shaded. Mr. Bone places his colonies in long double rows and then builds a brush shelter over them. On one of his apiaries such a shelter covered with poles and brush contains some four hundred colonies.

In the lower San Joaquin and in the Sacramento valley bee-keeping goes hand in hand with fruit raising. It is almost impossible to estimate the indirect value of bees as fruit and seed producers. There are many varieties of fruits absolutely self-sterile, and if it were not for the cross-pollination affected by the bees in their daily visits we would not be enjoying such luscious fruits and many of the fruit men would go to the wall. This is not putting it too strong, as will be appreciated when such eminent au-

thorities as Prof. M. B. Waite of the U. S. Department of Agriculture and others are consulted. In some localities in the West it has been impossible to grow red clover seed, and bumble-bees have been imported from localities where they abound to fertilize the clover blossoms. There are those bee-keepers and queen breeders who are at work breeding and selecting stock with a view of getting a strain of honey bees that will have tongues long enough to visit red clover blossoms and so effect fertilization. This will be a mutual benefit, as it will open up for the apiarist a new and valuable source of honey. The charge that bees injure fruit is absolutely without ground, for the construction of the mouth parts of the bee are such that it is impossible for her to bite into the hard skins of fruits. When fruit is injured by rot or cracking or becomes wormy, then bees visit these injured fruits and conserve what would otherwise go to waste, making it over into food for themselves.

(Continued on Page 39.)



TYPICAL VIEW OF A VALLEY APIARY.

fields and yucca-studded hills of San Diego and Riverside counties. The citrus region also affords cultivated sources of honey, as do the bean fields of Ventura county. By far the larger number of bees in the region under discussion are back in the canyons, many of them in the forest reserves where the ranges are protected from destruction by fire. The upper part of the Santa Clara valley of the south is in the heart of the sage belt, and it is here that some of the largest bee-keepers are located. L. E. Mercer at Castiac owns and operates in six apiaries some seventeen or eighteen hundred colonies of bees, some of them quite good Italians. He ships honey by the carload and has produced as high as a hundred tons in a single season. The average price of honey is 6 cents per pound, and while held over until early spring, as Mr. Mercer sometimes does, a higher price is netted. At Piru, in the same valley, M. H. Mendleson has his four mammoth apiaries, the Camulus apiary being probably the largest single apiary in the State, although he is not the largest



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor

FRANK HONEYWELL - - - - - Business Manager

## The Week.

It looks as though we were about right in our fancy last week that California growers and manufacturers of protected products were to keep busy to secure the right kind of tariff revision, but not to get noisy about it at present. The meeting called by Governor Gillett was duly held in this city on July 7th, declared itself strongly in favor of retaining the protective policies upon which the present prosperity of California producers rests and prepared for the compilation of important data to demonstrate facts along this line which will be used later when the actual work of tariff revision comes before congressional committees. This work will constitute California prepared to meet any question which may arise. As a contribution to this preparation probably assemblies of producers will be held from now on and discussions in the public press will be in order. It is necessary to get the ultimate facts in very close compass for it was stated at the meeting that California produces eighty-one commodities that are dutiable under the present law, and upon which the duty computed ad valorem averages about 40 per cent. If ten minutes are allowed for each commodity, the articles in which California is interested would occupy thirteen and one-half hours of the committee's time, which is a great deal more than California will get. Most of the articles, however, are produced elsewhere, and hence the necessity of co-operating with other States, so that there can be one document and one spokesman for each industry. The Chronicle says: "We expect to see from the hands of the committee appointed last week a more concise, clear-cut and convincing argument for protection to California industries than will be presented from any other State in the Union." That is right. California's support of her industries ought to be as clearly superior as is the product thereof.

It is certainly a good time to go on with improvements in California, and the wonderful activity in rebuilding San Francisco while the country is in a financial funk shows that the people appreciate the advantage of keeping busy with improvements when one can get so much for his money. It is stated that there has been taking place for some months past an unprecedented decline in the cost of building construction in San Francisco, until today the average price for buildings is lower by about 35 per cent than they were about a year ago. Architects and contractors assert that the cost of building is cheaper now than for some years before the fire of 1906. Concerning labor conditions, architects say the union scales are maintained merely on the surface, while many men are working for less than the union schedule. The most remarkable decrease has taken place in lumber, the prices having

fallen fully two-thirds of their former standards. Good lumber may now be had at \$14 a thousand feet, even by the small contractors, who paid as high as \$40 to \$50 for the same grades after the fire and continuously until last summer. Another sharp decline has taken place in lime, which was quoted July 6th at \$1.25 a barrel, less 25 cents for the returned barrel, making the net price \$1 a barrel. Up to a year ago the price averaged \$2.50 a barrel, and at times in the fall and winter of 1906 it ran to \$3. We make prominent mention of these figures simply to show that one who has faith and money can now work them together to secure a maximum of improvement at a minimum investment of capital and make money forever after by reducing the interest which his vested funds will require to be charged to his future output. The wise man is now the one who is busy building something wisely.

It is an interesting fact that California will hold within her borders forever a distinguished national tribute to the memory of an ex-president of the United States who recently died full of honors. President Roosevelt has ordered that the San Jacinto Forest of California shall be named anew in honor of the late President, Cleveland National Forest. It was through the National Academy of Sciences that the present forestry policy was adopted and in compliance with the recommendations of that organization President Cleveland created thirteen national forests containing something like 23,000,000 acres on February 22, 1897, in honor of Washington's one hundred and sixty-fifth birthday. The first of these reserves was the San Jacinto which will now be re-named as a tribute to Mr. Cleveland's memory. California will appreciate the honor of keeping both the forest and the memory green.

It will interest our fruit growers who have not yet been hooked upon the animated interrogation points which are exposed in the fruit harvest to know that Acting Secretary of Commerce and Labor William R. Wheeler is well satisfied with the progress being made in the labor investigation work in California. During July especial attention is being paid to the fruit interests and the employment afforded by them to alien labor. Dr. Dorothea Moore is gathering data for the Commission in Los Angeles and Ira Cross has been sent to San Jose to investigate the labor conditions in the Santa Clara fruit orchards and canneries. The work on the Pacific Coast is in charge of Professor W. C. Mitchell of the University of California and he has been authorized to employ twenty additional men for field work. He is looking up immigrants to this country and ascertaining their sociological condition. Some progress has been made with the Italians, Mexicans, Russians and other nationalities in finding out to what degree they are becoming assimilated with the population.

John Bull does not propose to have the price of his beer raised by anything which will make hops scarcer but he is willing that those who particularly desire to drink the hale from 'ome 'ops shall have a chance to distinguish and thus create some sort of a boycott upon imported hops. It is an ingenious recourse of the House of Commons' committee which does not favor levying a duty on hops or other measures to restrict importation, but it recommends the application to foreign products, as far as possible, of the laws relating to the marking of hops and that the use of substitutes be prohibited by Parliament. By

this statesmanlike provision Mr. Bull will still have cheap ale for the cosmopolite and higher priced ale for those who like to express their patriotism in that way.

It is wonderful how old some new things are. We now read in a California paper that a novel plan is being experimented with in Australia with a view to ridding it of the rabbit plague. So far the plan is producing good results. A newspaper is placed at the mouth of the burrow, and the hole is then stopped with earth. The rabbits are said to be so frightened by the rustling of the paper that they will not approach the spot again, preferring to die in the burrow. This racket was worked upon California ground squirrels about thirty years ago and was held to be good at first but was abandoned afterwards. So it will be in Australia. It is more trouble to keep a file of fresh papers in all the squirrel holes than it is to kill them other ways—or to let them live, as too many do.

Even turkeys do better under the owner's eye. The other day on visiting his ranch on the San Joaquin river Edward Hill, of Turlock, found that 1200 turkeys, with which he had growing for the Thanksgiving market, had disappeared with the herders. Two were arrested and charged with the theft of the birds and others are implicated. Half the herd was sold at Modesto and shipped to San Francisco. Others were found in possession of herders twenty miles from the ranch. The turkey boy of the San Joaquin is not as good as the goose girl of Europe.

The co-operative berry effort in Sonoma county to which we referred last week, seems to have taken another turn for a dispatch now comes to the effect that eight hundred tons of berries have been sold by the Berry Growers' Association of the Gold Ridge district to the Fruit Canners' Association for \$35 per ton, and they will also pay at the rate of \$40 per ton for all berries sold between canning time and the 1st of January following. This seems to be the deal which seceders made impossible last week. For the sake of the principle involved we are glad that the growers hung together, though we would like to have seen them get more money. That may come another year if they learn how to co-operate.

Fruit prices are running low all around the sky. The buyers do not seem to have a very bouyant disposition this year and they blame it upon the cowardice in the distant trade because of the panic and politics. Both of these will disappear before another year, fortunately.

## Queries and Replies.

### Australian Strippers for California.

To the Editor: I am writing this to suggest that you buy and test on the University farm an Australian type of harvester. Three horses on it do the work of 28 on one of the California combined harvesters, and do it almost as well. They are made for this trade by the International Harvester Co., of Chicago. Why they have not introduced them in California is an enigma to me.—Americo-Australian, Melbourne.

The Australian stripper has been known in California ever since its popularity in Australia began. There seems to be an irrepressible conflict between the California and Australian points of view as to desirability in team work. Australians scout our combined harvesters because the hitching of two or three dozen animals to one machine



seems to them preposterous. We return the compliment by believing that their little, dinkey strippers require too many men to operate, and multiplication of horse power is no obstacle from a California point of view. If one man could drive all the mules in the State it would be the acme of attainment from our point of view. However, you are right in the suggestion that there ought to be a stripper on the University Farm to give demonstrations with it in order that close comparison might be made of the conflicting policies.

#### Delaying Sap Flow in Fruit Trees.

To the Editor: We have a two-acre orchard of apples at Canyon City, Colorado. For three years the frost has claimed the crop and we are desirous of holding back the blossoms another year so that the chilly season will have passed ere the trees send forth their bloom. There are two theories advanced for the accomplishment of this retardation. One is the discontinuance of irrigation early in the fall so that the ground remains dry throughout the spring, and the other is in the heavy application of water in the winter and mulching, thereby keeping the ground cold, keeping the sap down, and necessarily retarding the blossoming. From observations made on our orchard at Canyon City, the end which has been kept drier all along was later in sending out blossoms.—Farmer, Canyon City.

We shall have to refer you to Professor W. Paddock, of the Colorado Experiment Station, Fort Collins, Colorado, for better information concerning the behavior of trees under low temperatures than we can give. They have been investigating the very subject which you mention. We, in California, do not have such conditions; consequently we are not wise in that line. We can only say that in the mountains of California efforts to retard blooming by keeping the ground cold accomplished little, providing the sun was warm, and this agrees with the experiments reported from Missouri, that it is the sun heat on the upper part of the tree which forces the bloom and this will take place even though the ground be cold. Their experiments also indicate that this effect of the sun upon the branches may be reduced by spraying the trees with white-wash so that the heat will be reflected rather than absorbed. Several days' retardation has been accomplished in this way. About this and all other recourses along that line, however, you can get better information from Professor Paddock.

#### Alfalfa a la Eastern Analogies.

To the Editor: In a recent answer to an enquirer you state that a nurse crop is not desirable with alfalfa. Please explain to me why this is the case. As already explained to you, we are preparing 1,200 acres for alfalfa and have it now nearly all plowed and are going to ditch, drain, check and make ready to put water on the ground not later than next April or May, depending of course, upon the season. What I have been thinking of doing in connection therewith is to work this ground from now on until say, October or November, and then sow it to wheat and next spring, perhaps along in March, or April, sow alfalfa seed. Why would not this be a good way to secure a crop of wheat next harvest, and shortly after, a crop of alfalfa? Back East in sowing clover and timothy seed, this method is very frequently, if not always, followed. For instance, sowing a crop of Fall wheat along in September and sometimes through the Winter, and I might add, sometimes while the snow is on the ground, sow their clover and timothy seed. What I would like to know is why will something of this kind not work with a summer fallowed field of wheat sown with alfalfa in the spring?—Doubter, San Francisco.

The trouble with a nurse crop for alfalfa is that it acts too sharply as a dry nurse. It appropriates to itself the moisture which should be

pushing the alfalfa and when it does this it also robs the alfalfa of the sunlight and heat which the alfalfa plant ardently desires, because heat is cake to an alfalfa plant when moisture enough is present to enable it to make full use of it. If you proceed on the basis which you indicate, of Eastern experience, you will get so little alfalfa after your wheat harvest that it may trouble you to find it at all. You must be very careful about trying analogies between Eastern and California experience. Even in the Central Western States where there is more reason for seeking frost protection for alfalfa than there is in California, it is coming to be conceded that the way to get a good stand is to sow alfalfa at the right time with the ground in the best condition, and not to use any nurse crop whatever.

#### Gypsum and Lime Hydrate.

To the Editor: I applied the litmus paper test for the detecting of the presence of "black alkali," and as the test indicated its presence, I sowed some gypsum (or hydrated lime as the dealers called it), by hand, broadcast on the affected spots, before irrigating, with the result that it has improved a good deal. Now I wish to know if it is necessary to give it a dressing of this gypsum before each irrigating. And if so, how much should be put on?—Grower, San Diego county.

Gypsum is the sulfate of lime; lime hydrate is not gypsum, but an oxide of lime and should increase the alkalinity of the soil and not reduce it as gypsum would. It might, however, have a tendency to make the soil more friable and perhaps in that way be of indirect benefit. There can be no rule for the application of gypsum, except the amount of alkali present. Gypsum must be applied until the black alkali is all changed to white and its alkalinity reduced thereby. Watch the alfalfa and when it reaches a good condition be content with that, but do not use lime hydrate instead of gypsum to reduce alkalinity.

#### Resistant Vines.

To the Editor: I have set out some resistant vines, No. 3,309, on land where I dug up an old vineyard, that was almost killed with phylloxera. I am now told that my resistant vines may also die, as I dug the old vines up this spring, and replanted at once between the rows, not in the same place where the old vine was. The soil is very good. Will resistant vines do well in land that is a light adobe, otherwise good soil, and how will they grow in heavy adobe?—Grower, Santa Rosa.

If the vines which you are planting are really resistant they will grow in spite of the presence of the insect—that is what a resistant vine is for. If your vines die because of the attack of the insect, you should find that out as soon as possible, and you have taken the best way to do it. The grape generally grows in a great variety of soils, but different resistant roots have different requirements and we have not yet had experience enough in California to prescribe definitely which is best for different soils, although something has been done in that direction.

#### Pear Blight on Apples.

To the Editor: Portions of Tuolumne county are especially adapted to the growing of excellent flavored and colored apples, but this work is only in its infancy. It is being seriously set back this year by what is supposed to be pear blight, which is causing serious losses to the pioneers in this work. In view of this fact is it desirable to plant apples?—Subscriber, Columbia.

The apple is subject to pear blight, and although the tree is not thrown into such abject distress by it, it is still seriously injured and its profitability rendered questionable. Pear blight

is a bacterial disease, for which there is no remedy so far demonstrated except incision. This constant cutting back below the injured part is more effective with the apple than with the pear, because for some reason or other the germ makes more rapid progress in pear tissue than in apple tissue. Still, the undertaking requires such constant and conscientious attention on the part of the grower that planting with expectation of only ordinary care and culture cannot be encouraged. If a man is ready to fight and constantly study and observe in order to fight better he should plant apples. These are the ones who will make the money in the future.

#### Hardy Walnuts.

To the Editor: We need a hardy English walnut that will withstand say ten to fifteen degrees below zero, or has a Japanese walnut been found that would do it? I understand from newspaper articles that Mr. Burbank has done something along this line and would greatly appreciate anything you can give me on this subject.—Enquirer, Anthony, Kansas.

Mr. Burbank has produced hardy, quick growing timber walnuts and not trees which bear nuts having the characteristics of the commercial English walnut. In the latter direction we have not heard that he has undertaken anything yet; in fact nothing of that character is likely to be produced in California, because we have no conditions which would enable a California propagator to test its hardness. It would be desirable for you to correspond with Professor N. E. Hansen, South Dakota Experiment Station, Brookings, South Dakota. It has been announced that Professor Hansen is to undertake another cruise throughout Asia in pursuit of hardy things, and such a suggestion from you might quicken his interest in a hardy walnut. The only Japanese walnut which has been introduced into California is the wild species, *Juglans sieboldiana*, which is too small in size, and too hard-shelled to be of value in comparison with the English walnuts we are growing. Our main effort now is to secure walnuts hardy against the walnut blight and not against low temperatures, with which we do not have to deal.

#### Too Much to Expect.

To the Editor: Could one count on a profit of five hundred dollars per acre annually from strawberries grown in California? How soon after setting out plants could one possibly expect a crop? For a small acreage (2 to 5 acres) what small or orchard fruits would pay best? How soon could crops be expected?—Querist, Michigan.

One could certainly not count upon \$500 per acre annually from strawberries, nor from anything else which is grown in California, although much more than that is sometimes taken from an acre of fruit. It depends upon the land, upon the man, and upon the price of the particular fruit at the particular time. If you have had experience in fruit growing so that you could easily adapt your knowledge to California conditions and modify your practice in accordance therewith you could count upon, perhaps, a better return in California than in average situations in other States, if the same amount of skill and energy is put into the business. That is about the only statement which it is safe to make in reply to your question. The time at which you may expect a crop from the trees you plant depends upon what fruit and where you plant it, and how you treat it. With common tree fruits you can count on getting returns on the average one or two years sooner than you will at the East and one or two times as much of it, culture methods being the best both here and there.



## Horticulture.

### SOME RELATIONS BETWEEN SOILS AND FRUITS.

By PROF. W. W. MACKIE of the U. S. Bureau of Soils, Washington, D. C., at the River-side Fruit Growers' Convention.

(Concluded from Last Issue.)

**Hardpan.**—In the utilization of hardpan soils fruits, and most especially grapes, have played a most important part. In the San Joaquin and Sacramento valleys there exists two great classes of soils containing hardpan at depths sometimes too close to the surface for orchards or alfalfa. These classes consist of the red soils lying near the foothills and underlain by red, or iron hardpan, and the gray or brown plains soils underlain by white hardpan. On the red hardpan soils vineyards have been planted until it is now surely demonstrated that four feet of good soil is sufficient for a good vineyard. In fact, this is considered more than is absolutely necessary for good grape production when the top soil, to about a foot in depth, consists of a mellow loam or sandy loam and the immediate subsoil a tenacious red clay loam, making a total depth of only two feet. Excellent vineyards have been grown on such combination of soil, this entirely without irrigation. While this condition of soil and subsoil is the extreme, it shows that shallow hardpan soils with proper care and cultivation can be made to produce profitable vineyards. It is even true, in some localities, that such grapes as the Tokay and Emperor show better results under just such conditions.

In a number of instances the appearance of ground water within a few feet of the surface has been taken advantage of by vineyardists to make profit out of this otherwise detrimental state in the soil. This is only possible, however, in soils free from injurious amounts of alkali which would otherwise rise to the surface.

In some instances hardpan soils have been blasted to grow orchards. Such blasting must, for best success, be done in hardpan which is not too thick and is underlain by a sandy soil directly underneath. Where such conditions occur, citrus fruits have thrived, and even such trees as the peach have done remarkably well. Warning must be given concerning the character of hardpan encountered, for in all cases it is necessary to break through into sandier soil below. Where holes are blown into hardpan without breaking through it, such holes are the receptacles for excess water, both in summer and winter, often causing the souling of roots and damage to orchards.

**Alkali and Fruits.**—The relation between fruits and alkali in soils is often very marked, depending greatly on the character of the alkali. It has been observed in vineyards that the variety of grape has little to do with the resistance to alkali, but the texture of the soil exerts considerable influence. Sandy soils containing alkali exert a much more injurious effect than do heavy or clayey ones. Quantities of alkali have been found in good vineyards on heavy soils which would entirely destroy the same vines in light sandy soil. The color of grapes is often considerably reduced by the presence of alkali. This necessitates changing of varieties on certain soils thus affected, forcing the vineyardist to plant the colorless or white sorts.

Among the orchard fruits less affected by the presence of alkali than others may be mentioned the fig, olive, pear and pomegranate. These have all shown a tolerance of alkali considerably in excess of other orchard fruits. The citrus is particularly affected by alkali, especially the chlorides or common salt. The presence of excessive quantities of lime or marl in citrus groves often causes yellowing of the leaves, but as this condition is encountered only in one or two particular soil types, careful selection of soil will avoid this evil.

**Soil Fertility.**—Perhaps the most important, most baffling and least understood relation between fruits and soils is that of fertility. The almost endless variety of fruits grown in California, the various qualities desired in them, and the great variation in soils render this subject of

fertilization very complex. A fertilizer which will do well on one type of soil will not give the same results on a different one. Different crops show corresponding differences in the effect of fertilizers. Out of these conflicting statements some generalizations may be drawn. It may be generally stated that the soil, which is most ideally perfect in physical texture and depth, is usually the most fertile, containing plant food in the best condition for plants. This may be explained partly by the fact that the ideal soil permits of slow but perfect percolation of water downward and a similar rise of soil water upward under the influence of capillary power and heat. Such a passage of water not only distributes the soluble plant foods evenly throughout the upper layers of soil, but it brings in contact with the tied up, or unavailable, plant food, the soil solvents like carbonic acid, water soluble inorganic acids, and organic acids exuded from roots of plants or generated by plant decay, making these plant foods immediately available in small but constant quantities. So great is the body of soil thus affected by this process in the perfect soil that little exhaustion is felt in any particular portion or within an appreciable length of time.

Departures from this ideal condition require a careful study of fertilizers, depending upon such factors as the restriction of water passage by the heavy texture of the soil or the rapid leaching of soils from too porous a texture. In both these extremes, the capillary power in soils is greatly decreased or restricted, permitting the exhaustion without replacing the available plant food in the soil thus cropped. Such soils often need fertilizing, but the question is, What kind of fertilizers shall be applied, how can the greatest benefit be derived from their use? The quantity of plant foods available in soils is extremely difficult to determine, and soil chemists are not at all agreed on the proper chemical methods to determine this. It is very likely that no chemical method will ever be devised to accurately determine the plant foods in soil available for crops. Each plant seems to possess a different power of extracting these plant foods from soils, and I am inclined to agree with Professor Wickson, who once said that the best analyst of the available plant food in soils was the plant itself. Such a view renders uncertain the determination of exact application of fertilizers to soils, except as tested by the actual application to crops grown upon each soil. This is likely to be a slow and uncertain process, but is in accordance with the most successful fruit growing. Fertilizers should not be applied at all until every other practical available method of maintaining or increasing the soil fertility has been thoroughly tried. Such methods include better and deeper cultivation, application and conservation of moisture in the soil and attention to such features as drainage, aeration of soil and subsoil, and the determination of deleterious substances like alkali, etc.

**Humus.**—But more important than all these is the preservation and incorporation of humus, or decayed organic matter, in the soil. California soils appear to depend for their fertility upon this perhaps more than any other single factor. In this humus is held the major part of the soil column, and to a much lesser extent in the lower depths, or subsoil, it will be seen that the presence of humus is most important in the growing of crops. Nitrogen, which is more rapidly exhausted than any single plant food, is held almost exclusively in that part of the soil containing the humus. As this humus is found mainly in the upper part of the soil column, the nitrogen is therefore exposed to greater exhaustion, not only by the growth of crops themselves, but by the action of the elements and the burning out by the summer sun. This burning out of humus and consequent reduction of nitrogen has been one of the prime factors in the exhaustion of grain soils, especially those systematically summer-fallowed and left exposed during the whole of the long summer season. The clean culture in orchards and vineyards closely resembles this summer-fallowing of grain lands, and permits of the same evils. To such cleanly tilled soils commercial fertilizers can not have their full effect, and may even cause some injury in puddling or causing the soil to run together, as well as burning it out, often leaving it worse off than before. To offset this effect of commercial fertilizers, or to retain

the fertility of the orchard or vineyard without them, the incorporation of organic matter, or humus, in the soil becomes a necessity. To do this, and at the same time increase the nitrogen content, the growing and plowing under of green manure, or leguminous crops, has proved by far the most efficient means. However, the application of barnyard manure has been highly satisfactory for the purpose of increasing the humus in soils, as well as improving its general tilth. The action of this increase in humus in the soils, by either plowing under green manure crops or the application of barnyard manure, is seen in the improved tilth of the soil, and most especially in the increased capacity of the soil to imbibe and retain the optimum water content, the quantity of water necessary for the best crop production. This improvement in the water carrying capacity of the soil in turn tends to render more soluble, or available, the plant food already there, and to replace from below the quantities removed from the top soil by the plant.

In the work of growing green manure crops in orchards, the citrus growers of southern California have made astonishing and most gratifying progress. I believe I am correct in stating that they have found that the most satisfactory and conclusive benefits in orchard fertilization have been obtained from the growing of green manure, or legume crops, and the application of barnyard manure. The benefits, however, are out of all proportion to the actual quantity of plant foods added to the soil by either. This may be explained by the fact that the increase of humus increases the availability of the plant foods already in the soil, and at the same time retains them near the surface, where the feeding roots of trees secure their supply of plant food.

It is apparently true that few soils are actually so rich that the application of a complete fertilizer to the citrus orchard is not either beneficial or necessary. In conjunction with this practice it will always be found that the increase of humus by the growing of green manure crops, and the application of barnyard manure, will render such commercial fertilizers much more effective, and at the same time remove any evil effects they may have upon the soil.

## Citrus Fruits.

### THE CITRUS PROTECTIVE LEAGUE.

There will probably be as much to do within the year to protect our citrus industry from ill-considered tariff-revision and from other difficulties, that we desire our growers in all parts of the State to know about a central organization which works to secure general benefits which individual growers might never be able to secure. At the last fruit growers' convention at Riverside, Mr. E. M. Lyon of Redlands said:

I think no organization formed since fruit packing was first started is of more importance to the citrus industry than the Protective League. We have different organizations for packing and handling fruit, but each has its own particular ax to grind. The Protective League was organized, not for any one organization, not for any one packing house or for any one district, but for the entire industry.

When we were first organized, the first question that came up was that of freight. I speak of that to show what the league has accomplished already with a very crude organization, so to speak, and supported itself by only a small part of the industry; and if it was not for the exchange, which came in en masse and has supported it most enthusiastically, we would not have had the proportion we have had of the industry, and we ought to have every one in the organization.

**What the League Has Done in Freights.**—The first question that came up was the question of freights. Of course we all wanted to get our fruit to market as cheaply as we could, and I don't think there are many packers who have not, at one time or another, approached the railroad with that end in view; and we never accomplished a single thing. We did at times get the promise of better service, but we didn't get the service. As far as the rates were concerned, we were simply pushed to one side. It was a question that they



would hardly discuss with us. When we came to them and said we represented about eighty per cent of the citrus industry of southern California we commanded attention, and you know the result.

A little over a year after the organization was formed, we obtained from the railroads a reduction of 10 cents a hundred, which amounts to 7.2 cents for every box of oranges shipped out of southern California, or any part of the State. That alone was worth more than the expenses of the league will probably be for a number of years—even what we have saved in a single year. The expenses have been very light. I think that about 20 cents a car a year has been all the assessment that has been levied so far for the expenses of the league.

The Executive Board, as they are called, have given their time for nothing. They have met their own expenses in attending the meetings, and they have done considerable work for the industry, and never have asked any compensation whatever.

Now, that is only one thing, and in connection with the reduction in freight, we obtained a positive promise from the heads of the railroads that we should have better time, better service, better equipment; and this year I think ever packer will agree with me that we have had better service and better time than we have had for years. I am sure that we could not ask better treatment than we have had this year from the railroad companies.

Another thing that I think it has accomplished is to bring the growers or the packers and the railroad companies more in harmony. Now when, for instance, a number of different men went to the railroads, they kept taking up the time, and one man thought one thing and another another. Through the Protective League we went with a definite object in view, and we worked directly on that line, and that only; and that is one reason why I think we accomplished what we have in part.

**The Tariff Issue Is Coming.**—Now, what is the aim of the league in the future? We are shipping now from southern California alone nearly 30,000 cars of citrus fruit, bringing into the State over \$15,000,000. Now, does not that represent enough value to stimulate all to work in harmony to accomplish something for the industry? Why, any business enterprise representing even a small proportion of that would be glad to spend a great deal of money to have everything pertaining to it looked after carefully. Just what will come before the league in the future is a question. We have got to feel our way in regard to the things that are important; but we do know that there are some things that we have to be in line on, so as to take care of them when they come up. One of these is the question of tariff. You all know how there has been a great deal of agitation in the papers in regard to revision of the tariff. When that time comes there is no question but what there will be some who will want the tariff reduced on citrus fruits. They will say they want the fruits delivered cheaper, and if they throw open the markets of the world so that they can bring in Jamaica fruit, Mexican fruit, and fruit from other sections, without paying any tariff—they don't pay the taxes for the support of our government—but if they can come in for nothing, why that will bring down the prices of oranges.

Do we want the price of our citrus fruit brought down? Do we want these outsiders to come in and compete with us? We can't accomplish anything if we don't have organization. We are now trying not only to have the data for our own use, as to what the citrus industry really should have in the way of protection, but we are trying to get in line with all similar organizations—vegetable organizations, orange associations in the South, and, in fact, every organization that is agricultural in any way that needs protection, so that they will work in harmony with us, and help us to obtain what we think we should have.

Now, that requires a great deal of work, and the league has employed a secretary who is devoting a great deal of his time to that very thing. It has been a revelation to me to see how many associations there are throughout the country who are interested right in this line; and when the time comes, if there is some one to take the lead, they will fall in line and help us accomplish what we want.

## The Vineyard.

### SYSTEMATIC TESTS OF GRAPE SHIPMENT.

There is now so much interest in grape growing for shipment that we give in full the address of Prof. A. V. Stubenrauch, at the Growers, Packers and Shippers meeting last week in Lodi on "Factors Which Affect the Keeping Qualities of Table Grapes in Transit and Storage."

"During the past five years the Bureau of Plant Industry of the U. S. Department of Agriculture has conducted investigation to determine the factors that govern the successful shipment and storage of fruits. Included in these investigations have been apples, pears, plums, peaches, oranges, grapes and small fruits."

**Why Fruits Decay.**—It has been shown that the different kinds of molds which cause the most common forms of decay in these fruits, while in transit and storage, have not the power to penetrate the sound, vigorous skin of the fruits, but that they generally gain entrance through mechanical abrasions of various kinds produced in the preparation of the fruit for market. It is not unusual to find 10 per cent of the apples showing cuts or abrasions of the skin; small fruits are more commonly injured, while oranges frequently show from 10 to 50 per cent of the fruit with the skin cut by the clippers in severing it from the trees, or by the handling of the fruit in the packing houses. It has been demonstrated that by careful handling in the picking and packing of oranges, under commercial conditions, the injuries can be overcome and the decay can be almost wholly eliminated.

During the past two years the storage investigations have been extended to the table grape industry in California. The investigations were started with two objects in view: A study of the factors which may affect the keeping quality of the grape in transit and in storage on the one hand, and on the other the possibility of extending the marketing season of California grapes by cold or common storage with a view to the possible replacing of the million and a half dollars annual importations of fresh Spanish grapes with the California product.

While the grape investigations have not been extended to a commercial scale, sufficient preliminary work has been done to indicate that the principles which have been developed for the safe handling of oranges and apples apply also to table grapes.

The fundamental principle has already been mentioned above, viz., the molds do not have the power to penetrate the unbroken and vigorous skin of the fruit. By careful handling in picking and packing operations, using extra caution to cut away all broken or unsound berries, even some of the tenderest varieties of table grapes have been held in perfect condition far beyond the time usually required to reach from California to distant Eastern markets.

**How Injury is Done.**—Most of the injuries to grapes in handling occur at the point where the berry joins the stem: the pedicel.

Other forms of injury are broken and cracked berries produced by rough handling or excessive squeezing in packing. The pedicel breaks are perhaps the most difficult to control, especially in tender varieties.

Often the simple bending of a berry to one side will cause a strain at the pedicel and a break, frequently so slight as to be invisible, but sufficient to allow the entrance of the mold. These broken berries under proper conditions of heat and moisture will show mold in a few days. After the mold has started it will continue to develop and spread in the ordinary grape package even at a temperature near the freezing point.

Without attempting to give any great amount of data secured in the experiments, a few examples will suffice to show how great an influence careful handling and packing to preserve the soundness of the berries may exert on the keeping qualities of table grapes. Sixteen of the leading varieties of table grapes, some of which are now grown commercially in California, were used. All of the grapes were handled with the greatest possible care and were packed in different ways and were held in cold storage rooms or

under exact or controllable conditions of refrigeration. The varieties studied are:

Tokay, Muscat, Thompson Seedless, Ferrera, Emperor, Verdal, Black Prince, Malaga, Cornichon, Huasco, Bowood, Pizzutella (Lady Finger), Perruno, Chasselas de Fontainebleau, Zabalkanski, Almeria.

**The Results.**—The following table shows some of the results obtained in the cold storage experiments in 1906 and 1907. The open crates were firmly packed, but not high so as to necessitate squeezing. The table also shows the same varieties packed in tight boxes with fillings of ground cork and redwood sawdust, and for comparison, Tokays and Emperors, packed for commercial shipment without extra precaution in handling:

	Packed in ordinary open crate. Days.	Packed with cork filling. Days.	Packed with red sawdust filling. Days.
Tokay .....	40 to 50	65 to 100	...
Muscat .....	30 to 40	90 to 100	110
Malaga .....	30 to 35	90 to 115	120
Black Prince .....	20 to 30	70	...
Black Ferrera .....	40 to 60	90	...
Purple Cornichon .....	45 to 60	80 to 140	150
Verdal .....	20 to 25	100 to 110	130
Pizzutella .....	20 to 35	70 to 90	130
Almeria .....	80 to 100	95 to 150	170
Tokay (Com. pack) ..	10 to 20	...	...
Emperor .....	**30 to 40	...	...

\*28 to 40 per cent injured berries. Delay of 4 days between packing and storing.

\*\*10 to 12 per cent injured berries.

The commercial packs of Tokay and Emperor were the usual high pack, and the grapes were subjected to quite severe squeezing, although both lots were extra selected. The percentages of injured berries (determined by actual count) were too high to make long keeping possible.

The length of time given in the table refers to the limit of first-class condition as indicated by freedom from mold, decay and dropping from the stems. We did much better in 1907 than in 1906, owing, no doubt, to better work after one season's experience.

All varieties shown in the table, with the exception of the commercially packed Tokay and Emperor, were packed soon after picking and were shipped immediately; not more than 36 hours elapsed between picking and placing in the cold storage rooms. It has been shown that without exception one of the most important factors in the successful handling of fruits either in cold storage or in transit is quick shipment or quick cooling.

**Quick and Cool.**—The sooner the fruit can be cooled after it leaves the tree or vine, the longer it will hold in first-class condition. This is especially true where there are any appreciable mechanical injuries in handling. It has been shown, for example, with oranges that after a delay in shipping or cooling of two to four days the decay in transit may be from two to five greater than under immediate shipment or cooling, depending upon the amount of mechanical injury in the fruit.

These factors of quick shipment and quick cooling are likely to be just as important and perhaps more important with grapes than they are with oranges for the reason that the ordinary grape package offers ideal moisture conditions for the development of molds, and if proper heat conditions are present, molds are almost sure to occur. In the case of the commercial pack of Tokays shown in the table, mold had already made its appearance on the arrival of the fruit at the storage house four days after picking.

The data presented has an important bearing on the problems dealing with the safe handling and transportation of grapes. They show that under proper conditions of handling and packing, even tender varieties may be held in sound condition far beyond the time required to reach distant markets.

This paper is written to call the special attention of grape growers and shippers to the value of careful handling and quick shipment and cooling in the hope that it may be of service during the coming shipping season.

The Bureau of Plant Industry hopes to extend the investigations to actual shipping tests during the coming season, in order to demonstrate, if possible, on a practical scale the feasibility of carrying California table grapes to market without serious loss.



## Forestry.

### CALIFORNIA FORESTS RE-DISTRICTED.

To the Editor: The President has just signed executive orders making important changes in the boundaries of practically all of the National Forests in the State of California. This is another step in the comprehensive plan of re-districting the National Forests in all of the Western States.

No addition in forest area is involved in the re-districting plan. The object of the work is to equalize the area of administrative units and to arrange their boundaries in such a manner as to promote the most practical and efficient administration of the forests. It will enable officers of the Forest Service to give prompt attention to all forest business and further the interests and add to the convenience of stockmen, lumbermen, miners, and other users or settlers in the National Forests. The California National Forests which will be affected by this re-arrangement are as follows:

The San Gabriel and San Bernardino National Forests will be combined in a new forest to be known as the Angeles. Supervisor R. H. Charlton, who has been in charge of the San Gabriel and San Bernardino Forests, will be in charge of this new Forest, with headquarters at Los Angeles, as at present. The Forest is located in San Bernardino, Los Angeles, and Riverside counties, California, and has an area of 1,360,021 acres.

California is the name given to what was formerly the Stony Creek National Forest, along with a part of the Trinity National Forest approximately in T. 26, N., R. 11 W., M. D. M. Supervisor Ernest Britten, who has been in charge of the Stony Creek National Forest will be in charge of this Forest, with headquarters at Willows, California. The new California Forest is located in Trinity, Tehama, Mendocino, Glenn, Lake, and Colusa counties, and has an area of 969,809 acres.

The new Inyo National Forest will include the old Inyo and Sierra (E) National Forests with the White Mountains addition to the Inyo National Forest, beginning approximately on the south side of T. 30 S., R. 36 E., M. D. M., and extending about 12 miles north of the California and Nevada State lines in approximately T. 1 N., R. 25 E., M. D. M. Supervisor A. H. Hogue, who has been in charge of the Inyo and Sierra (E) National Forests will be in charge of this Forest with headquarters at Bishop. This Forest is located in Mono and Inyo counties, California, and in Esmeralda county, Nevada, and has an area of 1,501,980 acres.

The Klamath National Forest has been combined with the Goose Neck Addition on the east side, a small part of the Trinity National Forest on the north, and part of the Shasta National Forest on the west and will continue to be known as the Klamath National Forest. Supervisor R. L. P. Bigelow will continue in charge of this Forest with headquarters at Yreka. This Forest has an area of 2,079,680 acres located in Del Norte, Siskiyou, Humboldt, and Trinity counties.

Lassen is the name given to the new Forest consisting of the Plumas, Diamond Mountains, and Shasta, embracing 1,229,076 acres. It is located in Lassen, Shasta, Tehama, and Butte counties, and will be under the administration of Acting Supervisor A. H. Kling, with headquarters at Red Bluff.

The new Modoc National Forest is what has been known as the Modoc and Warner Mountains and will embrace 1,165,536 acres. This Forest will continue under the administration of Supervisor C. E. Rachford, with headquarters at Alturas.

A new National Forest to be known as the Mono will contain 656,640 acres and will consist of portions of the Tahoe, Stanislaus, Sierra and Inyo Forests. It is located in Alpine and Mono counties. This Forest will be under the administration of Acting Supervisor J. C. Wells, with headquarters at Gardnerville, Nevada.

Monterey is the name given to what was formerly the Pinnacles and San Benito National Forests, embracing 514,477 acres. It is located in Monterey, San Benito and Fresno counties. This Forest is under the administration of Supervisor N. O. Torstenson, with headquarters at Salinas.

The Plumas National Forest will consist of the

Plumas, Diamond Mountain, and a portion of the Tahoe, embracing 1,333,280 acres. It is located in Lassen, Plumas and Butte counties, and continues under the administration of L. A. Barrett, with headquarters at Quincy.

The Santa Barbara National Forest with a small part of the San Gabriel in the northwest corner, and a small part of the San Luis Obispo in the southern part, will remain the Santa Barbara. Supervisor Willis M. Slosson continues in charge with headquarters at Santa Barbara. Its area is 1,962,200 acres, located in Santa Barbara, Ventura and Los Angeles counties.

The new San Jacinto National Forest includes what was the San Jacinto and Trabuco Canyon and embraces 1,904,826 acres. It is located in Orange, San Diego, and Riverside counties and will be under the administration of Supervisor H. A. E. Marshall, with headquarters at San Diego.

The San Luis Obispo National Forest will hereafter be known as the San Luis National Forest. Supervisor E. S. Mainwaring continues in charge with headquarters located at San Luis Obispo. It is located in San Luis Obispo county and has an area of 259,100 acres.

The Sequoia National Forest will consist of the Sierra (S) and will have an area of 3,014,400 acres. It will be administered by Acting Supervisor W. C. Burton, with headquarters at Hot Springs. This Forest is located in Fresno, Tulare, Kern, and Inyo counties.

The Shasta National Forest and a small part of the Klamath on the west side will continue to be known as the Shasta National Forest. Acting Supervisor H. B. Rider will be in charge of this Forest with headquarters at Sisson, California, as at present. The area of this Forest is 1,089,280 acres, located in Shasta and Trinity counties.

The name of the Sierra National Forest with new additions on west side, beginning approximately T. 5 S., R. 20 E., M. D. M. and running in a general southeasterly direction to T. 12 S., R. 24 E., M. D. M., will not be changed. Supervisor C. H. Shinn will continue in charge of this Forest with headquarters located at Northfork. This Forest is located in Fresno, Madera, Mariposa, and Tulare counties, and has an area of 1,911,840 acres.

The Stanislaus National Forest with a small part of the Sierra (N) in the northwest part will continue to be known as the Stanislaus. Acting Supervisor R. W. Ayres will be in charge of this Forest with headquarters located at Sonora. The area of the Stanislaus is 1,114,380 acres, located in Calaveras, Alpine, Tuolumne and Mariposa counties.

The Tahoe National Forest, with a portion of the Stanislaus, will continue to be known as the Tahoe National Forest. Supervisor Madison B. Elliot will be in charge of this Forest with headquarters located at Nevada City. The area of the Tahoe is 1,652,960 acres, located in Sierra, Yuba, Nevada, Placer, Eldorado, Amador, and Alpine counties.

The name Trinity will be retained for the new Forest which was formerly Trinity National Forest, with a small part of the Shasta in the southwest corner. Supervisor F. H. Hafley will be in charge of this Forest with headquarters located at Weaverville. The Trinity is located in Humboldt, Trinity, Shasta, and Tehama counties and has an area of 1,718,400 acres.

The Forest Service desires to reduce the area of the average administrative units to approximately 1,000,000 acres. This was not possible in all cases, as is shown by the fact that under the plan of re-districting there will be 144 Supervisors in the United States who will administer more than 167,000,000 acres of National Forests.

Washington, D. C., July 10.

COR.

## The Field.

### CACTUS IN AUSTRALIA.

Now that so much discussion is given to the utilization of cactus excited by the announcement of Mr. Burbank's spineless varieties, it is interesting to read what Consul-General Orlando H. Baker of Sydney, New South Wales, writes to the State Department concerning the prickly pear of

Australia and the counter opinions prevailing as to whether it should be eradicated as a pest or cultivated for its commercial uses:

The invasion of the prickly pear, which has rendered thousands upon thousands of acres of good pastoral and agricultural land in New South Wales and the adjoining States useless, is a problem that has been brought more to the front of late by the big bonus offered by the Queensland government for an effective means of eradicating the pest on a wholesale scale. At the same time, there is a question of whether this seeming pest has not its commercial uses. Regarding the subject from this point of view, a Brisbane chemist has, as a result of experiments, accumulated quite a number of means of turning the prickly pear to useful and highly remunerative account. He sees in this despised plant commercial possibilities quite alluring, and calculated rather to encourage its cultivation than its ruthless destruction. In his report the Brisbane chemist gives a number of uses to which the prickly pear may be put. Among them he names alcohol, tests showing that seven gallons could be secured from a ton of prickly pear; feed cake for stock feeding; straw-board and paper; and pulp, which may be pressed by hydraulic force into household articles, floor cloth, etc. Prickly pear also contains much saccharine matter which makes an excellent sugar.

The most practical use yet found for the prickly pear of the southern portion of the United States has been for stock feeding. The Department of Agriculture is encouraging the employment of a plumber's torch to scorch off the spines; when this is done it makes such an excellent food for cattle that they may be sustained on it alone, without other food or water, for many months through a dry season.

## Patrons of Husbandry.

### SANTA CLARA POMONA GRANGE.

The Santa Clara County Pomona Grange held a recent meeting as the guest of San Jose Grange. Representatives of Lincoln, Mountain View, Sunnyside, Orchard City, and San Jose Granges were present.

The principal work was the initiation of a large class in the fifth, or Pomona degree. Mrs. M. T. Black of Orchard City Grange, was in charge of the work. The hall was elaborately decorated and the impressive tableaux used in conferring the degree were presented on the platform. The following were initiated in Pomona: G. O. Foster, Mrs. Harriet Pettit, S. H. Shelley, Mr. and Mrs. E. K. Glendenning, Mr. and Mrs. J. E. Boudry, Mr. and Mrs. A. Dean, Mr. and Mrs. N. S. Gerrells, Mr. and Mrs. P. W. Keith and Mr. and Mrs. P. G. Mitchell.

About 200 members sat down, at noon, to an elaborate lunch, the annual Harvest Feast, set in the dining room of the hall. The committee in charge of Cyrus Jones, as chairman, deserves great credit.

### PARCELS POST AND THE POLITICAL CONVENTIONS.

To the Editor: Farmers sometimes realize that if they want a good crop they must sow their seed in good season. But they don't always apply this principle in politics. Some seem satisfied with any old volunteer crop in the field political. Many seem to regard that field as irrevocably devoted to wild oats.

I want to recommend some first-class seed from which the whole community might reap an abundant harvest of lasting use. The demand for an up-to-date Parcels Post is the special variety I want them to scatter in their various county and State party conventions. If they will drop me a postal card or letter I will send free to any address some circulars which will tell them all they need to know to make the subject interesting to a live convention. Let men be sent to conventions who know what our farmers want and who are not afraid to rise and champion the farmer's cause. As a rule our farmers are entirely too dumb, even in their own county conventions.

Take in your pocket, brother farmer, a plat-



form such as you think will fill the needs of the farmer. Then, after the committee on credentials has been provided for, get up and move that the chair appoint a committee on platform. This, of course, the convention will sanction, and you will be made chairman. Gather your committee and spring upon them your platform. The chances are they will accept it and the convention will all vote "Aye." Conventions are mostly hungry for the cutting up of county "pie" rather than careful for platforms.

But remember this, if Parcels Post is not in your State party platform it is a misdemeanor to ask your congressman to vote for it! Is it really? Yes, it really is! Read your election laws and keep Parcels Post before every convention you go to! EDWARD BERWICK.

## Apiculture.

### BEE KEEPING: A CALIFORNIA INDUSTRY.

(Continued From Page 33.)

It will be interesting to follow through the season's activities upon a California bee ranch. The winter and early spring months are the least busy months of the year, the bees at this time needing little or no attention beyond an occasional glance to insure that they have stores enough. The preparation of new hives and frames for the spring's swarms is profitably done at this time, for when the season opens all must be ready. If the prospects for a harvest are good the bees are started brood rearing early by stimulative feeding of sugar syrup mixed preferably with any inferior honey that may be on hand. April usually is a busy month, when fruit bloom affords a yield and in the south the sages begin. May and June are the swarming months and the bees need constant attention at this time to either hive swarms or to prevent swarming, as many bee-keepers prefer to have little increase and to keep their bees together for the main flow of honey coming in June in the sage belt and in August in the alfalfa districts. About June 1st extracting begins, and this is kept up throughout the summer, varying somewhat with the season and the locality. Then honey is usually left in the hives until well capped and then the cappings being removed by a knife are melted for wax, either by steam or in the solar wax extractor. The combs are swung in the large honey extractors, some of them run by steam or other power, and then returned to the bees to be refilled. The honey is then run into tanks and finally into five-gallon cans for shipment.

In the fall the bees are permitted to fill up their hives for the winter and the entrances are constructed to prevent robbing, as they may rob among themselves when the honey flow ceases. Many bee-keepers take this time to re-queen their bees and have them strong and vigorous for the next season. Other bee-keepers do their re-queening in the early spring, as this helps to decrease the tendency to swarm, old queens being more liable to swarm. With the preparation of the bees for winter, in most localities of California the bees needing little or no protection, the year is finished and the bee-keeper, disposing of his crop, begins to lay his plans for another and better year, as there are no more hopeful people than the bee people, who always look to the future with beaming interest.

#### Bees and Beans.

While the reports from the sage belt are not of the best, we have yet hope of something of a better crop from the bean fields and from the alfalfa districts where irrigation insures against drouth. The future of California beekeeping is, we believe, closely knit up with that of horticulture and agriculture in general. Cultivated ranges where irrigation obtains seem more certain and the trend is in that direction. Some take advantage of both by locating at the mouths of canyons, and still others migrate for part of the season from the mountains to the valleys. Mr. M. H. Mendleson of Ventura county is now preparing to migrate to the bean fields and he does so annually with profit. R. B.

### A RUNAWAY IN AN APIARY.

The killing of a man and horses by bees is a rare occurrence, and the details of such a tragedy will be eagerly read. It seems, according to an account in the Fresno Republican, that Robert Stafford, a teamster employed on the J. C. Blane ranch, near Kerman, was driving home a four-horse team with a loaded wagon of hay. Not far from the ranch house there is a small field used as an apiary by Blane. Some 30 or 40 hives of bees are scattered about inside the enclosure.

As the team drew near the fence something frightened them, and the horses, breaking from the driver's control, turned sharply across the road. The hub of one of the wheels caught the side of the fence and tore down one entire side. The shock turned the team into the field, and the horses, panic-stricken by this time, raced across the ground, knocking the hives right and left. Some thirty were strewn about the field before the driver realized what had happened.

Long before the entire number was down, the occupants of the hives first overthrown were buzzing angrily about the head of the driver. Stafford fought desperately with them, but the stings increased, and, yelling, the man ran from the field, followed by the insects.

He had beaten most of his pursuers when he heard the frantic scream of a horse in agony. Then he remembered his team, and braving the bees, started back. The wagon had been overturned and the horses, with one exception, were thrown. It was the horse left on his feet that the bees were attacking most viciously. In the few seconds that had elapsed between the overturning of the first hive and the return of Stafford to assist the animals, the horse had assumed a curiously boated appearance.

Stafford cast loose the harness, but the horse was too far gone to save himself by flight, and stood, his head hanging and his body quivering with pain, until he died, less than 20 minutes after he broke into the apiary.

While the remaining horses were on the ground the bees had paid but little attention to them, comparatively, but as they struggled to their feet, in response to the efforts of Stafford, they buzzed more furiously about them, and in a couple of seconds it was impossible to distinguish what was horse and what was bee, in the mass.

While battling to save his horses, Stafford had fought the bees with hat and hands, managing to keep many of them away from him. As he stooped to unfasten the harness of the last three horses, however, the foe took advantage of his posture and in a second fastened upon his face, arms and person in such numbers that he looked like a cluster of bees in swarming time. After a few moments of this agony he could stand it no longer and fled. Once outside of the field where they had made their home, most of the bees left him and returned to the animals, still entangled in their harness. A few still stuck to him, buzzing angrily about his ears.

This, the man says, he did not notice. In fact, Stafford says he can't remember much after going back to save his team. His face was bloated out of all semblance to that of a human being. His nerve completely gone, the man ran through the fields to the ranch house. Here he was met by Mrs. Blane, the wife of the owner, who was horrified at the loathsome sight. Stafford was almost insane with the pain. He beat the air savagely, though no bees remained near him at the time, and screamed for protection, falling at the feet of the woman.

Help was summoned and the man taken into the kitchen of the ranch house. Here, according to Dr. Long of Fresno, who was summoned as soon as possible after the discovery of what had happened, handfuls of stings were scraped out of Stafford's face and body. The man had been wearing a thin shirt, which afforded no protection against his tormentors, and his body was a bloated and misshapen as his face. His arms were enlarged to three times their natural size, and every portion of his body was filled with the stings of the angry creatures.

Though so awfully stung, Stafford managed to get through the night safely, and there was some slight hope expressed by the physician that he would ultimately recover.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The apple trees in Sutter county are heavily laden with fruit.

The first crate of grapes for the season were sent out from Vacaville July 2nd.

J. C. Ramsdale, of the Lakeland Ranch, near Riverside, is installing a ten ton olive press.

Several carloads of this year's dried apricots have been sent from Winters to the foreign markets.

The Tulare register states that the Selma Fruit Co. is to establish a seedling plant and cannery at Tulare.

A well known producer of Lodi recently sold his entire crop of 40 acres of Tokay grapes on the vine for \$200 per acre.

An average crop of almonds will be harvested this year in Sutter, and the same conditions seem to exist all over the State.

Graeff & Fuller sent out the first consignment of Sebastopol, Sonoma county, apples. The shipment consisted principally of Astrachans.

S. J. Carroll of the Palm Fruit Co. of Wasco, Kern county, expects to harvest about 40 acres of table grapes for the Los Angeles market this year.

Several shipments of lady bugs have been received by Pajaro valley orchardists and been turned loose among the apple trees to feed on the woolly aphis.

Mr. J. W. Mills retired July 1st from work at the Riverside Citrus Experiment Station, and will take up the development of his own farm property near Marysville.

The large dried apricot output of Winters is moving and several cars were sold at prices ranging from 6 to 6½ cents net to the grower. These are good prices considering the crop.

Winters is soon to have a warehouse, built by the J. K. Armsby Co., to be run in connection with the firm's plant at Suisun. The fruit growers of that section are giving a hearty welcome to the new enterprise.

Apricot raisers or Orange county have been busy making trays for the tremendous crop. Short crops for the past four years have not required many new trays and the supply has consequently run low. The yield is said to be the largest in nine years.

The Marysville Democrat says it is now estimated by the railroad men that the prune crop will be 50 per cent heavier than at first thought, owing to the section outside of the Santa Clara and to the hill sections of Santa Clara valley having larger crops than was anticipated.

The Orange County Post says the prospect is that Orange county will this year have the biggest and best walnut crop in its history. The trees are in fine condition and are loaded with sound nuts. The apricot crop is large. The county has also a larger potato crop than ever.

The State Commissioner of Horticulture has received a consignment of lady bugs which have been in cold storage for more than five months. These insects, which have withstood a temperature of 40 degrees, were found very much alive. They are enemies to plant lice and are to be distributed in San Rafael.

A notable drop has been made in the price of orange boxes during the past few months, and packers express the belief that next year will see them selling for less than they have in the past several years. The price of boxes opened early in the season at about 18 cents, but they have gradually declined in price until

some packers have bought as low as 12½ cents, and expect to secure them for 12 cents before next season.

The Watsonville Register says local apple packers, shippers and brokers are organizing for their production against the unscrupulous practices of Eastern apple buyers and brokers in rejecting carloads of apples and consignments of that product under the pretense that they do not come up to the standard.

The National Bureau of Plant Industry will conduct investigations and experiments the next year in connection with the lemon industry. The work will be along the same lines as that under C. Harold Powell in connection with the picking, packing and shipping oranges, to stop the decay of fruit.

The latest California Promotion Committee's bulletin says: "The ripening of all fruits has borne out the advance statement of the committee, and reports from all sources show that this will be the heaviest fruit year ever recorded. Already there is promise of double the number of cars of deciduous fruits for export shipment this year over 1907."

A meeting of the Southern California Walnut Growers' Association was held at Los Angeles last week. Dr. J. Allen Osmon was appointed to represent the growers at Washington next winter, in the interest of tariff legislation. It was also decided to send a representative to Europe to secure information regarding the English walnut crop, but no one was named for the place. The outlook for a large walnut crop in southern California is good.

Chico orchardists find buyers indifferent in regard to purchasing. One grower said the best price offered was 5¼ cents, which is considerably less than dried apricots have ever sold for there, and which would only about cover the actual expense of producing the crop. No sales have been reported so far, yet the growers are anxious to sell. It is claimed by many that the loss from evaporation will amount to more than the advance in price, if there should be an advance.

This season's crop of Bartlett pears will be the best ever known in Anderson valley—the best in both quantity and quality. The fruit is comparatively free from blemish and the amount is all the trees can bear. Blight is not half as troublesome this year as it was last, as the orchardists have pretty generally fought the pest according to scientific methods. The prune crop is light as compared to last year's yield. There are exceptional orchards, however, where prunes will be a paying crop this year.

The best lemon contract in this region is that existing between Augustine W. Wright in the western part of Pomona and the California Citrus Union, says the Pomona Review. The Union contracted on January 1st to take all the lemons Mr. Wright can produce at a cent and a half a pound. The contract is for this year only. It is reckoned that the Wright ranch will yield some sixty carloads of lemons from January 1, 1908, to January 1, 1909. A carload of lemons usually weighs about 24,000 pounds.

It is stated that the extremely hot weather of the last few days in the Fresno district will decrease the raisin crop 4000 tons. The vine leaves are shriveling and the exposed fruit burning in many localities. Some raisins are being bought at 3 cents a pound, as against 5 cents last year. Dried apricots are in demand at 6¼ cents. The opening price was 5½ cents. The packers sold short is the report. Dried peaches are being bought for 5 cents a pound. No cash offers are being made for shipping grapes, a commission business being the rule.

### AGRICULTURE.

Turlock is shipping potatoes in carload lots to the Puget Sound country.

The bean crop in Ventura county is growing nicely and a big yield is anticipated.

The Routzahn Seed company has 225 acres in sweet peas on the Oso Flaco, San Luis Obispo county, this year.

The grain crop on the west side of the San Joaquin valley is proving far heavier than thought possible a few weeks ago.

In the Banning and Beaumont districts and in the Perris and Hemet sections of San Bernardino there was an average hay crop this season.

Four hundred sacks of oats were harvested from 25 acres near San Jacinto this season. With oats at \$2 per sack, this is not so bad for a dry year.

Fully one hundred tons of hay are hauled daily from the Conejo country, Ventura county, through Camarillo. The hay is of excellent quality this year.

From the northern section of San Bernardino county there is not a great amount of hay as compared with other years, and but little is being shipped.

F. A. Thompson has finished harvesting 1,000 acres of wheat near Angiola. The yield ranged from 9 to 16 sacks per acre. Mr. Thompson will get \$1.50 per hundred for it.

Fine oat hay is bringing around \$17 a ton net to the ranches in San Bernardino, while dealers are getting better prices. Barley and alfalfa are selling for a little less than the oat. Quality is excellent this season.

From eleven acres Alex Johnson, of Davis, Yolo county, last year cut 756 sacks of grain and this year it went 446 sacks. While this phenomenal yield only applied to the eleven acres yet the entire field did remarkably well.

J. H. Harp of Westport, Stanislaus county, is planting sweet potatoes, having twenty-seven acres set out with the tubers. Mr. Harp has had great success with sweet potatoes in years past, although he has never before planted them so extensively.

The ranchers of Live Oak, Sutter county, are of the opinion that the grain will yield much better than they anticipated. Channon & Morris, who have 1,000 acres of barley in Sunset Colony, claim that some of it is yielding as high as fifteen sacks per acre.

Klamath basin, Oregon, crops are about two weeks later than last year. The alfalfa crop as a whole is not quite up to the average. Grain fields are also back and there will be a late harvest this year. The wild hay crop throughout the entire county is said to be almost up to the average and stockmen think that there will be enough to supply the demand.

Ninety days ago B. B. Glascock planted 150 acres east of Willows to alfalfa and mowers are now cutting the first crop, which is yielding a ton and a half to the acre, says the Willows Journal. The tract is irrigated by water pumped from Willow creek. This crop of alfalfa is already sold in the field at \$8 per ton.

### LIVE STOCK.

Eight carloads of cattle from the Bliss ranch were shipped recently to Chicago from Athlone, Merced county.

George F. Bell purchased 500 goats at San Ardo for his goat ranch near Adelaide, San Luis Obispo county.

Inspector Dr. H. M. Hunter of Tulare has completed the dipping of 60,000 sheep in compliance with the edict from the State Veterinary Department. There are still some four or five thousand in the county that must be dipped.

James T. Brown of Rio Vista purchased considerable wool of the spring clip at prices averaging from 10 to 11 cents per pound. Mr. Brown says that in the above quotations, which he considers fair to seller and buyer alike, producers are getting all the market affords.

"The new rules and regulations adopted on June 6th have been put in force and greatly assist in simplifying the work of dipping cattle in the quarantined district," says County Veterinary Otis A. Longley of Fresno. "Copies of the rules and other kindred laws have been furnished to all ranch owners in the district and are being complied with. Receipts are furnished for all cattle dipped and an exact record kept of all work done. The warm weather is rapidly hatching the tick eggs, but no ticks are being allowed to mature, as cattle are being dipped often enough to prevent this."

### MISCELLANEOUS.

The hunting season for deer and doves opened this week.

Glenn county will exhibit at the State Fair in Sacramento in September.

Prof. J. H. Norton, of Arkansas, has been appointed to take up a line of soil chemistry as related to production of fruits and will be located at the Citrus Experiment Station, Riverside.

The Trabuca canyon and the San Jacinto forest reserves, comprising about 2,000,000 acres, are to be consolidated and known hereafter as the Cleveland National Forest, in honor of the dead President.

The Imperial Valley Bee Keepers Association have practical control of the honey output of the valley, and are securing good prices on the cars shipped East. There are now 7,000 stands of bees in the county.

The canteloupe growers of the Imperial Valley have learned by experience that it is necessary to form an organization so that they can market their crop in a systematic manner. Next year they will know where the crop is going and no markets will be glutted.

The Pacific Fruit Cooling and Vaporizing Co., San Francisco, is now installing its pre-cooling plant at Newcastle with the latest improved refrigerating machinery. This company expects to put up similar plants at a number of fruit shipping points. The idea is along the lines of G. Harold Powell's findings for prevention of decay of fruit in transit.

G. B. Lull, State Forester, has been looking over the land in the southern part of Tulare county for the purpose of determining its adaptability to growth of the eucalyptus. From the investigations made by him he feels justified in recommending the land as first class for the purpose, providing water may be had for irrigation during the first year or two after planting.

The beet sugar factory in Visalia is now running in full force with 125 men.

There is little demand for this year's crop of hops and offers of 8½ and 9 cents have been made to some of the growers, says the Ukiah Times. It is reported that the brewers will not buy Oregon hops because the State went "dry," but there are 65,000 bales of last year's crop on hand.

J. T. Dunne, Fresno county bee inspector, reports that he inspected thirty-five apiaries last month. He finds the general condition of the apiaries north of Rolinda and west to the San Joaquin to be in fine condition. Many of the apiaries in this section have been extracted once and some the second time. The flow in this section is principally from the alfalfa. The thirty-five apiaries under inspection embraced 1,910 hives or colonies.



## Live Stock and Dairy.

### Mares and Foals.

By PROF. E. W. MAJOR.

Now that many of our large ranches have been cut up and are being farmed intensively, more attention is being paid to the raising of colts under farm conditions. By having a few colts coming along all the time a farmer can add materially to his income without any great expenditure.

Mares will breed more regularly and produce stronger colts and better ones if they are worked constantly than they will if running idle. Of course it is necessary that she should be handled by an intelligent man, especially as she becomes heavy with foal, or injury may result. As a rule fifteen days of rest for the mare after foaling is sufficient, but she must be brought back to steady work slowly, and for some time four or five hours' work a day will be quite enough.

The question is often asked as to whether or not foals should run with their dams while the latter are working. If the foals come early, that is to say during the cool weather and while there is no danger of their injuring the crops, it may be all right to let them follow the dams in the field and the occasional nursing they can get will be good for them. Later, however, it is better to keep the young things in a corral where there are trees for shelter or else sheds for them to run under.

An important point to remember is that the foals must never be allowed to nurse while the mares are warm. Careless help may do this and the loss of the youngsters will almost surely follow.

When the colt is four or five weeks old it will begin to eat grain and small amounts of crushed oats should be fed. By feeding during the time while the animal is nursing, thus accustoming it to grain feed, there will be much less set

back at the time of weaning. It is exceedingly important, too, that the dam should be well fed, for remember she is doing two lots of work. She is nursing her young and doing labor in the field. Her feed must be of such a nature as to stimulate the milk flow, and we have in alfalfa a very satisfactory feed for that purpose. For grain, barley is generally fed.

Keep the colts growing. It is during the first two years of their lives that they make bone, and if they are stunted during that period it will be impossible to make as good horses of them later in life.

Do away with barb wire around corals and yards where colts run or, if you cannot do away with it at once, be sure that it is kept perfectly tight and that there are no loose ends lying around. At almost every auction sale horses are offered suffering from one or more barb-wire cuts, very often owing to lack of proper attention, accompanied by large swellings. No amount of persuasion on the part of the smoothest auctioneer can make these horses bring a good price. Attention to the details makes the profits.

### Feeding the Dairy Calf.

If the breeder of dairy stock expects his calves to become large producing cows it is exceedingly important that he should feed them intelligently.

A week or two ago, in talking to a man who is dairying on quite a large scale, he said he thought he was on the right road now, as he had learned how to feed his calves. For several years he had been paying great attention to his cows; testing them, weeding out the poor ones, feeding them in such a way as to secure the highest yield, and saving the heifer calves from the best producers. The heifers though, when they freshened, frequently did not come up to his expectations. Now he has found where the trouble lies; he has been feeding his dairy calves on a beef ration. His heifers were all too fat, and they had acquired the habit of laying on fat. The result was that after they had freshened and he wanted to increase their feed to bring them up to a larger yield they refused to convert this feed into milk, but insisted on putting it on their backs.

The dairy calf must be raised with the idea of their future occupation in mind. I do not believe in allowing the calf to suck the cow at all, for the reason that the calf will learn to drink more readily if it has never learned to nurse, and the cow, especially if a heifer with her first calf, will milk more freely if she has not nursed her calf.

The calf must be given the first milk taken from the cow—the colostrum—as this is necessary for properly clearing the bowels and starting the digestive functions. Warm milk should be fed from the pail twice a day during the first week. No hard and fast rule can be given in regard to the amount that should be fed. Here is where some breeders make a mistake, they look at the small calf and decide that it must be made to grow, so feed it as big a feed as the larger calves. It is better to underfeed a trifle than to overfeed. Arrange small pens or tie the calves up when feeding them, so that they cannot suck one another. At the close of the first week commence to reduce the whole milk and substitute skim milk. A small amount of oil meal may be added to the skim milk, if the price of the feed and the value of the calf warrants it. When the calf is about two weeks old commence feeding hay and a small amount of grain. You will generally find that calves learn to eat a ration containing bran more readily than they do one without it. A very satisfactory grain ration is one containing one

part bran to five parts (by weight) rolled barley. It is of the greatest importance that calves learn to eat hay early in life and that they should be encouraged to eat it, as they need the bulk in order to develop them. Alfalfa, where it is free from foxtail, is very satisfactory. Where alfalfa is not grown, rye grass hay gives good results, but it would be desirable, with this hay, to increase the bran and decrease the barley, making the proportions 1 to 3.

Calves should have access to water and salt. The importance of cleanliness can not be over estimated. A clean pen, clean bedding and clean pails for feeding are essential. A large part of the mortality among young calves could be prevented if the farmer would pay more attention to cleanliness, and the quality of our dairy herds improved if more attention was given to the feeding of the calves.

E. W. M.

### Vaccination for Hog Cholera.

To the Editor: I understand that there is some trouble with hog cholera in California, and therefore your subscribers would have been interested in reading the article that appeared in your issue of the 27th ult. in regard to the prevention of this disease.

As you say in that issue, the Department of Agriculture at Washington has been studying hog cholera and swine plague for nearly a quarter of a century; in fact, since the Bureau of Animal Industry was established. A great deal of light has been thrown upon hog cholera and swine plague by the government scientists who have successively studied the subject, and on several occasions we have been led to believe that some reliable and practical prevention or curative agent had been discovered or devised. You particularly refer to the work undertaken by Dr. Connaway, at the Experiment Station in Missouri, and which practically consisted of confirmatory tests of the method of immunizing hogs against hog cholera completed by the Bureau of Animal Industry in 1906, and which was made public this year. However, little or no progress has been made with the government method because it is not practical. The method consists of the simultaneous injection of the blood of a hog suffering from hog cholera and of the serum of an animal hyper-immunized against that disease. The blood of the sick animal represents the virulent substance or virus of the disease, which naturally is dangerous, and the amount of serum required would be so expensive that the remedy would be worse than the disease.

Some years ago Dr. Salmon, the former chief of the Bureau of Animal Industry, stated that if a preventive remedy cost as much as 50 cents per head it would be about \$5,000,000 cheaper to let the hogs die at the present rate, rather than use the remedy upon all of them. Dr. J. H. McNeil, of the Experiment Station in Iowa, recently stated that the government method of conferring immunity against hog cholera might cost from \$1 to \$1.50 per head, which is quite likely.

### Horse Owners! Use GOMBAULT'S

## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



**The 1908 Improved**  
**DE LAVAL**  
**CREAM**  
**SEPARATORS**

Ten years ahead of all others in every feature of separator practicability

Ten New Styles—Ten New Capacities—Ten New Prices  
A size for every dairy, from the smallest to the largest.

**BEAUTIFUL IN DESIGN**  
**PERFECT IN CONSTRUCTION**  
**EVERLASTING IN DAILY USE**

The result of thirty years experience in building separators

Send for handsome new catalogue illustrating and describing machines in detail and to be had for the asking.

**THE DE LAVAL SEPARATOR CO.**  
General Offices: 175-177 William Street, NEW YORK.  
Chicago: 1212 & 1214 Franklin St., PHILADELPHIA: 105-107 Broadway, NEW YORK.  
San Francisco: 107 First Street, PORTLAND, OREGON

Mr. Wilson, the Secretary of Agriculture at Washington, has already washed his hands of the matter and has publicly announced that it is a question for each State to take up on its own account. But what State, having, say, five million hogs, is going to appropriate \$5,000,000 or more per annum for the protection of one class of animals against one particular disease? Another thing is that the immunity conferred by the "serum-virus" method is not sufficiently durable.

There is nothing particularly new in regard to the use of serum for immunizing the hog against hog cholera—and by "serum" I mean the antitoxic serum of the same character as the anti-diphtheritic serum, anti-tetanic serum, etc. This serum is a marketable commodity and can be purchased by any veterinarian or druggist or stockraiser who may desire it. In the Middle Western States, particularly in Iowa, it is already pretty well known, and though it possesses curative properties, yet it is principally used in practice during an outbreak of the disease, and in such cases it is of the greatest value, as it takes effect in about 24 hours. It is comparatively expensive, yet it pays to use it in such cases. However, the immunity conferred by the serum is of very short duration, and in order to obtain durable protection it is necessary to "vaccinate" the hogs shortly afterward. By "vaccinating" I mean the use of vaccine. The vaccine that is now being used and rapidly adopted in the Middle Western States is that discovered and prepared some years ago by two Italian scientists named Bruschetti and Perroncito. This vaccine was first of all thoroughly tried in Europe and its reliability and efficacy was demonstrated by its employment upon some 700,000 head of hogs in the hog cholera districts of Europe that extend into Italy, Spain, Portugal, Bulgaria, Roumania, Bosnia, etc. The vaccine only costs a few cents per head and it is as easy to use this vaccine upon the hog as it is to use anthrax vaccine upon other animals, or black-leg vaccine upon calves. It is a liquid and injected in a small dose under the skin on the inner side of the thigh, and one application is usually sufficient. Nearly all the vaccinated hogs are protected for at least six months and this immunity to hog cholera and swine plague often lasts for twelve months or more, the time varying in accordance with the varying susceptibility of the individual hogs. This vaccine is prepared in such a way that it is effective both for hog cholera and swine plague, which simplifies matters considerably, as these diseases are frequently confused and often exist in the hog at the same time.

There is no doubt but what a great many hog-raisers attribute losses to hog cholera when death has been caused by some other disease; therefore, when it

## Wagon Wheels

turn easily—loads  
seem lighter and  
teams work with less  
effort when axles are  
coated with

# MICA

## Axle Grease

Best lubricant for the purpose  
ever used. Powdered Mica  
in the grease forms a glass-  
like coating on axle which  
practically destroys fric-  
tion. Ask the dealer and  
don't be without Mica  
Axle Grease for a day.

**STANDARD OIL  
COMPANY**  
(Incorporated)







## The Poultry Yard.

### PRESERVING AND MARKETING EGGS.

By M. R. JAMES.

The figure that the egg cuts in the commercial world is truly astonishing. And even more so is the rapidly increasing demand for this product. This "perfect food," wonderfully and daintily put up in its pure white or tinted shell and easily prepared, is more and more taking the place of meats at breakfast and luncheon, not to mention the increasing demand in all other directions. From the last census report, we learn that in the year 1899 the number of eggs produced averaged 17 dozen per capita and their estimated value was \$144,286,158. Also in that same year there were 474,000,000 dozen more eggs produced than in the year 1890. That the next census report will show some amazing figures in this industry we can readily believe.

Time was when eggs had their seasons like the fruits of the tree and vine, and the ham-and-egg season was as fleeting as the lusciousness of the strawberry. During their season the price went as low as 5 cents per dozen, and in this time of plenty the farmer's wife packed a few dozen down in salt for cakemaking and Christmas doings, but they were not used on the table—or wanted there. Now the ham-and-egg season is always with us and strictly fresh eggs are in the market every day in the year, while the art of preserving them for family use has reached a point of excellence which makes their table use possible several months after packing. On commercial lines, however, cold storage is the factor that has saved the egg-farmer when every hen in the land is laying and cackling "to beat the band," and his product would otherwise be hardly worth carrying to market. By this means the surplus is absorbed and quotations seldom fall below 17 cents per dozen even in the height of egg-production.

In preserving eggs either by cold storage or other means they should be

- (1) Fresh.
- (2) Infertile.
- (3) Clean but unwashed.

Of all methods other than by cold storage for their preservation, that by water glass has proved most satisfactory. Experts assert that eggs kept in water glass a few months can hardly be distinguished from eggs a few days old.

**THE WATER-GLASS METHOD.**—One part water glass (sodium silicate, a syrup-thick liquid), 10 parts (by measure) pure water.

Boil and cool the water before mixing; all vessels used in packing must be sweet and clean, the eggs carefully packed in layers small end down, and the mixture poured over them to the depth of 2 inches. They must be kept in a cool place.

In marketing eggs the producer should first grade them. There may be but a sprinkling of small or off-colored ones in his case, but these few inferior ones will give the grade to the entire lot. Full-sized, clean, white eggs should be cased by themselves and will bring, according to season, from 2 to 10 cents per dozen more than the inferior grades. If the producer has a private, retail trade, even more care should be taken. To get and keep first-class trade he must give a first-class article. His eggs should be gathered twice a day in hot weather and their fine flavor assured by proper feeding and care of his fowls. While all his eggs should be strictly fresh, the grade for which he

expects top prices and perhaps a premium, should compare with the commercial "extras" which have been graded by an expert who not only considers freshness, size and color, but whether the eggs are well-filled and free from blood-spots. The small cardboard boxes holding a dozen eggs each may be purchased by the hundreds for something like a cent apiece; by having his name printed, stenciled or even written upon them with request "to be returned," the poultryman may use one several times. Even if used but once, they more than pay for themselves in convenience and prevention of mistakes and breakage, while the business look that they impart is not the least of their value. Nice attention to such details mark the line between half-failure and a full success.

#### POULTRY QUESTIONS.

**FORCING THE MOULT.**—"Is there anything in forcing the moult, and what is the best method?"—Reader, Concord, Cal.

Some three years past we heard much of "forcing the moult." An eastern poultry breeder secured lots of free advertising by exploiting the fact that a sudden change from starvation to plenty will cause a bird "to throw its feathers." His method is to put the hens on semi-starvation rations for two weeks in July, then to change to a full diet, rich in all the essentials of feather-making. The hens stop laying and moult all right—and in most cases they moult again later in the season. Thus Nature has a way of evening up matters when we try to beat her at her own game. In mild climates an early moult is not so desirable as in severe ones. With us our hens can serve us better by laying during the summer and as late as possible in the fall; then they will give place to the pullets which are the only sure dependence for the early winter egg. The late moulters when properly housed do not suffer in our mild winters, and they are fresh and vigorous to lay the hatching egg of stamina in the early spring.

**A DULL SEASON QUERY.**—"I have been planning to start in the poultry business, but I find that the market is glutted with the stock of people going out of the business. These tell me that there's nothing in it; feed is too high. Is this straight?"—G. M., Alameda.

That is just the time to go into a business, when nearly every one is going out—you are sure of having plenty of room. This has indeed been a hard season upon the poultry raisers. The excessively high price of all feed without an adequate rise in poultry products has been the undoing of many. It is a repetition of the off-season in poultry some ten years back; only we poultry raisers had it worse then, for eggs were quoted in the city market at 11 and 12 cents per dozen and in the rural districts went at three dozen for 25 cents. There were "quitters" all along the line, but the next season the commercial pendulum swung the other way for the poultryman, and those that held on reaped the reward of the faithful. Hence I repeat that it is not the best time to go into the business when the rush is that way. Poultry products are staples and there will always be a demand for them; and even in dull seasons the laying hen will pay for her feed and leave a margin of profit; the sale of the cockerels will cover the expense of the pullets until they become producers. It is plain that there is always one safe basis upon which to build a poultry business: Keep none but producers!

[Our readers are always welcome to submit questions along poultry lines and their questions will be conscientiously treated.—EDITOR.]

#### Value of Poultry Manure.

This is a subject in which the orchard and garden draw near to the poultry and Mrs. S. Swaysgood gives the Petaluma Poultry Journal some interesting notes upon it:

Some time ago I read of a man in England who bought a large estate on which was a worn out apple orchard. As an experiment the manager who was in charge of the property put some hens on a small lot and fenced them in. The result was so gratifying that he immediately went to work to raise all the chickens he could and also bought up what he could in his near neighborhood. In fact, he is still raising and buying, because it was a large orchard and the task was a large one. I don't remember how many fowls to the acre he intends to put, but they are to be run on the colony plan with houses right on the ground except that they will be fenced in permanently until the trees are in good bearing condition.

About four years ago we fenced a flock of hens in an old peach orchard. Some of the trees were dug up to make room for houses and some were left with the intention of digging them out at some future time, as they were considered too old to be profitable. There were a sufficient number of trees left, however, to prove that they would still be profitable had they been left, for ever since then they have borne a good crop of the finest Crawford peaches to be found. The results from the hens being so encouraging, we next moved them to a prune orchard. The trees in this orchard were young and gave a good crop, but the fruit was so small as to be scarcely worth picking. Heavy pruning did not seem to help matters very much, hence the hens were given a year's trial. The result was even more remarkable than in the former case. The prunes are large, the trees thrifty and the foliage has that deep glossy green that speaks of a well nourished tree. We now have most of the poultry in permanent yards, but all droppings are hauled out and put on the land around the trees. We simply haul it out when a horse is hitched up, so it is out of the way and the young stock can't scratch in it.

These experiments have proved to my satisfaction that poultry are the most valuable assets the farmer has, especially the orchardist. If he does not make the best possible profit from them direct he gains in the quantity and quality of his fruit.

Everybody knows that cow and horse excrements make very poor fertilizers, unless the animals are fed grain. It is the grain consumed that enriches the excrements, because nothing ever digests all the nutrient qualities. There is always a residue that must be lost unless it is utilized on the ground and to make a profit from poultry these days everything must be turned to use; there must be no leaks. But, what is the man to do who has poultry but no orchard. Suppose he tries some other way of utilizing the droppings. Nearly all of you who keep poultry have a patch of vacant land. Then plow it up, fertilize it well with droppings and plant to kale or cabbage. Cabbage is a rank feeder and grows to enormous size when fed with any kind of excrement. There is nothing a chicken likes better than cabbage, so you see you can make an even balance by feeding the cabbage on the droppings; then feed the cabbage to the hen. I have seen heads of cabbage nearly as large as a washtub grown on very rich land, and celery fed on hen droppings and soap suds will take a prize at any State or county fair. In fact, there are lots of crops that can be grown with little labor and expense by

the aid of the hen droppings which would save some of your expense bills and make your fowls healthier and happier.

The orchardist who has a combination of fruit, poultry and bees is all right if he will see to it that they are evenly distributed. He has a combination hard to beat for profit, pleasure and health. Bees are great fertilizers in an orchard. When the blossoms are out these little workers are hurrying from flower to flower, carrying the pollen from one tree to another in their search for nectar. With them to fertilize the blossoms, and hen droppings to furnish food for the roots, the tree is well provided with material for growth and the elements demanded by the fruit.

#### Meeting of Sonoma County Poultry Association.

The Sonoma county branch of the Sonoma County Poultry Association met recently at Petaluma. It was stated that up to the present it had cost the association 2 cents a dozen to sell eggs. It had been a case of new fillers, new cases, etc., but the time was coming when it would not cost more than 1 cent a dozen. The Grocers' Exchange of San Francisco want to make a contract with the association, and if so it will dispense with twenty-five or thirty people who ship direct. The washing of eggs was discussed at great length. It was agreed that eggs would better be left to be washed at the association's depot. Mr. Jessen stated that since he closed the henhouse doors and provided sand in oil cans he always had clean eggs. The Petaluma Poultry Keepers' Protective Association met after the close of the meeting. The committee on the amalgamation of the two associations say that it is feasible, but recommend that action be deferred until August. Prof. Jaffa addressed the meeting. His address was on dry feed and pure food laws. The professor stated that the practice of selling Eastern eggs as California eggs would be stopped. This will be good news to the poultry people. The Hogan system was also under discussion.

Oswald Robertson, of Arlington, near Riverside, is building chicken houses 250 feet long and expects to go into the poultry business on a large scale.

#### POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

#### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

#### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

#### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 51, 320 McAllister St., S. F.

#### SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS**, 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1865. Correspondence invited.

**THE NEW EGG FARM.**—By H. H. Stoddard. A practical, reliable manual upon producing eggs and poultry for market as a profitable business enterprise, either by itself or connected with other branches of agriculture. It tells all about how to feed and manage, how to breed and select, incubators and brooders, its labor saving devices, etc. 12mo. 331 pages. 140 original illustrations. Cloth.....\$1



## The Home Circle.

### The Modern Kansas Farmer.

Turn on the electric light, mother,  
And start the electrical fan,  
An' set yourself down here beside me  
On this velvet imported divan  
Fur a heart-to-heart talk o' the ol' time  
When we lived in a house built o' sod,  
An' didn't have nothin' to speak of  
But a trust in ol' Kansas—an' God.  
Just a pair of ol' skeleton oxen  
With nothin' but hide on their bones,  
An' a rickety wagon that grumbled,  
At workin', with screeches an' groans,  
An' a flea-bitten dog 'bout the color  
Of the sunflowers seen by the way,  
As we follered the Smoky Hill river  
In the summer heat, day after day.

Our John was a kid, you remember,  
As sassy and peart as you please.  
An' so short were our wee Polly's dresses  
The sun burnt her legs to the knees,  
An' the calico frock you was wearin'  
Was ragged an' tattered an' tore  
Like a flag that had been in the battle  
In times when I fit in the war.  
We tuk up a hundred an' sixty  
As a soldier's homestead an' here  
We scrimps an' we toiled for a livin',  
An' a sli' one, too, year after year.  
An' what with the drought an' the hop-  
pers  
This often looked desputly gray,  
But we kept the ol' faith pot a boilin'  
Tell things got to comin' our way.

Pawleen, break away from that music  
An' answer that telephone ring!  
As I was a sayin', we struggled  
Tel all of our troubles took wing,  
An' the crops got so masterful heavy  
That every harvest came 'round  
It was hard to git men 'nuff to save 'em  
And git 'em in off o' the ground.  
Now John is travellin' in Yorrup  
Seein' everything that's to be seen,  
An' Polly's just back from ol' Vassar  
An' says we must call her Pawleen,  
An' you're wearin' city-built toggin'  
An' lookin' as gay as you please,  
An' I guess you're ol' man ain't no hobo  
With tailor-made trippin's like these.

We stuck to our faith in ol' Kansas,  
An' likewise our faith in the Lord,  
An, now sense the lane's tuck a turnin',  
We're reapin' a hearty reward.  
The sod house we ust fer to live in  
'Round which lots o' memory clings,  
Just stands as a silent reminder  
O' the time 'fore we sprouted our wings.  
Pawleen wish you'd ring up the garage  
An' tell the chaw-foor to fetch 'round  
The turin' car early to-morrer  
To take your paw-paw into town;  
I'm expectin' to meet a committee  
From the district Republican ring  
That's a wantin' to run me fur congress  
An' the run-about's scarcely the thing.  
—James Barton Adams in the Topeka  
State Capital.

### His Overthrow.

Dean always half-laughed, half growled  
"nothing doing!" whenever the ques-  
tion of matrimony, as applied to him  
personally, came up.

He had declined to censure his friends  
when one by one they bowed their heads  
to the yoke, for he said that if a man in  
possession of a sane mind wanted to  
make an idiot of himself it was his own  
business and he had a perfect right to do  
so. He preserved a complacent though  
pitiful aloofness, sent expensive wed-  
ding presents and sought out fresh  
friends who could be depended on for an  
evening at the club without yearning  
eyes turned upon their homes.

He was always getting himself dis-  
liked for thoughtless promulgation of  
his theory when among friends. Fluffy  
young creatures, with trusting eyes and  
marvelous pompadours, who previously  
had cast speculative glances at his  
blonde features, usually tilted their  
noses haughtily and abandoned him to  
his fate after he had launched forth his  
opinion of the galling bond of matri-  
mony.

Possibly this was because each one  
desired to inscribe her calling cards  
with the name of Mrs. Earnest Dean;  
still, it rather takes away from the  
flavor of the game to smile upon a man  
who one knows never, by any possibi-  
lity, will gaze on one, save in an imperson-

al and disinterested manner. Older and  
more experienced young women, who  
suspected that he might be talking just  
for the sake of talking, finally concluded  
also that he really believed what he  
said, and so sought other fields to con-  
quer.

So accustomed had Dean become to  
being eyed reproachfully, surprisedly,  
indignantly, that he experienced a dis-  
tinct shock the evening he met Serena  
Hubert the second time.

As he lazily watched the cigar smoke  
curling upward—it was after an in-  
formal dinner—he said apropos for some  
remark: "It served him right for get-  
ting married, anyhow!"

Serena merely continued to lean back  
languidly among the cushions of the di-  
van and to smile agreeably. "It does  
indeed," she murmured calmly. "I  
can never understand this idea that ma-  
trimony means happiness. People situ-  
ated like you and like myself, for in-  
stance, are the only wise ones!"

Dean let his cigar slip from his par-  
alyzed fingers, as he stared at her vivid  
face. "Do—do you really think that?"  
he half stammered.

Serena laughed. "Of course I do,"  
she said. "It's all foolishness!"

Dean stepped over and recovered his  
cigar. "Yes, of course," he murmured.  
"That's always been my theory."

"And you are quite right," Serena  
assured him. "I am glad to meet a man  
with enough sense and brains to recog-  
nize the fact and not be afraid to stand  
by his colors."

She smiled at him sweetly and Dean  
forgot what she said in observing the  
delicate contour of her face and how  
lovely her color was. Then he roused  
himself to say that he so enjoyed meet-  
ing a sensible girl, who could be turned  
to without demanding a touch of the  
personal in the conversation. He said  
it was unusual.

"But then," Serena replied, "you are  
an unusual man, Mr. Dean."

"Not in the least!" cried Dean, grati-  
fied, yet protesting.

He sat, talking with Serena, till his  
hostess came and forcibly dragged him  
away. He lost his good temper till he  
got hold of a man who could take him  
to call on Serena, because he had totally  
forgotten, in his absorption the evening  
of the dinner, to ask her if he might  
come. He took her to the theatre and  
then he was asked to a chafing-dish sup-  
per.

Through it all Serena insisted on com-  
plimenting him on his well known  
views against wife and home. She  
elaborated on the subject. She agreed  
with his remarks before he made them,  
and if he did not make them she cleverly  
put them into his mouth and he  
spoke them hopelessly. He began to  
have a strange reluctance to hear them,  
for of a sudden he was tired of their  
iteration.

An awful fit of blues descended on  
him and held him victim for a week.  
Each time he called on Serena in the  
hope of being cheered up by the society  
of a person so thoroughly in accord with  
his own views he came away feeling  
worse. It was an awful thing to hear  
a fair young girl sit up and declare that  
she should never marry, but should de-  
voted her life to being free and happy.

"As if she could not be equally free  
and lots happier if she married!" Dean  
found himself muttering one evening as  
he left her.

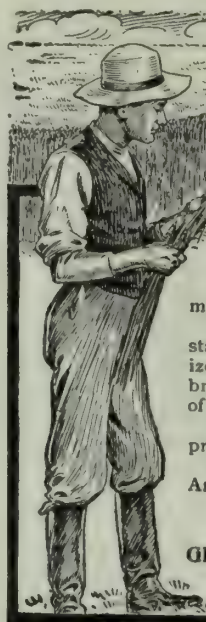
Serena was eminently fitted to make  
some home happy, he had to admit.  
It was not right for a woman to deride  
so gayly the institutions of life.

Finally, one evening, when he was  
particularly down-hearted, he could re-  
strain himself no longer.

"Stop it," he told Serena. "I don't  
like to hear you say such things! Of  
course you'll marry somebody. I wish  
—I wish there was a show for me!  
Couldn't you—would you, think of  
of marrying me, Serena?"

"Well," murmured Serena, "maybe  
I am foolish to have such views. I—  
I'll think about it. Earnest, though, of  
course, I am so surprised and start-  
led—"

Nobody but the mirror across the



# POTASH

**Look at your wheat and barley—study them well before cutting.**

Too much stalk and leaf in proportion to your grain, means *too much* nitrogen in your soil.

Use fertilizers with at least 6 per cent. of Potash. A stronger stalk and heavier head will be the result. But most fertilizers are too low in Potash, and if you cannot get the right brand, then make your brand complete by adding 15 pounds of Muriate of Potash to each 100 pounds of your mixture.

**Complete fertilizer (2-8-6) means best crops and biggest profit.**

Every agent sells phosphate. Few carry Potash in stock. Arrange for Potash now. *Potash is profit.*

Send for our books containing facts about soil, crops, manures and fertilizers. Mailed free.

**GERMAN KALI WORKS, 93 Nassau St., New York**  
Chicago—Monadnock Bldg. Atlanta, Ga.—1224 Candler Bldg.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.

room saw the flashing little smile she gave herself as Dean sighed in an immense relief that dissipated the cloud of blues which had hovered over him for days.—Chicago News.

### One Kind of Girl to Shun.

No matter how attractive a girl may be in face and figure, if she is thoroughly selfish but prudent people will shun her. No careful person is likely to be charmed with the girl.

Who never thinks of anyone but herself.

Who never makes an effort to oblige others and yet expects to be waited on hand and foot herself.

Who never will own that another girl is pretty, but who endeavors instead to find some defect in her to point out to others.

Who never does a stroke of housework, but selfishly indulges in gaiety and amusement while her mother slaves to keep affairs in order.

Who never is happy unless she is monopolizing the conversation and the interest of the men in the room.

Who never takes any notice of children, but considers them "little nuisances," "plagues," who ought never to have left the nursery.

Who never confesses she is in the wrong, but sticks to her point through everything.

Who spends all her money on dress, sweets or some luxury for herself.

Who never bestows a kind word on those beneath her in position.

Who never, above all, could love or seriously consider the comfort of any other person but herself.

### Why Land is a Good Investment.

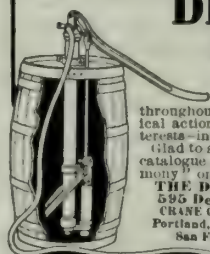
The statistician in the Department of Agriculture of the United States estimates that in 1931 the population of this country will be 130,000,000, and the census bureau agrees that this is a conservative estimate. To supply the requirements of this number of people will necessitate the production of 700,000,000 bushels of wheat, 1,250,000,000 bushels of oats, 3,450,000,000 bushels of corn, 100,000,000 tons of hay, and cotton, to-

bacco, fruits and vegetables in proportion. To produce this immense quantity of food and kindred products will necessitate the bringing under cultivation of an additional 150,000,000 acres of land, and it is estimated that we have only 108,000,000 acres available for cultivation. These statistics present matters for serious reflection, and should bring home to every reflecting man that good agricultural land is the best and safest investment on earth, and that such an investment is environed with speculative possibilities beyond the wildest dreams of avarice.

### Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests—investigate the "Deming." (Send to send our Nineteen Eight catalogue and "Expert Testimony" on request.)

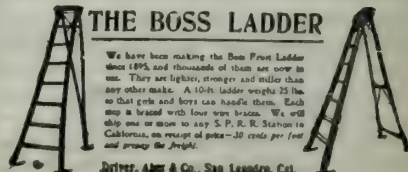
THE DEMING COMPANY  
595 Depot St., Salem, Ohio.  
CHAS. CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.

### "THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

### THE BOSS LADDER



We have been making the Boss Ladder since 1895, and thousands of them are now in use. They are lighter, stronger and safer than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. Station in California, on receipt of price—30 cents per foot and express the freight.

Dietz, Allen & Co., San Leandro, Cal.



## Pith, Point and Pathos.

Poverty is the one luxury the rich man can't afford.

Speech that is too flowery should be nipped in the bud.

Many a truthful man breaks his word because he stutters.

If you wait until you are called you may be too late for breakfast.

It pays better to appreciate than it does to be appreciated by fools.

The girl who is popular with men is apt to be unpopular with other girls.

Even a yellow dog was never known to humble himself by seeking an office.

It takes more than an eye-opener to make the toper see the error of his ways.

Everybody encourages the fads of the men who are willing to spend money on them.

A word to the wise is sufficient—if he is paying for it at his end of the long-distance telephone.

If a woman imagines a man good enough for her she knows that he is good enough for the best woman on earth.

A girl always feels that she ought to scream when a young man attempts to kiss her, but she's afraid some one will hear her if she does. — Chicago News.

## What the Women Want.

At the meeting of Women's clubs in Boston, Mrs. Mary Hinman Abel spoke upon the subject of pure food.

"Begin at home," she said. "The occupants of your kitchen who listen to your instructions about germs do not believe a word you say. The average woman needs a course in marketing more than in cooking, and not so much to learn the cuts of meats as to have her eyes open to conditions of cleanliness. Even a few women in any town by holding together can accomplish wonders in the cleaning of markets and provision stores."

"The one thing that the public should understand," said Miss Parker, "is that play is not a luxury, but a necessity."

Speaking on the necessity of sanitation in daily life Mrs. Ellen H. Richards of Boston said:

"I have come to the conclusion that nine-tenths of human illness is caused by the food eaten and that six-tenths of the nine-tenths is caused by unclean foods. The danger comes back to the housewife both for her lack of care in her own domain and her lack of social conscience, which demands cleanliness on every hand."

## Diet for Sleeplessness.

Dr. William Stevens says that insomnia is not a disease itself, but the effect of an unhealthy condition of the body or mind. When the cause is removed the insomnia may be expected to disappear.

Every physician has had stubborn cases of it, which would not yield to any treatment, and for which a change of air or of scene became necessary. But such cases as these should not occur only when the sufferer has neglected precautions that should have been taken when the trouble first made itself manifest.

Insomnia results from causes which can be removed if attended to in season. The most common cause is found in the digestive organs. Either unsuitable food causing insomnia as a feature of indigestion, or insufficient food, causing the patient to be kept awake by hunger.

There are few things which can be universally recommended as a diet for sleeplessness, since what will agree with one man will disagree with another. But two things that may almost always be recommended are lettuce and celery. — London Globe.

"Brevity is the soul of wit," yet "one can't have too much of a good thing."

## Domestic Recipes.

**HICKORY NUT MACAROONS.**—Beat the whites of two eggs to a froth and add slowly one cupful of pulverized sugar and one cupful of nuts chopped very fine; mix thoroughly and drop on buttered tins. Bake slowly.

**PUREE OF LIMA BEANS.**—Cook one can of lima beans in a pint of salted water, adding a tablespoon of grated onion, a bay leaf, a blade of mace and three whole cloves. When reduced to a pulp press through a fine sieve. Return to the fire and stir in two coffee cupfuls of milk and season with half a spoonful of salt and dash of cayenne. Thicken with one tablespoon of butter and one of flour rubbed to paste, letting it just reach the boiling point, to cook the flour. Serve at once with tiny crescents of fried bread.

**CREOLE VEGETABLE SOUP.**—Wash and cut into thin slices half a dozen good sized okras. Place them in a saucepan with a pint of stewed tomatoes and one thinly sliced onion. Cover the whole with two quarts of cold water and simmer for two hours. Add two teaspoonfuls of salt, a saltspoonful of pepper, and two tablespoonfuls of butter. When the butter is dissolved stir in a tablespoonful of mushroom catsup and one tablespoonful of chopped green sweet pickles. Serve with triangles of toasted bread.

**RAISIN CAKE.**—Use  $\frac{1}{2}$  cup of butter,  $\frac{1}{2}$  cup sugar, 1 cup molasses, 1 cup sour milk,  $1\frac{1}{2}$  teaspoons soda, 1 teaspoon of salt, 1 even teaspoonful cinnamon,  $\frac{1}{2}$  teaspoonful cloves,  $\frac{3}{4}$  cup raisins,  $2\frac{1}{2}$  cups flour. Cream butter, add sugar, molasses, sour milk, and raisins. Mix and sift remaining ingredients, and combine mixtures. Bake in a deep pan 50 minutes. This is made and put on a white frosting made of  $\frac{1}{2}$  cup thick cream (sweet) and 1 cup sugar, boil till it will spread nicely, add any kind of flavoring preferred.

**VEGETABLE SOUP.**—Add a pint of water to a can of tomatoes and place in a saucepan. Cut into dice one carrot, one onion, one turnip, and one white potato; put two ounces of butter in the frying pan. Add the prepared vegetables and toss about until slightly browned, then stir them into the hot tomatoes, adding a stalk of celery or a quarter of a teaspoonful celery seed, and boil 45 minutes. Remove from the fire and strain. Season with a teaspoonful of salt and a saltspoonful of white pepper, and then stir in two tablespoonfuls of butter. Serve in bouillon cups with toasted crackers.

## A Good Excuse.

Two little youngsters shambled penitently into the classroom long after the school had opened for the morning session, says the Circle.

"Boys, come to my desk immediately," said the teacher.

The meek little lads walked to the teacher's desk and stood looking helplessly at their feet.

"Tommy, why are you late this morning?" asked the teacher.

"I overslept myself, ma'am," began Tommy. "You see, teacher, I dreamed I was going to take a railroad trip. I just got to the station when I woke an' found it was 'way past schooltime."

"Freddy, why are you late?" enquired the teacher, turning to the other boy.

"Please, ma'am," replied the trembling Freddy, "I went to the station to see Tommy off."

A farmer had hired a raw Irishman to plow. "Now, Pat," said he, "you want to make your first furrow straight, so you'd better choose a mark and plow at it." By and by the farmer came out to see how Pat was getting along. He found that the plow had been wandering zigzag all over the field. "Why, Pat!" he exclaimed, "I thought I told you to choose a mark and plow at it." "Sure, and I did, sor," replied Pat. "I plowed straight for the cow on the hill beyant, but the craythur wouldn't kape still!"

## BOOKS FOR THE FARM

## For Sale by PACIFIC RURAL PRESS

**CELERY CULTURE.**—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**TOMATO CULTURE.**—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**FARM CONVENIENCES.**—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00

**FEEDING FARM ANIMALS.**—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated. 5½ by 8 inches. Cloth.....\$2.00

**THE NURSERY BOOK.**—A complete handbook of propagation and pollination of plants. It tells, plainly and briefly, what everyone who sows a seed, makes a cutting, sets a graft, or crosses a flower wants to know. It is entirely new and original in method and matter. The cuts number almost 100, and are made especially for it, direct from nature. The book treats of all kinds of cultivated plants, fruits, vegetables, greenhouse plants, hardy herbs, ornamental trees, and shrubs and forest trees. By L. H. Bailey. Illustrated. 4½ by 7 inches. 365 pages. Cloth .....\$1.00

**THE BOOK OF ALFALFA.**—Its history, cultivation, merits, and uses as a forage and fertilizer. This little book on alfalfa, which appeared a few years since, has been a complete revelation to thousands of farmers throughout the country, and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is by far the most authoritative, complete and valuable book on this forage crop ever published. The book is printed on fine paper, with many full-page photographs that were taken with the especial view of their relation to the text. It is unquestionably the handsomest agricultural reference book that has ever been issued. By F. D. Coburn, Secretary Kansas Department of Agriculture. Illustrated. 6½ by 9 inches. 336 pages. Cloth...\$2.00

**BEAN CULTURE.**—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests; composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth .....\$0.50

**THE NEW RHUBARB CULTURE.**—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the wellknown Michigan trucker and originator of the now famous and extremely profitable new methods of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

**PLANT LIFE ON THE FARM.**—By M. T. Masters, M. D., F. C. S. A sketch of the physiology or life history of plants; of the way in which they are affected by the circumstances under which they exist, and how they in turn react upon other living beings and upon natural forces. 132 pages. 5 by 7 inches. Cloth.....\$1.00

**THE CEREALS IN AMERICA.**—By Thomas F. Hunt, M. S., D. Agr., Professor of Agronomy in College of Agriculture, Cornell University. This is primarily a textbook on agronomy, but is equally useful to the farmer as to the teacher or student. It is written by an author that whom no one is better qualified. The subject-matter includes an accurate, comprehensive, and succinct treatise of wheat, maize, oats, barley, rye, rice, sorghum, and buckwheat, as related particularly to American conditions. The author has made a comprehensive study of the topics treated, drawing freely from the publications of the United States Department of Agriculture, American experiment stations, and recognized journals related to agriculture. First-hand knowledge, however, has been the policy of the author in his work. Illustrated. 460 pages. 5½ by 8 inches. Cloth .....\$1.75

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

## SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## Large Land Sale

## The John Crouch Lands

## Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County, a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds  
for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

## Blake, Moffitt &amp; Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE MARKETS.

San Francisco, July 15, 1908.

Unless otherwise noted, quotations represent prices paid to the growers.

## WHEAT.

San Francisco prices on spot wheat are unchanged on most varieties and the market remains comparatively inactive, with no shipping business and only limited buying for milling purposes. There has been some business in new crop wheat, but none of any importance. New Sonora has brought \$1.70. Future business shows some signs of reviving, with a considerable advance in prices. The price now asked for December wheat is \$1.65, though no sales have yet been made at this figure.

California White Australian.....	Nominal
California Club.....	\$1.60 @ 1.65
California Milling.....	1.65 @ 1.67½
California lower grades.....	1.40 @ 1.55
Northern Club.....	1.60 @ 1.65
Northern Bluestem.....	1.65 @ 1.70
Northern Red.....	1.60 @ —
Turkey Red.....	1.67½ @ 1.72½

## BARLEY.

There is no great activity in barley, and arrivals are liberal. Brewing and shipping grades are again quoted, both standing at \$1.32½, while feed remains steady as last quoted. Offerings of barley to arrive are heavy, but for the most part little interest is taken in them. There is some shipping business, a cargo having been sent from Port Costa this week.

Brewing.....	\$1.32½ —
Chevalier.....	Nominal
Good to Choice Feed, per cttl.....	\$1.25 @ 1.30
Shipping.....	1.32½ —

## OATS.

Spot stocks of oats are very light, and prices are not very definitely established. Very little trading is being done here, though sales of red are reported in other quarters. Offerings of red are liberal here, but the price is steadily maintained. Gray is a little stronger, but white shows a decline.

Choice white, per cttl.....	\$1.45 @ 1.50
No. 1, white.....	1.35 @ 1.40
Gray.....	1.40 @ 1.45
Red, choice.....	1.35 @ 1.50

## CORN.

The local market remains quiet, with California grades nominal. Some Western yellow sacked sold up to \$1.85, but other varieties are quoted as before. Stocks in growers' hands are said to be strongly held.

California Small Round Yellow, per cttl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State sacked Yellow.....	\$1.80 @ 1.85
White, in bulk.....	1.77 @ —
Mixed, in bulk.....	1.75 @ —
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

Spot offerings are made as quoted below, and new crop to arrive is offered at a lower figure than last week. The market is quiet.

California new, to arrive.....	\$1.35 @ 1.40
Spot, old.....	1.47½ @ 1.50

## BEANS.

The inquiry for mixed carloads, principally for shipment to the south, still continues, causing a rapid reduction of stocks. The market is strong, with prices firmly maintained, and an advance is possible before the new crop is marketed. Crop prospects are not as good as they were, on account of the hot, dry weather. The crop is estimated as about as large as in 1906. High prices are looked for on new crop, and Eastern new-crop prices are above the normal. The following prices are given by brokers:

Bayos, per cttl.....	\$3.20 @ 3.25
Blackeyes.....	3.25 @ 3.50
Butter.....	4.50 —
Cranberry Beans.....	2.75 @ 3.10
Garvanzos.....	2.50 @ 3.50
Horse Beans.....	2.00 @ 2.50
Small White.....	4.40 @ 4.60
Large White.....	4.40 @ 4.50
Limas.....	4.90 @ 5.00
Pea.....	4.40 @ 4.50
Pink.....	3.25 @ 3.35
Red.....	3.25 @ 3.75
Red Kidneys.....	2.75 @ 3.00

## SEEDS.

Everything in the seed market remains very quiet. The only feature is canary

seed, which is reported ¼ cent higher than last quotation. Other varieties are steady at prices which have prevailed for some time. The following prices are quoted by dealers in San Francisco:

Alfalfa per lb.....	17½ @ 20 c
Broomcorn Seed, per ton.....	\$20.00 @ 25.00
Brown Mustard, per lb.....	3½ @ 3½ c
Canary.....	4½ @ —
Flaxseed.....	3 —
Hemp.....	4½ @ 4½ c
Millet.....	2½ @ 3½ c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

No change has been made in flour quotations. Business is very quiet, with only moderate shipments to Central and South America, and about the average for the local trade.

California Family Extra, per bbl.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

## HAY.

The hay market is probably in a little healthier tone this week. The arrivals have been slightly in excess of those of the week previous, but the congestion is a little less marked. Local dealers still claim that country prices are higher than is justified by conditions here and they are generally holding back. Nevertheless a good deal of buying for future delivery is reported from the hay-growing districts, and, for the first time in months, a speculative element seems to have entered into the situation. At all events, the activity in the country has tended to make holders of hay firm in their ideas of prices. According to dealers, the future of the market depends almost entirely on the general business conditions of the fall and winter. With a real business revival and the resulting increased demand, a scarcity may develop which will send prices up. Otherwise there is a possibility of a drop.

Choice Wheat, per ton.....	\$15.00 @ 16.00
Other Grades Wheat.....	12.00 @ 14.50
Wheat and Oat.....	12.00 @ 14.00
Tame Oat.....	11.50 @ 14.50
Wild Oat.....	10.00 @ 13.00
Alfalfa.....	9.00 @ 12.50
Stock.....	8.00 @ 9.00
Straw, per bale.....	50 @ 75 c

## MILLSTUFFS.

Several changes are noted under this head, bran, shorts and miscellaneous feed-stuffs showing a marked downward tendency. Red bran is sold as low as \$28.50 a ton, and rolled barley has taken another drop. Cocoon cake and meal are also lower, partly as a result of the decline in copra. Trading in these lines is only moderate. Millers' prices are as follows:

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton—	
White.....	29.50 @ 31.00
Red.....	28.50 —
Broom Corn Feed, per cttl.....	90 c @ 1.00
Cocoonut Cake or Meal at Mills (in 10-ton lots).....	25.00 @ —
Jobbing.....	26.00 @ —
Corn Meal.....	39.00 @ 40.00
Cracked Corn.....	40.00 @ 41.00
Mealalfa.....	22.00 @ —
Jobbing.....	23.00 @ —
Middlings.....	34.50 @ 35.00
Mixed Feeds.....	23.00 @ 28.00
Oil Cake Meal, per ton.....	36.75 @ 38.25
Rollod Barley.....	27.50 @ 28.00
Shorts.....	30.00 @ 31.50

## VEGETABLES.

Onions are quite plentiful now, and lower prices are quoted for both reds and whites, but the market is active and in good condition. There is no more Australian stock offered. Miscellaneous summer vegetables have begun to arrive in large quantities, causing a heavy oversupply of most varieties. Prices as a result have taken a decided drop, and are expected to show a far greater decline before another week passes. Tomatoes, green peppers, cucumbers and egg plant are arriving only in large boxes from the bay and valley districts, and show the heaviest reduction. Green peas and string beans are also weak. Rhubarb is about out of the market. Asparagus is firm on smaller receipts, and the best offerings of green corn, with a good demand, bring high prices.

Garlic, per lb., new.....	4 @ 6 c
Green Peas, sack.....	\$1.00 @ 1.50
String beans, lb.....	2 @ 4 c
Cabbage, per cttl.....	40 @ 50 c

## Onions—

New Red, sack.....	50 @ 75 c
Silverskins.....	85 @ 1.00
Summer Squash, large box.....	75 @ 1.25
Tomatoes, box.....	50 @ 1.00
Carrots, sack.....	75 @ —
Turnips, sack.....	75 @ —
Asparagus, lb.....	4 @ 8 c
Green Peppers, box.....	60 @ 75 c
Cucumbers, box.....	1.25 @ 1.75
Green corn, sack.....	1.50 @ 2.25
Egg Plant, box.....	1.25 @ 1.50
Cauliflower, doz.....	40 @ 50 c

## POULTRY.

Receipts of California poultry have been moderate this week, but there was a large carry-over of both Eastern and domestic stock, and arrivals from the East amounted to four cars early in the week. The market consequently shows little or no change for the better in prices. Small broilers are a little firmer, but roosters are very low. Good large stock, however, and nearly all young stock, finds ready sale. A good many turkeys are appearing in the market, and are easily disposed of. Spring turkeys are in good demand, and if in first-class condition will bring more than quotations.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.50 @ 3.00
Fryers.....	4.50 @ 5.50
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	4.50 @ 5.50
Small Hens.....	3.50 @ 4.50
Old Roosters.....	3.50 @ 4.00
Young Roosters.....	5.50 @ 6.50
Young Roosters, full grown.....	7.00 @ 8.00
Pigeons.....	1.00 @ 1.25
Squabs.....	1.25 @ 1.50
Ducks.....	4.00 @ 7.00
Geese.....	1.50 @ 2.00
Goslings, per pair.....	2.00 @ —
Spring Turkey, lb.....	24 @ 26 c

## BUTTER.

Stocks of butter are very plentiful, with large arrivals from Humboldt county and the bay districts. Prices on firsts and extras, however, show a slight advance, and are quoted as firm, though attempts to make a further advance have failed. Extensive storing continues, but the routine business on the street is quiet. Packing stock is now quoted at 18½ and 19½ cents. S. F. Dairy Exchange quotations are:

Cal. (extras) per lb.....	22½ c
Firsts.....	21½ c
Seconds.....	20½ c
Thirds.....	20 c
Fresh Packing Stock, No. 1.....	19½ c
Fresh Packing Stock, No. 2.....	18½ c

## EGGS.

Business in eggs is characterized by extreme dullness, as the trend of prices is downward, and the trade is buying in small quantities. Supplies are very liberal, as the cooler weather this week has brought larger shipments from the producing districts. Extras are 2 cents lower, while seconds have advanced slightly. Dairy Exchange prices:

California (extra) per doz.....	23 c
Firsts.....	22½ c
Seconds.....	18 c
Thirds.....	16½ c

## CHEESE.

All varieties of fresh cheese remain at low prices, with quotations on the Dairy Exchange unaltered, and there is liberal buying for storage. Aside from this, the market is quiet and featureless, with plentiful supplies.

Fancy California Flats, per lb.....	11 c
Firsts.....	10½ c
New Young Americas, Fancy.....	13½ c
Storage, do.....	10½ c
Eastern, New.....	Nominal
Eastern, Storage.....	—
Cal. Storage, Fancy flats.....	—
Oregon Flats.....	11½ c
Oregon Y. A.....	14½ c

## POTATOES.

New white potatoes bring lower prices at the outside, and the market is oversupplied with poor grades, which are lower. Early Rose are quoted as before. Few Oregon Burbanks are offered, but the prices are unchanged. There is a good demand here for fancy stock, but little is coming in.

Oregon Burbanks.....	75 @ \$1.10
New Whites.....	75 @ 1.25
Early Rose.....	50 @ 1.00

## FRESH FRUITS.

Cherries are practically out of the market and are no longer quoted. Apples show a wide range of prices, with choice offerings in good demand. Apricots are now sold by the ton, bringing anywhere from \$10 to \$20, and peaches in large

boxes are easy. Strawberries and raspberries are plentiful, and the latter are lower. Other berries are not arriving in excessive quantities, but prices in general are weak. Choice pears are firm and in good demand. Figs and plums have advanced. A few nectarines have appeared, selling at stiff prices. Cantaloupes are unchanged, but watermelons are considerably lower. Grapes are gradually weakening.

Apples, new green.....	25 @ \$1.00
Strawberries—	
Longworths, chest.....	\$4.00 @ 6.00
Large varieties, chest.....	2.00 @ 5.00
Blackberries, chest.....	3.00 @ 5.00
Raspberries.....	3.00 @ 5.00
Loganberries, chest.....	1.50 @ 3.00
Currants, chest.....	6.00 @ 7.50
Apricots, ton.....	10.00 @ 20.00
Plums, crate.....	30 @ 65 c
Peaches, box.....	25 @ 50 c
Figs, single layer, drawer.....	40 @ 60 c
Cantaloupes, standard crate.....	1.25 @ 1.75
Watermelons, doz.....	1.50 @ 2.00
Grapes, crate.....	1.00 @ 1.25
Pears, Bartlett, box.....	1.25 —

## CITRUS FRUITS.

Citrus fruits are quite plentiful, and all but lemons are quiet, as the chief interest is now centered in the deciduous lines. There is, however, an advance in Valencia oranges. Fancy and standard lemons are also higher.

Choice Lemons.....	\$2.50 @ 3.00
Fancy Lemons.....	3.25 @ 4.00
Standard.....	1.50 @ 2.00
Limes.....	4.50 @ 5.50
Oranges—	
Valencias.....	3.00 @ 3.50
Mediterranean Sweets.....	2.75 @ 3.25
Grape Fruit.....	3.50 @ 4.50

## DRIED FRUITS.

New crop apricots are being bought by the packers at prices around 6 and 6½ cents. The packers here are not yet naming prices to growers on other dried fruits, though it is understood that offers have been made for various crops. Ventura growers are holding their apricots for 8 cents. Some packers have offered 6½ cents at Fresno, and 5 cents has been offered for peaches there. At Sanger, Selma and Fresno old crop raisins are being bought up at prices varying from 2 to 3 cents, and 2½ to 3 cents have been offered for new crop. Locally the market is quiet, and there is very little Eastern business pending the settlement of the terms of the Dried Fruit Association. The association has offered the Eastern buyers a discount of 2 per cent for cash and 1 per cent for payment on arrival. The following prices are quoted by packers:

Evaporated Apples.....	5 @ 6 c
Figs.....	23 @ 3 c
Apricots, new crop.....	6 @ 6½ c
Peaches.....	7 @ 8½ c
Prunes, 4-size basis, 1907 crop.....	3 @ 3½ c
Pears.....	7 @ 8½ c

## RAISINS.

2 Crown.....	3½ @ —
3 Crown.....	4 @ —
4 Crown.....	4 @ 4½ c
Seeded, per lb.....	6 @ 6½ c
Seedless Sultanias.....	4 @ —
London Layers, per box.....	9 @ 1.00
London Layers, cluster.....	\$1.25 @ 1.50

## NUTS.

The packers have nothing to say as yet about new crop walnut prices. All varieties of old crop nuts are well cleaned up, while there is little movement at present, considerable activity is expected later in the summer. New crop almonds are being bought at prices quoted below.

Almonds, Nonpareils.....	11½ @ —
I X L.....	10½ @ —
Ne Plus Ultra.....	10 @ —
Drakes.....	9½ @ —
Languedoc.....	9 @ —
Hardshell.....	— @ —
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12½ c

## HONEY.

Several cars of new honey have been shipped East from El Centro and practically all of the Orange county extracted honey has been bought by a San Francisco packer. Prices to growers on new crop extracted range from 5 to 6 cents. The crop in nearly all sections is very short, and prices are fully as firm as they have been for several months past. Packers' prices, as quoted below, show no change.

Water White, Comb lb.....	16 @ 17 c
White.....	15 @ —
Water-white, extracted.....	8 @ 8½ c
Light Amber.....	7 @ 7½ c
Dark Amber.....	5½ @ 5½ c
Candied.....	5½ @ 5½ c



## WOOL.

Wool is moving somewhat more freely, both on the Coast and in the East, and buyers are taking more interest than for some time past. Large shipments are coming forward from Nevada and Idaho, with considerable from California. Prices show very little improvement since last week, though good Oregon and Humboldt county staple show slight advance.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15 1/2 c

## HOPS.

There is still some movement in Oregon hops to the Eastern and foreign markets, but the activity is declining. Very little business is being done in California hops, as prices show no improvement and the growers are holding off.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

Prices on dressed meats remain as last quoted throughout the list and livestock shows scarcely any change. Chicago prices for hogs are higher, but this market is unaffected. Supplies, while ample, are not excessive.

Beef: Steers, per lb.....	6 @ 7 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7 1/2 c
Small.....	8 @ 9 c
Mutton: Wethers.....	8 @ 9 c
Ewes.....	7 @ 8 c
Spring lamb.....	9 @ 10 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	3 1/2 @ —
No. 2.....	3 @ —
No. 3.....	2 1/2 @ 3 c
Cows and Heifers, No. 1.....	3 @ 3 1/2 c
No. 2.....	2 1/2 @ 3 1/2 c
Bulls and Stags.....	1 1/2 @ 1 1/2 c
Calves, Light.....	4 @ —
Medium.....	4 @ —
Heavy.....	3 1/2 @ —
Sheep, Wethers.....	4 @ —
Ewes.....	3 1/2 @ —
Spring Lambs, lb.....	4 1/2 @ 5 c
Hogs, 100 to 200 lbs.....	6 @ —
200 to 300 lbs.....	5 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., July 15.—(Special Correspondence)—Lemon weather still continues in the East and has resulted in a decided increase in the demand. The brightest spot in the year, says an official of the California Fruit Growers' Exchange. There have been periods of heat at different places during the past month, but the wave was local and did not last long. Now the heat is prevalent all over the country and orders are coming in so fast that an increase in price is predicted.

Asked as to prices, a local shipper stated that fancy lemons from the best districts were being sold at from \$3.00 to \$3.50 per box f. o. b. California, and added that the price was very satisfactory to all concerned. As a matter of fact, this kind of a lemon is comparatively scarce and the great bulk of the fruit is sold at a much lower price. Only a small percentage of the crop comes from what are known as the best districts, and even these favored spots have their second and third grades and off-sized stock. The grower who has averaged a dollar a box on the tree this year is in luck, and, when the interest on the investment and cost of production is considered, this price does not leave any great margin of profit and will not tend to encourage any great increase in lemon acreage.

One good feature of the situation is the decrease in the available supply of Sicily lemons, which has dropped to 170,000 boxes, as against 285,000 in 1907 and 250,000 in 1906. This means fruit that is in storage, at docks, en route or loading for this country, so that they will be available within the next thirty days. There will be 75,000 boxes sold in New York city this week.

Orange trade seems to be at a standstill and is not at all brisk. Some few orders are coming in at \$3.00 per box

for the best fancy brands. The markets are fairly well cleaned up, shipments are light and the outlook is not at all bad. About one-half the crop, or 1,500 cars of Valencias have gone forward.

Citrus fruit shipments up to and including July 12 are 26,219 cars, of which 3,623 cars are lemons. To same date last year, 25,060 cars, of which 2,770 were lemons, and in 1906, 23,998 cars, 3,115 cars being lemons. About 100 cars each of oranges and lemons are now going out weekly.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., July 15.—The auction markets the past week have been more or less demoralized, and, although the market on peaches has ruled low the past month, it was not expected that plums also would take a "tumble." Tragedys sold in auction on an average of 90 cents to \$1.00; Burbanks, 75 to 90 cents; Climax, 75 to 85 cents; Abundance, 65 cents; Purple Duane, 75 cents. Prices are delivered.

However, a large quantity of plums have been unloaded on f. o. b. orders at prices considerably higher than the above. Wicksons are in good demand and the price is good as compared with other varieties of plums. Sugar prunes are now being shipped and a ready market is expected for this variety of fruit. From reports received today the plums are in better demand in the auction and we look to see a recovery.

Yellow peaches are selling on a basis of 35 cents f. o. b. and there is quite a fair demand for same at that price. The cash buying price is 25 cents. It is expected peaches will remain about the same for a week or ten days, and from then on a better demand is anticipated, as Georgia will be out of the way by that time. The quality of peaches coming from Georgia is only ordinary and consequently prices are low.

There is a good demand for pears. Auctions today realized from \$2.30 to \$3.10, which figures out about \$1.50 or \$2.00 f. o. b. However, in the past week several cuts have been made in the quotations for f. o. b. orders. On the 8th a cut was made from \$1.50 to \$1.25, and we understand orders are being filled as low as \$1.15. However, from the present outlook we do not think prices will go any lower on this variety of fruit, as we understand orders are coming in freely at \$1.15 f. o. b. We hear that the canneries are buying pears at \$20 per ton and also have secured quite a block of Crawford peaches at \$14 to \$15 per ton.

Taking the deciduous situation as a whole, we look for the market to remain steady on pears and expect to see the price on plums better by the end of the week. We do not anticipate much better condition in the peach situation until possibly the latter part of next week.

Comparative car shipments since report of 7th are as follows: 1908, 404 cars; 1907, 227 cars.

## Sonoma County Fruit Crop.

There is an immense crop of apricots in Sonoma county this season. Some feared that the fruit would be wanting in size on account of overproduction, but this fear is in most cases dispelled as the crop approaches maturity. There is a full crop, too, of peaches, both "free" and "cling." Late cherries are very light; about half a crop is generally reported. Prunes, too, are light. They suffered from the frost when in blossom in some sections and the recent excessive heat has burnt up some of the fruit on the trees. Plums are in somewhat the same condition, but there is a heavier crop, about 75 per cent of a normal yield. There is a full crop of berries; also of pears. The wine grape crop is about normal. The frost touched it a little, but the damage was not great. Some fear that the demand for grapes will be lessened by the fact that much of last year's wine is still on hand, but most growers are confident of disposing of their crop. Hops have not made a large growth so far owing to the lack of spring rains. The crop will probably be light.

O.T.

The last two issues of the Rural Californian, published at 123 S. Los Angeles St., Los Angeles, have been largely devoted to eucalyptus culture. Anyone interested in this industry, which promises to become one of the greatest in the State, should send their dollar to the publisher and get up-to-date information.

50c  
a Week

We have knocked the bottom right out of all other offers for the world's greatest musical instrument.

## OUR OFFER

We will send to anyone, anywhere, a complete

VICTOR Outfit  
Absolutely FREE

records and all, on trial, and if you don't like it send it back, it won't cost you a penny.

After you have listened to Sousa's grand band—the U. S. Marine Band—The Royal Marine Band of Italy—songs by great singers and the best dance music you ever stepped to, and then if you decide to keep it, and we feel you will, the small sum of 50c a week for a few weeks, makes you the owner of the whole outfit.

We are "The Victor Dealers of California" and by special arrangement with the Victor Talking Machine Company, we have permission to make this great free trial offer and the terms are so liberal that no one can afford to miss this chance to own a Victor while this offer lasts.

## How to Get the Outfit

Send us your name and address on a postal, don't delay, write at once, and we will send you "Our Great Free Trial Offer" by return mail.

## CLARK WISE &amp; CO.

"The Victor Dealers of California"  
1420-1422 Van Ness Ave  
SAN FRANCISCO



A meeting of the Citrus Protective Tariff League was held at Los Angeles last week. A new Executive Committee was appointed to direct the campaign to retain the present tariff on oranges and to get an advance of one-half cent per pound advance on lemons. The new committee appointed are: F. Q. Story, of Alhambra; C. C. Chapman, Fullerton; W. G. Fraser, Riverside; E. M. Lyon, Redlands; E. S. Moulton, Riverside; W. E. Sprott, Porterville; C. C. Teague, Santa Paula; C. E. Rumsey, Riverside, and A. F. Call, Corona, the last two being the new members. This committee will elect A. G. Kendall secretary and have its headquarters at Room No. 829, H. W. Hellman Building, Los Angeles. The Administrative Committee elected C. C. Chapman, president; Mr. Story, vice-president and Mr. Kendall, secretary. Its work will be concentrated in the Executive Committee. An effort is also being made to secure the co-operation of Florida citrus growers.

A contract was made last week whereby the balance of the \$23,000,000 water bonds of the city of Los Angeles are taken by two New York bond buying firms. This fully finances the great Owens river aqueduct system.

Owing to the hot weather the past week the apricot crop came on so fast that difficulty is experienced in caring for it. The cars of cots are in storage at Riverside till help can be secured.

The canteloupe market in the East is improving. Imperial valley growers may yet have a good chance to get out even.

## PUBLISHER'S DEPARTMENT.

This office was honored by a call last week from Mr. Peter T. Gannon of Winters, who is one of the old guard—he having had the RURAL PRESS sent to him every week since 1871. Mr. Gannon has been a close student and experimenter in growing fruit on his ranch, and we expect to have his experience to give our readers from time to time in the future. May Mr. Gannon continue in good health that he may be a reader of the PRESS for another thirty-seven years.

This office has received a copy of the new 1908 condensed catalogue of the Southern California Acclimatizing Association of Santa Barbara. The table of contents covers the palms and cycads; bamboos; decorative and foliage plants; timber, shade and ornamental trees; flowering and ornamental shrubs; climbing and trailing plants; bulbous, tuberous and perennial plants. As this firm is one of the foremost in the State in importing new and rare plants, the catalogue will be of undoubted interest to many of our readers.

Indications point to a large and representative meeting of the grape growers in response to the call issued by the Manufacturers' and Producers' Association of California. Judging from the advice received the wine growers, in whose interest the meeting has been called, from all the producing districts of California will be in attendance. The meeting will be held in the California building, Union Square, San Francisco, at 2:30 p. m. on Wednesday, July 22nd. All interested in the industry are invited to be present.

The potato crop in Orange county is reported above average this season.

INDEX TO ADVERTISERS  
Pacific Rural Press

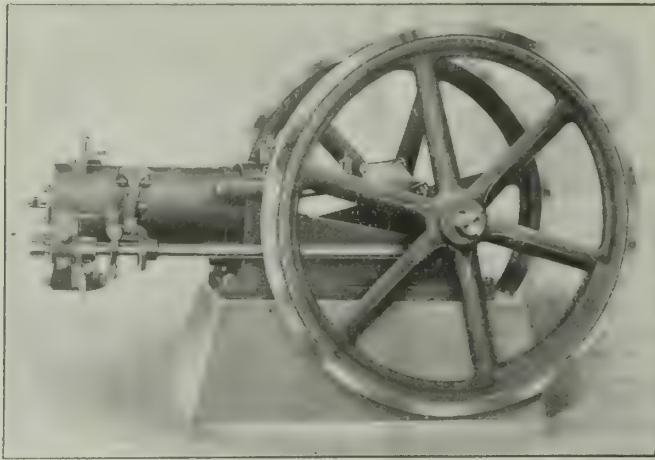
(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	—
Beckman, Geo. V.....	42
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	45
Bray Brothers.....	43
Breeders' Directory.....	42, 43
Bryant, Charles.....	42
Croley, George H.....	43
Clark Wise & Co.....	47
Cutter Laboratory, The.....	42
De Laval Dairy Supply Co.....	41
Deming Co., The.....	44
Dewey, Strong & Co.....	45
Dietz Company, R. E.....	44
Disbrow, F. H.....	48
Doak Gas Engine Co.....	48
Driver, Aber & Co.....	44
Driver, E. S.....	42
Fresno Agricultural Works.....	—
Gallaway, A. J.....	48
German Kall Works.....	44
Hamlin, Miss Sarah D.....	45
Hart, Ed.....	43
Hopkins & Son, G. H.....	48
Howard Cattle Co.....	42
International Harvester Co.....	—
Jackson & Co., T. W.....	48
Kendall, Dr. B. J., Co.....	—
Lawrence-Williams Co.....	41
Lilly Co., Chas. H.....	42
Lister, Henry B.....	45
Lynch, John.....	42
Meacham, Frank A.....	—
Mountain Copper Co.....	48
Murphy, P. H.....	42
National Wood Pipe Co.....	48
Oakland Poultry Yards.....	43
Pacific Pipe Co.....	—
Pear Blight Remedy Co.....	48
Perkins & Co.....	42
Rix, O. A.....	48
Robinson, John R.....	45
Roeding, Geo. C.....	42
San Francisco Sulphur Co.....	48
Sharples Separator Co.....	42
Silva & Bergholdt Co.....	48
Simmons Hardware Co.....	—
Smith, Francis.....	—
Sorby Vaccine Co. (Inc.).....	42
Southern Pacific Railway.....	48
Standard Oil Co.....	41, 42
Stowe, C. A.....	42
Sullivan, W.....	43
Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Vermont Farm Machine Co.....	42
Wagner, J. B.....	48
Waite, Thos.....	42
Western Gas & Power Co.....	44



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.



## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

## NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



## SUPERPHOSPHATES (PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

The Mountain Copper Company, Ltd.

150 PINE STREET, SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

July 21, 22, 23, 28, 29.

August 17, 18, 24 and 25.

Sept. 15 and 16.

Sept. 23, 24, 25 to Kansas City Only.

HERE ARE SOME OF THE RATES:

Omaha	\$ 60.00
Council Bluffs	60.00
Kansas City	60.00
Chicago	72.50
St. Louis	67.50
New Orleans	67.50
Washington	107.50
Philadelphia	108.50
New York	108.50

Tickets sold on July dates good for 90 days; those sold August and September good until October 31. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00

593 pages Well Illustrated.

\$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4386.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## Almond Hullers

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.



# THE PACIFIC RURAL PRESS

## AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 4.

SAN FRANCISCO, SATURDAY, JULY 25, 1908.

Thirty-eighth Year.

### IRRIGATED AGRICULTURE DOMINANT IN CALIFORNIA.

By SAMUEL FORTIER.

CALIFORNIA has always been considered a State of great possibilities. Her mines and her commerce and her climate and agriculture have long been the theme of inspiring pen-pictures. With a range of climate and soil and of mountain and valley more varied than that possessed by any of her sister States, with a geographical position and commercial facilities naturally favorable to intensive development, she has ranked as the leader in the upbuilding of western America. But while her gold and her seaports and her forests and commerce have made here position unique among the States, her future has always been considered bound up in her agriculture. Over half a century of development has shown that if this agriculture is to be the best of which the State is capable, it must be founded on irrigation, and for years the careful husbandman has, over a large portion of the State at least, made the artificial application of water to land an important part of his industry. Hence it is that any treatment of irrigation in California must consider not only what has been accomplished, but what seems possible of accomplishment in the future.

The total land area of California is approximately one hundred million acres. According to conservative estimates, based on the irrigation census of 1902, two million of those acres are being watered at this time. This statement, however, does not convey a true idea of the relative importance of irrigation to agriculture in California. Professors Hilgard and Loughridge of the University of California estimate that only fourteen million acres, or about one-seventh of the total area, is valley agricultural land, so that the two million acres irrigated comprise one-seventh of the irrigable land of the State. This estimate does not include the tillable upper mesas and mountain valleys, both of which contain large areas of irrigable land. Yet this is not the whole

truth. In 1902 one-quarter of all the irrigated land in the United States was in California, and this State ranked first in the total number of irrigated farms and in the total construction cost of systems. The highest-priced irrigated land in America is found in California, and in no other State has water for irrigation reached so high a value, or been as carefully and as economically used. And in no other State is there so great an area of fertile farming land for which the available supply is so large.

Irrigation development, like any other, has followed the lines of most evident financial returns. So it is that the localities of least annual and summer rainfall were the first to be reclaimed by the artificial use of water. The tide of irrigation,

for the past four to six years as 45,160,000 acre-feet.

Leaving out of consideration the water supply available in the creeks and smaller rivers, 45,000,000 acre-feet of water is sufficient to cover the 14,000,000 acres of agricultural land in California to a depth of over 38 inches, which is ample for the growth of all crops. This vast quantity of water can never be entirely utilized in irrigation, because it cannot be fully controlled, but the statement of it shows the tremendous potentialities of California irrigated agriculture.

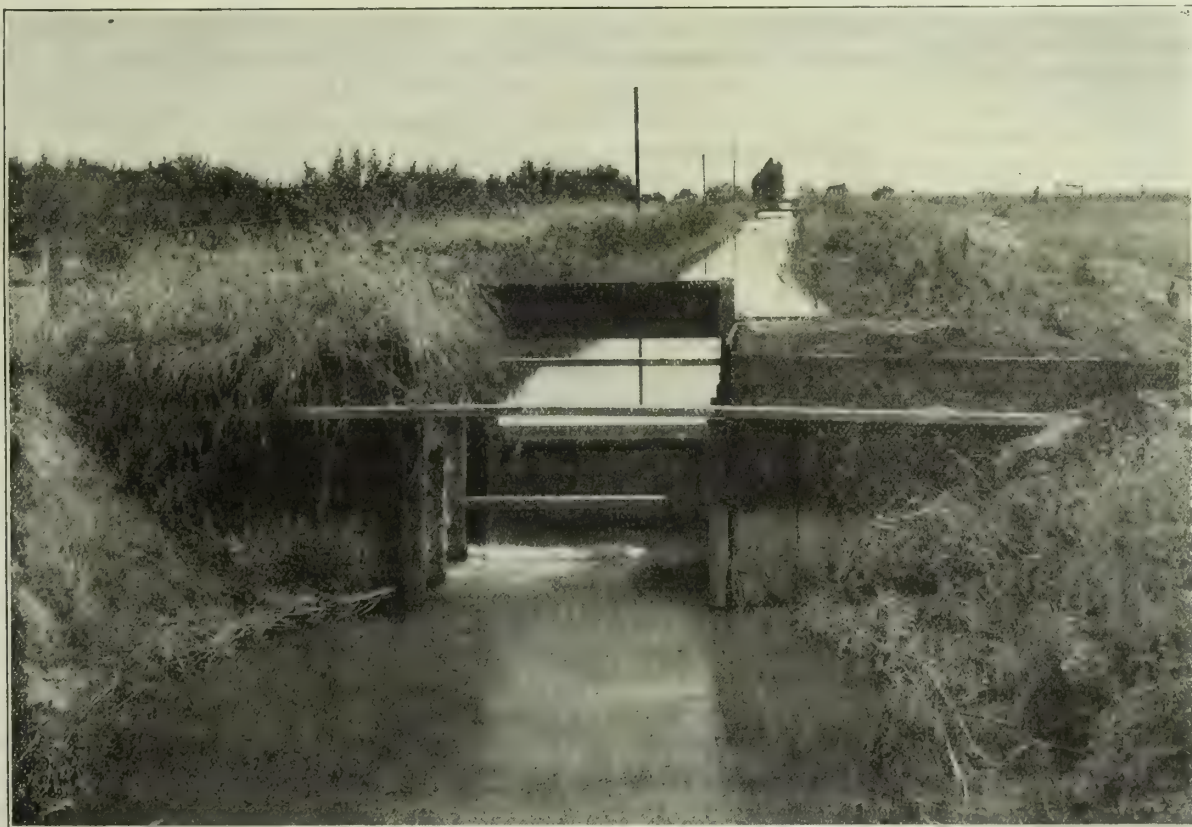
What California is now accomplishing by irrigation can partly be told by using as a basis the irrigation census of 1902. According to this census, 1,708,720 acres were irrigated in 1902,

which was an increase of 18.2 per cent over the area irrigated in 1899. From 1902 to 1908 the increase has been more rapid, so that it is safe to assert that considerably more than 2,000,000 acres are being watered at this time. Using the figures that were true up to 1902 as a basis, the total cost of the irrigation system has been over \$27,000,000, or over \$13.50 per acre. The significance of this last figure is apparent when it is remembered that it is nearly one-half the total value of land and buildings invested in manufactures in California in 1900.

From the returns made by assessors and the shipments of products out of the State

it is possible to form an approximate estimate of the value of a part of the irrigated product. Of the 300,000 acres in vines and an equal area in orchards, the annual gross returns to the growers would not vary far from \$150 per acre, or \$90,000,000 in all. Then, in addition, there is alfalfa, vegetables, small fruits and other crops, the greater part of which are irrigated. The gross returns from these would increase the annual value to the extent of \$45,000,000.

It has already been stated that irrigation was first resorted to in California in those sections where a profit from irrigation was first most evident. These sections have, of course, been where the rainfall is least. In that portion of the State south of Tehachapi, commonly known as southern California, the development of irrigation was



A LATERAL CANAL OF THE MODESTO-TURLOCK IRRIGATION SYSTEM.

however, has been moving steadily northward, and, excepting in the mountainous sections and the sections of excessive rainfall, the necessity for irrigation, or at least the value of it where it is not a complete necessity, is almost universally recognized. While heretofore, then, irrigation has followed the line of most evident return, in the future it will follow the available water supply.

The water supply of the State is in its streams and wells. The wells now dug and in use are chiefly in southern California and in the lower San Joaquin and the Santa Clara valleys. Only the larger streams of the State have been measured, and without reliable data it is impossible to estimate the flow in the hundreds of smaller streams.

The supply in the larger streams as measured by the United States Geological Survey is given

(Continued on Page 53.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

California is pretty well, thank you! Assessors' reports are not joyful things in particular cases, perhaps, but one is privileged to get what joy he can from aggregates as an offset to the discomfort of too great personal contribution thereto. It may come to all in this way. The assessors are filing their reports which are due July 1, and three counties of which we have heard show increases in total property value: one coast county a million and a quarter; one mountain county two-thirds of a million; one interior valley county half a million. If it should run that way through the State there would be a property gain of fifty millions in the State. But it will not run that way, because none of the counties reported have particularly felt the thrill of new life. They are, in fact, counties which might have gone backward a little if any counties were going that way. We shall not be surprised, then, to find the gain in value between March 1st last year and this year a hundred million. This is notable testimony to the financial health of the State in spite of the nervous depression, hypochondria and tendency to heart failure which have followed the panic of last autumn. California is pretty well, thank you!

Fruit prices are too low this year, as we have previously claimed, but all products will strike low tides, and the fruit industry is strong enough now to grin and bear them—providing growers have done all they can to see that they are getting what rightly belongs to them of what the product commands. This they can only do by organization; but that is a long story, often told and too seldom heeded. There is some comfort in the fact that the overland shipments gained nearly 60 per cent over last year's to the middle of July. A local statistician notes that the month of June was a banner one in the history of the Southern Pacific, with a record of 4,100 carloads of fresh fruits, oranges and cantaloupes sent out of California to Eastern markets. These 4,100 carloads represented 57,400 tons of fruit, or 114,800,000 pounds, or enough for nearly two generous fruit meals for every man, woman and child in the United States!

This seems fine, but what sense is there in two meals of fruit a month! One a day would certainly be better for everybody—more rational and salutary. What sense is there in trying to starve the poor cows by consuming glorified bran and sublimated middlings until the prices of the raw material for these alleged breakfast foods is so high that dairymen are almost knocked out of business—but that is also another story. Certainly the things we sent in June and which, for all their volume and value, only gave two meals per capita per month, can be multiplied, and this

will advantage everyone from the nurseryman to the fruit buyer and the grower between the two, as he of necessity is, to the joy of both. It is true that in addition to all that is being done by growers' associations, fruit preservers and merchants, much can still be done by the promotion and trade organizations to bring California fruit products into wider fame and use. We are glad to note that an aggressive campaign has been instituted by the California Promotion Committee to broaden the markets for California fruits and increasing the consumption thereof throughout the United States and abroad. The first advances of the committee in its work will be through hotels of this country and Europe. A local writer says: "It is intended to point out to the hostelrys that the traveling public has been accustomed and educated to accept none but the best fruits with their meals, and that California fruits, with the reputation they have, should form an important part of the table menu." We presume this quoted sentence is all right. We do not quite understand it, however, in any light of any observed facts. We certainly believe that the traveling public ought to be educated to accept none but the best, etc., but that they have been thus educated passes our observation. Our experience is that hotel tables usually carry the most astounding collections of side-tracked pig-feed in the line of fruits that can be found anywhere outside of the cull-boxes of the packing houses, whence they chiefly come. If the Promotion Committee can begin by teaching the California hotel keepers that they are continually slandering the State by the refuse apples, oranges, nuts, raisins, etc., which they place before travelers, a great beginning will be made in a good work.

As our viticulturists are meeting this week to outline a course of action looking toward the protection of the viticultural industry of California in any revision of the tariff which may be made, it is interesting to note that the initial meeting of the joint Franco-American Tariff Commission was held last week in the diplomatic council chamber of the foreign office in Paris. It is announced that this commission expects to collect information which would be invaluable to the United States Government should the American tariff be revised and a double schedule, such as exists in France, created, a schedule under which a reciprocity treaty could be negotiated. And that means that California viticultural products are to be sacrificed by free entry to this country of French products, so that France can buy more meat products from the Central West. It is the same old proposition which was pushed by Leon Chotteau thirty-three years ago and which has arisen under the reciprocity programme every time there has been a tariff revision fever in this country since that time. If reciprocity goes on this line, it will go with Spain on raisins, with Italy on citrus fruits, and so on until our fruit industries are crushed by cheap labor in all the older countries. Of course the foreign nations which are now held back by horticultural development in California want tariff revision in this country. They would even agree and make all our schedules for us. They are just too sweet for anything!

We have on our first page an exceedingly important statement by Samuel Fortier, chief of the irrigation investigations of the United States Department of Agriculture upon irrigation as a dominant phase of California agriculture. This article ought to be read and explained in all our schools, with reference to a map of the State, as a lesson in geography. The article was written

for the Board of Trade and we are glad to extend its publication. Our irrigation opportunities need more and more publicity. It is an interesting fact in this connection that eight Eastern newspaper and magazine writers arrived last week at Fallon, Nev., in a special car to inspect the Truckee-Carson irrigation project and write it up as one of the features of Western enterprise. The Government has put \$9,000,000 into the scheme, and is now eager to have people in the East know that good land lies out in Nevada with abundant water and only awaiting settlers. The Government has brought 100,000 acres under its irrigation system, and about half of the land has already been settled. The future of this enterprise, and all others like it, depends upon getting good farmers to get good farming done and to put forth products upon the profits of which they can pay Uncle Sam for his investments. It has been clearly demonstrated that such things can be done so far as engineering construction and financing go, but who is to get the crops out of the ground? There are certainly people in the country who can do it. How are they to be reached and put busy; that is the question.

Writing of irrigation one is reminded of the coming meeting of the Irrigation Congress which will be held in Albuquerque, New Mexico, from September 29 to October 3, 1908, both dates inclusive. The principal objects of the congress, as stated in the call, are to save the forests, store the floods, reclaim the deserts and make homes on the land. All who are interested in the achievement of those objects are invited to attend the congress and participate in its deliberations and contribute to a wise direction of national policies and development of practical methods of conserving and developing the great natural resources of the country. Special rates have been made by all transportation companies for delegates to the congress. The people of New Mexico will provide ample entertainment for the visitors, and special excursions have been arranged to afford the delegates and their friends an opportunity to see the country.

The women of San Francisco intend to protect themselves against unsanitary milk. The California Club, which is one of the women's clubs of the metropolis, had a conference the other day with Mr. W. H. Saylor, secretary of the State Dairy Bureau, who properly suggested to them that to get dairy inspection through the bureau it is necessary for the State to make appropriations to cover the cost. It was also announced that a request recently made by the San Francisco Board of Health for a fund of \$13,000 for the inspection of the dairies around the bay had been turned down by the Board of Supervisors. The association voted to take immediate steps to raise \$2,000 and to hire competent graduates of the dairy school to inspect these dairies and report their findings to the association. Thus the club proposes to work for clean milk by itself until it can be carried at public expense. They will probably succeed in doing a great work. Women usually do.

Never forget to look out for glanders. We have had a number of human fatalities in this State during recent years. The news comes from Prague that a glanders epidemic has broken out among the physicians, chemists and other scientific workers in the food laboratory at Czernowitz. They were experimenting with a tube full of glanders bacilli supposed to be dead. On heating the tube it exploded and the millions of bacilli were distributed. Three have died and more were in



danger. And yet people keep glandered horses and meet them on the highways when driven by others. It is a frightful menace.

Reports from the English hop fields favor a large crop, which does not carry such a menace to price in this country as it would if we were also to have a large product. According to F. V. Flint of Sacramento, the production for California this year will be about 65,000 bales, as against 90,000 bales in 1907. Of this amount about 25,000 bales will be produced in the Sacramento valley. In the first place the acreage has been cut down considerably. Many growers were discouraged last season and are not raising hops this season. The crop this year will also not be as heavy as usual. The dryness of the spring is the chief cause.

## Queries and Replies.

### Sprouting Walnuts.

To the Editor: Last winter a large number of walnuts were brought to northern Illinois from your State. They were heeled in sand in the cellar in February. Last week they were taken and put out in nursery rows. Not one-fourth of one per cent had sprouted in the cellar. A dozen or so were cracked and half of them were found to be rotten. In the nursery row they were covered about one inch with ground. A few we scattered in the woods and covered a little with leaves. I would like to know what further to do about it. Isn't it true that they ought not to be transplanted, if possible? It has been suggested that the best way to do is to scatter them in the woods among the leaves.—Reader, Illinois.

You do not say whether you received California black walnuts or English walnuts grown in California. If the former there should be no difficulty about sprouting them, unless the seed was too old and had been dried for a long time. If they were commercial English walnuts they may have been subjected to bleaching, which in the case of an open shell would be fatal to germination. If you get either California black or English walnuts fresh from the tree and keep them from drying out by sandwiching with damp sand, they will usually sprout in the sand as the spring heat increases, and by planting out in nursery rows those which you find sprouting you will get a full stand. There is ordinarily no difficulty about growing them from good seed; in fact it has been pretty clearly shown that ordinary walnuts bought in the stores will start quite readily if soaked in warm water 24 hours before planting.

There is no particular reason why the nuts should be planted where the tree is to grow. Probably 99 per cent of all the bearing trees in California are transplanted trees, and we do not grow them in woods but in orchards with the best cultivation we know of.

### Banana Growing.

To the Editor: Why is the banana not cultivated in California and Arizona, where the climate appears to be the same as the countries where it grows? How is it raised, from seed or slips? My cyclopedia does not give much information. I know that 30,000,000 bunches come in free of duties annually on the Atlantic ports, fourteen steamers from 3,000 to 5,000 tons burden are running from Jamaica and the vicinity and are making a good deal of money. There are also some used on this coast.—Enquirer, San Francisco.

The banana is a very old proposition in California. Boom enterprises based upon it were started in the Los Angeles region thirty years ago, and even some planting was done in places where everything seemed favorable, but the enterprises

were closed down by frosts. The banana is a tropical fruit. California, salubrious as it is, is not tropical, but semi-tropical. It is true that there are places in thermal belts in different parts of the State where bananas have been grown and fruited, not only at the south, but at points in the northern and central parts of the State, where the plant has had the advantage of some local protection, but it has been amply demonstrated years ago that banana growing on any large scale away from protecting influences is too hazardous to be seriously discussed.

Again, the very reason which you mention as favoring the local production of bananas distinctly disfavors it; namely, the supply from tropical countries, where the plant grows almost spontaneously, makes it impossible for us to compete with our high-priced labor. The only American places where the banana can be projected with some show of success are Porto Rico, Hawaii and the Philippines, and they are, as you know, tropical countries. The banana is grown from offshoots or bulb-like multiplications which are formed by the roots. It is not grown either by seeds or cuttings in the ordinary sense.

### How to Hoe in California.

To the Editor: I have a ranch four miles from Santa Cruz in the foothills of Santa Cruz mountains. The soil is black loam, easy to work and very mellow when plowed in the right time. It has been well manured and well taken care of, changing the crops every year, still the summer crop has not been what it should be. I cannot think of any other reason excepting in the hoeing. Since coming here I have been unable to see to the hoeing myself. I have had an old man do it. When hoeing time comes he takes one of those common garden hoes, going along the rows about as fast as he can comfortably walk on a side hill, breaking to pieces some small lumps of dirt and just scratching the surface a little, doing most of it with the back of his hoe, never digging the soil at all. Is that the right way to hoe? By potato digging time the ground has become so hard and dry it was almost necessary to use a mattock to dig with. I argued with him, telling him I thought the soil should be loosened down to the moisture and kept loose: the more deep cultivation, the more moisture, but he says no, that would dry the ground out as far as you hoed it and the result would be no crop. Is he right?—New Comer, Santa Cruz.

You are perfectly correct in your observations; any hoeing which a man can do by going along the row uphill as fast as he can walk is utterly of no account in California. Such surface-tickling may do in a country of summer rains, but the only way to hoe in California is to use a heavy hoe and drive it into the ground not less than three inches, thoroughly stirring and pulverizing the surface to prevent moisture evaporation. Try this method on a few rows, as compared with the style of hoeing which has been done for you, and you will have a complete demonstration. The man is completely wrong in his reasoning. Evaporation is more rapid from an undisturbed surface and the water rises and goes off into the air from a much greater depth. Take the hoe away from him and let him take a walk on his own account. He is probably too old to learn better.

### Apple and Pear Blight.

To the Editor: I am sending you a few branches from a large apple tree on my place for the purpose of ascertaining, if possible, what the trouble is. It will be noticed that the dry leaves are not black, as is generally the case with blight, and that there is good healthy growth in both directions from the trouble. The dry leaves are scattered all over the tree. Please state what the disease is and, if possible, the remedy.—Grower, Sacramento county.

Your apples are stricken with the pear blight.

The effect upon the apple is somewhat different in respect to color and also in the rapidity of the spread of the disease, because it does not seem to be able to make its way down the apple twig as it does when it attacks the young pear shoots. In the case of the pear there seems to be more soft tissue available for it to grow in. So far as can be judged then, from the specimens which you send, your apple trees are affected by the pear blight and should be treated accordingly. The disease is much slower in every way on the apple tree than on the pear.

### Tea and Truffles.

To the Editor: I have read an article on tea in which reference is made to cultivation of the tea shrub in South Carolina and Texas, and now I hear of its culture in your State. Can you oblige me with information as to the success of efforts that have been made to produce it? How about truffle culture. I infer that no effort had been made to cultivate that comestible, which is worth several million francs a year to France, and for which there is a wide demand.—Investigator, New York.

Tea plants were introduced in El Dorado county, California, fifty years ago, and grew well. Since then the plant has been established here throughout the State as an ornamental shrub, and there is no difficulty about growing it in our foothills and valleys. It is idle, however, to talk about tea production with any such wage rate as now prevails in this State. This was the reason why the projected enterprise fifty years ago quickly failed, and our people have had too much sense to undertake competition with Asiatic labor in the countries now producing the world's supply. They may be better fixed in this respect in South Carolina and Texas, but certainly their achievements, which are of doubtful value even for their own localities, are not warrant for California investment.

Truffle culture has been freely written about in California, and the California Academy of Science has demonstrated that we have truffles growing naturally on our native oaks, and a certain amount of urging has been given to people to undertake truffle production as an enterprise. There is, however, no labor supply available for this. As in tea production, we would be in competition with the cheap labor of Asia; in truffle culture, we would be in competition with the cheap labor of France. The same general state of things closes out all pleasant prospects of perfumery farming, opium production and a number of other special industries, of which every prospect pleases except the important economic problem of doing cheap work at high wages, which no one has yet succeeded in affirmatively solving.

### Alfalfa After Strawberries.

To the Editor: I have an opportunity to rent 20 acres of land which has been in strawberries for the past two years and would like to have your advice as to putting this into alfalfa. I have heard so much about the land being worn out after the Japanese have used it for strawberries that I do not feel safe to proceed.—L. D. Y., Burbank.

It would take a pretty lively Japanese to get the richness out of your Burbank soil in two years. But aside from that question entirely, strawberry culture would be an excellent preparation for putting in alfalfa; also, the very best thing that you could plant to overcome any reduction of fertility by the strawberry growing would be alfalfa. It is deep rooted and restorative in its effect upon the soil; while the strawberry is shallow rooted and depleting. You have as good a proposition as could be laid out, both for the soil and a good stand of alfalfa.



## Horticulture.

### WHAT THE CANNERS WANT AND WHEN.

Mr. E. A. Francis, formerly superintendent of the Sacramento branch of the Central California Canneries, is manager of the new, well-equipped cannery at Modesto and furnishes the following outline of information to those who desire to grow things for canners' uses:

Many have asked what to plant. The most important rule is to first carefully go into the character of your soil and determine what is best adapted to it. Then plant the best of that variety and stick to it. Make high quality your motto. There is an idea abroad in the land, and believed by many, that a cannery only cares to use culls and refuse. Quite the contrary. Although canners do utilize such fruit to a limited extent, they want the very best of all varieties. There is an unlimited demand in the markets of the world for high-class canned products. Canners are willing to pay good prices for good produce, and it costs the grower no more to raise the best.

The canneries put up nearly everything, but by far the greater demand is for fruits. Cherries, apricots, berries, plums, peaches, tomatoes and beans grow and mature to perfection with us. The principal canning and shipping varieties are:

**Cherries.**—Royal Anne, Rockport, Centennial, Governor Wood. Of these the Royal Anne is by far the best for all purposes. The fruit is magnificent and always commands a good price with both canners and shippers.

**Apricots.**—Royal, Hemskirk, Blenheim, Moorpark. Of these the Royal is the most extensively grown. It is the most popular with the canners and makes a very fine product both canned and dried. Also a very desirable variety for shipment. Grows to perfection in almost any fruit district, while the other varieties are better adapted to certain localities.

**Plums.**—Yellow Egg, Green Gage, Gold Drop, Jefferson, Damson. These are all good for canners. There is a demand in the trade for all kinds, so the canners try to put up some of each.

**Peaches, Yellow Clings.**—Phillips, Levi, Tuscan, Sellar, McDevitt. Of these the Phillips is the most highly prized by the canners, but the Tuscan and Levi are almost equally as valuable. The McDevitt is quite extensively grown for the shipping trade and is also used for canning.

**Peaches, White Clings.**—White Heath, McKevitts, George's Late. Canners put up a limited amount of these and there is a fair demand for Eastern shipment. It is only in certain sections of the State that any of these are grown to any extent.

**Peaches, Frees.**—Muir, Lovell, Crawfords, Salway. Of these the Muir and Lovell hold about the same place as the ideal canning, drying and shipping frees. They are heavy producers and the fruit is always in demand.

**Pear.**—Bartlett. Of course there are many other kinds, but this is the only canning variety and the foremost shipping variety.

**Vegetables.**—The vegetable most in demand by the canners generally is the tomato. Of all varieties grown, the Stone is the most desirable for cannery purposes. It is a hardy plant, heavy bearer, matures to medium size, is well colored and smooth and has a minimum amount of juice and seeds. There is an enormous consumption of tomatoes and the canners of the State usually put up quite a pack of them each season.

The principal bean canned is the Kentucky Wonder. It is a pole bean, a heavy producer, is practically stringless and makes a particularly fine canned product.

Peas, canned very extensively in the East, are coming into prominence as a California product. As yet but few canners here are handling peas to any extent, but the trade is gradually increasing. The Modesto Cannery will not be in a position to handle peas this season.

Asparagus, the aristocrat of the vegetable world, is coming into its own in this State. It is only within the last ten or fifteen years that asparagus has been grown to any extent. More of it is being

planted every year and the market for the product is constantly getting larger. As yet none has been grown around Modesto, but there is no reason to doubt that the growing of this vegetable could be made a profitable industry. In the last two or three years a market has been created in the East for the fresh product. The bunches are packed in moss and shipped by express. Coming into the Eastern markets at a time when everything is ice and snow bound, of course the price is fancy. The two varieties of asparagus most generally grown are the Palmetto and Conovers Colossal. Of the two the Palmetto is the more hardy plant, but the Colossal is the more desirable for the white stalks. The Palmetto is more generally grown.

**Harvest Times.**—It may be of interest to some to know the average time of ripening of various fruits and vegetables. Of course the time has a local variation due to conditions, but these figures are an accurate average:

Apricots, last of June to last of August.  
Blackberries, last of June to first of September.  
Cherries, last of May to middle of July.  
Currants, last three weeks of June.  
Gooseberries, last of May to last of June.  
Grapes, first of September to last of October.  
Nectarines, last of July to first of September.  
Pears, last of July to last of October.  
Peaches, free, last of July to middle of October.  
Peaches, yellow cling, last of July to last of October.

Peaches, white cling, middle of August to first of September.

Plums, Green Gage, middle of July to middle of September.

Plums, Yellow Egg, middle of July to middle of September.

Plums, Gold Drop, first of August to first of September.

Plums, Damson, last of August to last of September.

Quinces, middle of September to middle of November.

Strawberries, first of May to last of October.

Asparagus, first of April to middle of June.

String beans, middle of June to last of November.

Peas, middle of May to last of June.

Tomatoes, last of August to last of November.

### DISPOSAL OF THE FRUIT CROP.

To the Editor: Our State has just passed, if indeed it is passed, through an ordeal not pleasant to contemplate. Our fruit canneries are likely to make only a small run. With the depression from panic still on and a dry year, but with the biggest fruit crop ever known and the prospect of seeing it rot on the trees, there is great disappointment to the grower. Also there is the crying need for work by labor. The merchant wishes to sell goods, and the direct welfare of the whole State is intensely interested. All this occurs with the sure knowledge of the growth of Eastern want for our fruit. The condition is sickening to think about, but there is hurrying need to change it. Could the people buy or rent the canneries and save their crops, or what must be done? When at the last moment the canneries began at a low price to buy (and we cannot blame the cannery people, whom we should expect to do like the rest of us, who do our best, or worst, to buy where we can buy the cheapest), but do we need to be dependent upon them? Should there not be some kind of collective ownership of the canneries by the fruit growers if possible, and if not that, then by the State? This may seem socialistic, but there need not be hope by those who believe in such things (or fear by those who do not) that other things would be socialized until, like the present canned fruit dilemma, there is direst need for it.

I am not a fruit grower that advocates this, but a farmer owning 335 acres of land and raising only fruit for my own family use. But I would be willing to be taxed if need be to put the fruit business on a sound principle of marketing.

H. E. DYE.

Visalia.

[It is certainly disappointing and will work much hardship, which is deeply to be regretted. The solution is not easy except to those who hold socialistic theories of cures for all difficulties, as

our correspondent suggests. It will take time to test such theories. Our correspondent cannot solve the matter in a letter, nor can we in a comment.

As for the growers doing the canning, they certainly could if they possessed three things: (1) The capital to fit out, operate and finance the product; (2) the manufacturing and business sense and experience to put out a product that would sell; (3) to sell it. There is reason to think they can do all these things, but it takes time to demonstrate it. It is nonsense to think of their doing it at once—or in a few years even. It would take millions of money and years of experience, and such things are not on tap.

The best thing that can be done at the moment is to dry fruit, and if the distant people are short of fruit and are not too scared to buy what they want, dried fruit will be reasonably profitable.—  
EDITOR.]

### NEW PLANTS FROM THE ORIENT.

A Chico correspondent of the Sacramento Bee gives an interesting account of new acquisitions at the Plant Introduction Garden of the United States Department of Agriculture near that city: Bringing with him fifteen tons of plant, vegetable and tree life material, part of the result of three years' exploration in China and the Far East. Frank N. Meyer, agricultural explorer for the Department of Agriculture, has arrived in Chico to superintend the temporary planting of the rare and interesting species of vegetable life of the Orient which he secured.

Mr. Meyer left San Francisco in 1905 and arrived in Shanghai in September, in the midst of the cyclone which caused \$8,000,000 damage in Shanghai. He was uninjured, and went to Peking, then into the interior in search of plant life. The first year the explorer spent in northern and central China and Manchuria. For three months he was in northern Corea and was the first white man to enter the virgin forests. From Corea he went into eastern Siberia, where the weather was at times 47 degrees below zero and where his ink had to be thawed before he could write. At one time he was attacked by outlaws, but after being badly choked, succeeded in stabbing one of the raiders. He also went into southern Mongolia.

In all, the explorer secured some 1,800 plants, much of which were shipped at intervals to the United States, and some of which have been successfully experimented with at the Plant Garden at Chico. On this trip Mr. Meyer brings 100 boxes of thirty varieties of Chinese bamboo, which grows in the Empire to a height of 100 feet with a diameter of from six to eight inches. It is used for countless purposes in China, but is hard to transplant. Varieties of this, as of all the plants secured, will be left at the garden here.

The white-barked pine is an interesting tree brought by the explorer. This has a foliage like the pine of this country, but the tree spreads its branches like the cherry tree and the bark is white. It is one of the sacred trees of China and its sweet nut, similar to the pine, is eaten by the Chinese priests. The age of some of the trees in China is said to be sixteen centuries. Fifteen years is the age of those brought by Mr. Meyer.

Snowballs, with flowers a foot in diameter, are also brought, as are the dwarf lemon, a potted lemon shrub, with fruit the size of a large lemon. These are used as potted plants for table ornamentation in China. The fruit is edible.

Dwarf lilaes, which are grown as geraniums in pots, are brought, as are species of the blue spruce, similar to the spruce tree of this country, with blue foliage suitable for garden ornamentation. They grow slowly, and whether they will be useful for reforestation in this country is yet to be seen.

Other plants are: Yellow rose, which grows eight feet tall from one stock, with a hardy, small flower, but blooms profusely; weeping blue juniper, rare, even in China; horsetail plant, which grows to a height of four or five feet, with foliage like the pine, dropping at sides.



**THE CALIFORNIA BLACK WALNUT.**

To the Editor: In a recent issue of the PACIFIC RURAL PRESS I noted your asking for information for Prof. Jepson in regard to the California black walnut.

My brother and I have been top grafting the California black walnut trees to the English for several years and we have found the black walnut in all parts of San Joaquin, Sacramento and a portion of El Dorado, and also many fine specimens in Butte and Yuba counties.

The largest specimen we have seen is at Bellota, San Joaquin county. It is nearly 100 feet in height, five feet in diameter two feet above the base and has a spread of over 100 feet. There is another tree nearly as large at the same place. Near the Cosumnes postoffice is another lot of very large trees. There must be 75 of these that are unusually large. These are along the county road in the Cosumnes river bottom and from the nuts scattered from these trees, trees are growing all along the river from the Cosumnes postoffice to the mouth of the river.

Near Salmon Falls, El Dorado county, is another very large tree. The black walnut is found everywhere in the Sacramento valley. It grows very easily and after planted grows without attention. Some of the trees along the Cosumnes river bottom have borne eight bushels of nuts.

The trees that were planted some years ago along the driveways of San Joaquin and Sacramento counties are nearly all being grafted to the French varieties of the Persian walnut. Preference is given to the Mayette.

If this is of any use to you I shall be glad.

Elk Grove.

CLAUD D. TRIBBLE.

It is very interesting.

**A NEW "APPLE OF VENUS" AT SPOKANE.**

Paris awarded a fruit of pure Hesperian gold to Venus as the fairest of the Olympian divinities gathered at the bridal of Peleus and Thetis, and this so inflamed the jealousies of Juno and Minerva that they did not cease their machinations until Troy was destroyed.

The National Apple Show Association of Spokane, of which Harry J. Neely is secretary and manager, purposes awarding an apple, molded of virgin gold, dug out of the hills in the Spokane country, to the grower showing the most beautiful specimen of fruit at its first annual exhibition in Spokane, December 7 to 12; but instead of bringing about discord, as it is recorded followed the judgment of Paris, it is designed that the award of the twentieth century shall be the means of placing the apple in its rightful classification—as the emperor of all fruits.

Modern history contains no reference to a similar award, and for this reason, in addition to the intrinsic value of the trophy, it is believed the announcement of a prize of a golden apple will be the means of bringing to the Spokane show the best specimens of the foremost growers, not only in America, but from various parts of Europe, as well as buyers from the orient and the islands and other countries.

[It should not harm the enterprising undertaking to know that the apple given to Venus was an orange and so was the apple about which the serpent talked to Eve. There were no apples in those days.—Ed.]

**BLACK LEAF DIP FOR THRIPS.**

We are obliged to our friend, Mr. J. T. W. DeJong of Santa Rosa, who called Monday to put us right on an article published three weeks ago. In quoting Dudley Moulton on the question of spraying for thrips, the types said: "There are two washes that have been successful; one was the black sheep dip and the other tobacco and potash." What he should have printed in quoting Mr. Moulton, was: "There are two washes that have been successful; one was the 'Black Leaf dip,' " etc. The Black Leaf has been used as a sheep, hog and cattle dip, but Mr. DeJong joins Mr. Moulton in saying that the preparation is a very excellent wash for exterminating thrips without injury to the tree. The Black Leaf dip is made by the Kentucky Tobacco Product Co. of Louisville, Ky.

**Citrus Fruits.****WHAT THE ORANGE INDUSTRY DOES FOR STATE SUPPORT.**

In the course of his address at the Riverside convention, some parts of which we gave in the PACIFIC RURAL PRESS of May 9, Commissioner J. W. Jeffery gave some important figures which we are now glad to make room for. Mr. Jeffery said:

From the field assessment notes of fourteen counties of the State, and embracing fifty fruit-growing districts, the average assessed value of orchard trees is \$50.50 per acre, and the average assessed value of the land bearing these trees is \$140 per acre. The best orange land in Orange county is assessed at \$310 per acre, including the trees. Covina reports show some assessments as high as \$500 an acre for land and groves. San Bernardino county has land standing at \$375, and \$125 for the trees. The highest assessment of fruit land in Santa Clara county is \$560 for land and orchard. But I have taken the highest and lowest and all intervening values in these fifty localities from the fruit-growing districts north and south, and the average assessment for land and trees is \$190.50 per acre. An equal number of farming land reports show the average assessed value to be \$31.20, and grazing lands average \$7.60. From this showing it appears that bearing trees make the taxpaying duties of the land six times as great per acre when compared with that of farms, and twenty-five times as great when compared with stock land. But some one may say: "Look at the immense value of these lands to the owners. An orange grower at Riverside could sell his grove for \$2,000 an acre and walk away with the money. What would the public get out of the transaction?" I would answer that the grove still remains. Of the \$12,000,000 assessed valuation of this county, it is safe to say that \$6,000,000 lies within cannon shot of this hall. The town lots and their improvements are assessed at about one-third that of the acreage and its improvements. Hence, the business and professional men of Riverside are doing business on practically a \$6,000,000 capital with an investment of only \$2,000,000. Rough figuring, you say, but it is smooth enough no doubt to slide far below the realities, for no one can estimate the business value, the residential value, or the future value altogether that accrues from the turning of a wilderness into a garden; the value of the tourists who come here to see what the fruit-growers' activities have actually created here in taxpaying wealth and homelike beauties. And so it is in a hundred horticultural districts throughout the State. Can you say this of the other landed interests, some of which cover whole townships without a home? With the exception of a few shipping and trade centers, and a few health and summer resorts, every live city or town in the State is in the midst of a fruit district, as no other industry approaches horticulture in the work of building up other industries of the State.

Then why should not the orchardists require more adequate protection for their fruit trees and vines? There are over 40,000,000 fruit trees growing in the State at this time and 315,000 acres of vines. If the growers were allowed but one cent for every five of these orchard trees, to say nothing of the vines, it would provide an annual fund of \$80,000 with which to guard our boundaries from further invasion, stamp out perils already established, unify the work of quarantine and control the State, and equip the office of the State Commissioner with the machinery for doing the work intended, and which no other department can do.

**MR. POWELL TALKS ABOUT CALIFORNIA ORANGES.**

Washington correspondence includes an interesting paragraph about Mr. G. Harold Powell, who has been at work in this State as chief of the fruit-handling investigations of the U. S. Department of Agriculture.

Mr. Powell will soon sail for Europe, to be absent a couple of months, but before he returns again to California next autumn or winter, will

"work up" the results of the investigation in California for the past season. He has recently published a brochure on "The Decay of Oranges While in Transit from California," with the assistance of Mr. Stubenrauch, L. S. Tenny, H. J. Eustace, G. W. Hosford and Mr. White. In this brochure, Mr. Powell has this to say about the location of the citrus fruit industry, especially as pertains to northern California:

"In recent years the industry has been developing north of the Tehachapi range of the Sierra Madre mountains, especially in Tulare, Kern, Fresno and Butte counties, though oranges are grown to a limited extent in other fruit-growing counties in the central and northern parts of the State as well. The greatest development has occurred in Tulare county, where the annual production is now about 2,000 cars of oranges, mostly of the Washington Navel variety. New plantings have been made which under favorable conditions may increase the annual production in that section to 10,000 cars in the next few years.

"The orange crop of northern California," Mr. Powell continues in his brochure, "matures from four to six weeks earlier than it does in the southern part of the State, notwithstanding that it is from 200 to 500 miles farther north. This unusual condition is due to the topography of the Pacific coast. The large inland valleys of northern and central California lie between two great mountain ranges, extending north and south. The Coast Range mountains shut off the modifying influences of the sea, causing relatively higher night temperatures during the summer months than prevail in the southern part of the State."

**PRODUCTS OF OFF-BLOOM ON ORANGE TREES.**

Mr. H. V. Reeves of Alameda is an owner of orange property in southern California and has given much attention of late to the off-season blooming of the trees and what can be done with it and about it. In the course of his inquiry he received the following interesting statement from Mr. F. Scoville of the Corona Citrus Association:

Off-bloom occurs every month from April to October. It is about equal in each of the following months:

The fruit from off-bloom is very coarse and large and has many black, diseased spots on the navel end.

The off-bloom fruit does not seem to affect the following regular crop.

Off-bloom was never so abundant as during the present year. Last year as the fruit was setting the trees were badly troubled with cut-worms, which climbed them and ate the fruit. This may be a partial cause of this year's trouble.

The off-bloom has been reported from all parts of southern California. Valencias and Navels were worst. Mediterranean Sweets were less affected.

There is no price to amount to anything for such fruit. It is coarse and large and does not grade higher than "standard."

There is no indication that any kind of fertilizer caused it.

There was more dropping of fruit from off-bloom than of the regular crop.

**The Vineyard.****AN EXPERIENCE IN DEEP PLOWING.**

By F. T. BIOLETTI.

The virtues of deep and thorough preparation of the soil where a vineyard is to be planted have been much insisted on. Many grape growers, however, fail to realize its importance.

In South Africa every acre of land before it is planted with vines is "trenched." This means that it is dug over by hand 30 inches deep. The result is a perfect stand the first year and a full crop the second. In Portugal and Italy the same method is followed when resistant vines are planted. In all these countries labor is cheap, but, even so, this preparatory work costs there from \$50 to \$100 per acre. This expense is, however, repaid by the first crop—a crop which



would not have been obtained at all with shallow plowing.

Where labor is dear, trenching is impracticable. In California the South African method would cost from \$200 to \$300 per acre. Even in France the cost would be prohibitive in most cases.

In France and Germany they have plows which accomplish almost the same work, turning over the soil to a depth of 30 to 36 inches at a much smaller cost than hand trenching. These plows are, however, costly, cumbersome and slow. None of our American implements have proved thoroughly satisfactory for this purpose until lately. Ten to twelve inches is about the limit of depth with our deep plows, and this requires six to eight horses. The soil may be stirred four to six inches deeper by means of a sub-soiler following the plow with four to six more horses. This is costly and the results are not quite so good as where the whole 16 to 18 inches is completely inverted. The object is not only to stir and loosen the soil, but to place the top soil, which is favorable to root growth, down where the bottom of the cutting will be.

A plow recently invented and manufactured in California accomplishes this in a way that leaves little to be desired. Some practical results with this plow in preparing a piece of land for planting vines may be of interest.

Sixty-five acres were plowed 16 inches deep, planted with cuttings (5x10 ft. and 10x10ft) and cultivated until July 10 at the following cost:

Plowing .....	\$236	=	\$3.63	per acre
Planting .....	68	=	1.05	" "
Cultivating .....	113	=	1.75	" "
Hoeing .....	50	=	.77	" "
Total .....	\$467	=	\$7.20	" "

With ordinary four to six inch plowing the total cost of these four items would have been considerably more, though the plowing itself could have been done for \$1.50 per acre, or \$97.50. In this case it would, however, have been necessary to plant with a spade, which would have cost at least \$4 per acre, or \$260. With the deep plowing the planting was done in a perfectly satisfactory manner with a sheep-foot dibble at about one-quarter the cost. The net saving on the cost of plowing and planting was about \$50 in favor of the 16-inch preparation.

This was by no means the only gain. Wherever the deep plowing and dibble planting were adopted the "stand" of vines is at the present date is from 60 per cent in the late planted parts to 95 per cent in the earlier planted. Wherever the plowing was shallow and the planting done carefully with a spade the stand is only from 25 to 50 per cent. This is the case in the diagonal strips where the plow turned and where the soil was broken only five to six inches deep. The difference in "stand" would have been less in a wet year, but is a striking illustration of the effectiveness of deep plowing in conserving moisture.

The cost of cultivation and hoeing are also undoubtedly much lower than they would have been with shallow plowing. Wherever the deep plow did its work thoroughly most of the weed seeds were buried so deep that they did not come up. Most of the expense of hoeing was due to the weeds which came up around the edges of the fields and on turning strips.

This is a notable illustration of the value of deep preparatory plowing: (1) in facilitating the rooting and growth of young vines, and (2) in economizing hand labor. The advantages of better growth and better crops in subsequent years do not figure here.

Many items of the cost of planting a vineyard are not given above, but those given are exact and taken from a careful daily account of labor and include board of men and horse feed, as well as wages and horse hire. They apply strictly, of course, only to a particular piece of land which is a level piece of sandy loam.

The comparison, however, holds good for almost any piece of land, and the moral is, "Well begun is half done." Spend more money and labor in getting your land into good order and you will have to spend less in trying to keep it in good order.

Hollister, Cal.

## Apiculture.

### BEE FORAGE AND HOW TO INCREASE IT.

By RALPH BENTON of the University of California.

Bees in California in past years have been essentially range feeders and in many localities always will be. Yet with the march of agricultural progress many of the old-time productive natural ranges are giving place to cultivated fields, and just how to take advantage of these changes is well worthy the consideration of every bee-keeper.

Geographically viewed the State is divided into two fairly well defined honey localities. That region south of the Tehachapi and extending along up the coast to the Santa Cruz mountains is chiefly a natural range. An exception to this is the Imperial valley, which resembles the interior valleys of the San Joaquin and Sacramento rivers, constituting one vast cultivated range, our second honey locality.

Chief among the wild plants yielding honey in the Coast Range are the sages, of which there are three varieties. The leading one in point of distribution and quantity of honey yielded is the black, ball or button sage (*Salvia millifera*) in occurrence from the Santa Cruz mountains south to the Mexican line.

Found southward from Santa Barbara is the second important variety, the white sage (*Salvia apiana*), which grows at higher altitudes and is a more branching plant.

In Santa Barbara, Ventura and Los Angeles counties is found the third variety of this important honey yielding genus, the purple sage (*Salvia leucophylla*), which by some is believed to yield the finest flavored honey.

A sage yielding quantities of honey in Inyo county, known as creeping sage (*Salvia sonomensis*), is worthy, for that locality, of being placed as a first-rank honey plant.

Two minor sages, known as annual sages (*Salvia curduacea* et *columbaria*), are found in the interior plateau of Monterey county.

Wild alfalfa (*Lotus glabra*) and wild buckwheat (*Eriogonum fasciculatum*), the latter being found only southward from Ventura, yield an amber honey of good quality.

A plant of equal rank, but quite limited in its distribution, is *Phacelia* (*Phacelia Douglassii*), found abundant in the Santa Clara valley of the south. Among the minor plants may be enumerated manzanitas, an early bloomer, hoarhound and mustard, of value later, and the sweet clovers, both the white (*Melilotus alba*) and the yellow (*Melilotus indica*).

Among the cultivated plants that yield honey are the fruit trees, apricots, citrus, peach, cherry, plum, pear and apple. Chief among these may be ranked the citrus trees in the south, which have a very mild and fine flavored honey frequently obtainable in pure form in marketable quantities. Nearly all berries yield honey, chiefly the blackberries and the raspberries.

Alsike, white and sweet clovers where cultivated in abundance may become honey producers of first rank of honey of a very fine flavor.

By far the most extensive yielder among cultivated plants is alfalfa (*Medicago sativa*).

The bean fields of Ventura county offer a valuable source of honey at a time when the natural sources are waning.

Lastly may be cited the Eucalypti, of which there are enough varieties to bloom the year around if planted all in one locality. The most common to the State are the blue and the red gums, which bloom in the winter and early spring months, affording excellent sources stimulative to brood rearing.

**Apiary Locations.**—There are several ways in which bee-keepers may increase their sources of honey. The location of apiaries at the mouth of canyons where natural ranges are available in one direction and the cultivated valleys in the other is a way in which some extend their range for their bees. Some few migrate from the mouth of their canyons on up to higher altitudes as the flower blooms recede. A practice coming to be viewed more favorably than ever before is the moving of large numbers of bees from natural

ranges in the late summer to cultivated fields of beans or alfalfa.

Much can be done to contribute to a local range by observing carefully the distribution and blooming time of the local plants and then fill in the inter-blooming time by scattering in waste places, along the roads and in fence corners, known honey producers blooming at the time desired. Sweet clover, in fact any of the clovers, phacelia, sainfoin, lippia, blue spirea and many other plants may be so profitably introduced to the enrichment of the local flora and the extension of the honey yielding plants.

## Cereal Crops.

### HOW TO PREPARE SHEAF GRAIN AND GRASS SAMPLES FOR EXHIBITION.

As the fairs are approaching and the State Fair and the Alaska-Yukon exposition looms up in the distance some reader may be profited by the following, although it is late for some parts of the State:

The National Corn Exposition to be held at Omaha, December 9 to 19, 1908, issues instructions to intending exhibitors of sheaf grains and grasses. The greatest care should be observed in making these selections; only the very choice straws carrying fully developed heads. Cut these off close to the ground with a sharp knife. When large bundles have been secured sort them over for uniform typical heads and uniform length and perfectness of straw.

The process of curing is the next feature of the work. Spread the selected samples out to bleach and cure in the sunshine, being careful to keep them guarded from all moisture, rain or dew, until they are well cured, which may require from one to three days, depending upon the weather and the ripeness of the straw when cut. As soon as they are in a satisfactory condition of outdoor treatment strip the blades off carefully, so as not to bruise or break the straw.

The reserve samples may now be collected into small bundles, not to exceed one to two inches in diameter, tie them with muslin or other soft string and hang up in a light, dry room, heads down, and let them hang until perfectly cured. These smaller bundles are usually consolidated into bundles or sheaves of approximately four inches in diameter and tied with ribbon; one band just below the heads, one at the center of the sheaf and one four to six inches from the butt of sheaf.

These sheaves may be loosely wrapped with cheese cloth. Some of the best expert exhibitors let the small bundles hang from the ceiling until ready to exhibit, then put them into larger sheaves, believing that the hanging position is the safest and best for retaining the shape of head and making a bright, attractive exhibit. All samples for exhibition should be kept free from dust and away from mice and the house fly, as all these are damaging to exhibition quality.

In grasses the reverse condition applies in their preparation for show. All samples when gathered should be cured in a dry, dark place, and be excluded from the light and air by wrapping and storing where they will retain their natural green and fresh appearance.

### GREAT GRAIN CROP IS HARVESTED IN NORTH.

Spokane, Wash., July 16.—Ranchers in Washington, Idaho and Oregon are deep in the wheat harvest, and it is estimated the total crop in the three States will aggregate 48,500,000 bushels, with a market value of from \$36,375,000 to \$38,800,000. The last-named figure is for 80-cent grain, which price the leading buyers and milling men in Spokane say will prevail in view of the shortage on the Pacific Coast. At any rate, they do not believe the market will open under 75 cents. The estimates for 1908 are: Washington, 29,000,000 bushels; Oregon, 12,500,000 bushels; Idaho, 7,000,000 bushels. The banner crop in the history of the three States harvested in 1907 brought the farmers a little more than \$38,000,-



000. The crop in 1906 was as follows: Washington, 25,075,258 bushels; Oregon, 14,215,597 bushels; Idaho, 8,231,000 bushels. The total acreage in 1908 was as follows: Washington, 1,447,000; Oregon, 725,000; Idaho, 374,000; total, 2,546,000 as against 2,340,000 acres in 1907, as follows: Washington, 1,347,000 acres; Oregon, 651,000 acres; Idaho, 342,000 acres. The barley and oats crops in Washington are expected to be heavier in 1908 than they were in 1907, when 10,365,000 bushels of these grains were harvested.

## The Irrigator.

### IRRIGATED AGRICULTURE DOMINANT IN CALIFORNIA.

(Continued From Page 49.)

rapid, continuing with bounds until the water supply available in the streams was practically exhausted. Since then the irrigated area has been extended only by resort to pumping from wells and by endeavoring to make the water already diverted irrigate two acres where it irrigated only one acre before. The total area irrigated in southern California, from streams in 1902 was 57,482 acres, and probably 150,000 of the 182,211 acres irrigated from wells and springs are south of the Tehachapi, making a total for southern California of 207,000 acres, or 9.7 per cent of the 2,000,000 acres watered in the entire State. This does not include the irrigation from Colorado river, which was about 130,000 acres in 1906, but which is increasing rapidly. North of the Tehachapi, the largest area irrigated was from the San Joaquin valley streams, principally San Joaquin, Kings and Kern rivers. Here a total of 908,182 acres received water, which was 53 per cent of the total irrigated area. From Sacramento river and tributaries only 194,900 was being irrigated, and the remaining land under water was located on independent streams throughout the State. Outside of southern California, the principal areas irrigated from wells and springs were located in the lower San Joaquin and in Santa Clara valley.

The foregoing is a brief statement of what has been accomplished by private enterprise during less than half a century in reclaiming a portion of the irrigable lands in California. The attention of the reader has likewise been called to the natural resources in both land and water which remain undeveloped, awaiting the concerted action of industrious farmers. Notwithstanding the magnitude of this task, we believe that it can be accomplished. The same intelligence, energy and perseverance which wrested 2,000,000 acres from barren sands and low-producing grain fields can reclaim other millions of acres.

Of late years large sums of money have been expended on both the northern and southern borders of California by the United States Reclamation Service in the construction of irrigation works. When these are completed and settled they will materially increase the revenues obtained from irrigated farms and orchards. Over 55,000 acres of the Klamath Project lies in Modoc and Siskiyou counties, California. This land, although over 4,000 feet above sea level, is well adapted to the growth of alfalfa, red clover, grains and vegetables. On the southern boundary of the State over 16,000 acres of the Yuma Project are in Imperial county, California. These, with about 14,000 acres included in the Orland Project, make a total of 85,000 acres that will be irrigated when these projects are completed.

## Patrons of Husbandry.

### GRANGE NOTES.

To the Editor: At its last meeting in June the Geyserville Grange received a communication from the Board of Supervisors in San Francisco, stating that it would be from sixty to ninety days before produce could be received at the city free market, as suitable buildings could not be erected before that time owing to the requirements of the law in regard to danger from fires. The State

Free Market near the waterfront is already open and is selling off its consignments very rapidly, and farmers are asked to send in their produce.

For some years the Grange has been urging the establishment of such a market. The requisite law has now been passed and is being carried into execution, and it is hoped that farmers will give it a liberal support, as it is doing a service to both producer and consumer. Those members of the Grange who have sent produce there speak highly of the prompt and satisfactory manner in which consignments are handled.

Bro. J. E. Metzger, by request, gave a very helpful talk on the kinds of apples best suited to this locality. Climate and soil make a great difference, so that apples which do poorly in one locality at a very few miles distance with a change of level succeed very well. Among those well suited to culture in this locality were mentioned the Red Astracan and, fine for both eating and cooking, the Red June. For summer use the Gravenstein. For late apples, the Winesap, which, however, is not a good keeper; the Bellflower, which keeps until January; the Baldwin, reliable and keeps until February or March. The Yellow Newtown Pippin does not do well here, but when it does is of fine quality and an excellent keeper.

On account of the probable absence of members during the month of July, camping and taking summer outings, and the pressure of work with the fruit in August and September, it was decided to hold only one meeting in each of these months, to occur on the evening of each fourth Saturday, with the exception of July, for which a picnic is arranged to be held at Iron Spring on the 25th.

Reference was made to State Master Derthinek's speech at the meeting of the Protege County Pomona, as reported in the National Grange, on the "Dangers from the Growth of Socialism," and it was determined to take up the question, "Is the Growth of Socialism a Danger?" at the next meeting.

Geyserville.

GRACE S. HURWOOD.

### GRANGERS AND POLITICAL DUTIES.

Mr. F. H. Babb of San Jose, lecturer of the State Grange, has issued a circular pertinent to the times. We take these paragraphs for general edification:

During the political campaign now opening is the time for the Grange to make itself felt for progress. Not by advocating any political party, but by attempting to have all parties advocate Grange policies. Mr. Gompers appeared before the platform committee of both Republican and Democratic parties in behalf of the labor union ideas upon the subject of injunctions. The Grange desires a parcel post, postal savings banks, United States appropriations for highway improvement, tariff reform in the interest of the producer, and more equal methods of taxation. Let the Granges attempt to obtain the endorsement of these measures in the resolutions of all conventions. Let candidates be interrogated as to their standing in regard to them; it is easier to influence them before than after election. And let patrons vote as patriots rather than as partisans. The Grange stands for measures rather than for men. And yet it should not forget those legislators who have loyally championed its interests and labored to save their constituents from injury. Records are more satisfactory than promises.

A number of constitutional amendments are to be acted upon at the fall election. Get copies of them. Discuss them in the Grange. Ask the local papers to publish them in time, and the Grange conclusions in regard to them. There is a strong feeling among many patrons that the Grange should advocate the initiative and referendum. That the people are denied needed legislation because their elected representatives fail to enact it, and they ought to have the power to enact it themselves. The constitutional amendment is a referendum. If it is ignored, and the vote upon it is light, with what face can the people ask for increased powers in this direction? This is called the "vacation season." The farmers do not so regard it. But let us not forget our political duties in the press of harvesting and marketing, and wake up after it is too late and wonder why the minority rules us.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crys-tallizing and Dry-ing.              |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**

PUBLISHER

667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

Orange county shipped the first tomatoes of the season last week.

Berry shipments from Anaheim now run about 300 cases daily. The prices are about \$1.25 per crate f. o. b.

Sutter almond growers are having their trees sulphured for the red spider, which is showing up to some extent.

The Selma fruit growers formed an association for the purpose of packing and marketing fruits of that section.

The Lemon Association at San Dimas, Los Angeles county, expects to build a new lemon packing house this summer.

The apricot crop in the San Pasqual valley, San Diego county, will amount to about 40 tons, most of which will be dried.

The Horticultural Commissioners of Tehama county are endeavoring to eradicate the cottony-cushion scale said to exist near Vina.

The Southern Pacific special berry train for San Francisco will leave Watsonville depot at 5:30 p. m. instead of 6 o'clock, as heretofore.

The Star Dried Fruit Co. at Healdsburg is getting things in readiness for operating the cannery. New machinery is being installed.

Apricot pickers at Winters celebrated the close of season with a big ball and are now whiling away a few days until the peach season begins.

growers had practically all of their fruit contracted. The market, it is believed, will be stronger later. The quality and flavor of the fruit was never better.

The fruit growers of Hollister held an enthusiastic meeting recently to debate the question of retaining a permanent inspector in that county. Mr. Leonard will be continued.

The almond growers of Sutter county have entered into a pool agreement whereby the total crop of the county consisting of three hundred tons will be sold to the highest bidder.

The grape crop in the Escondido valley will go 40 per cent heavier this year than last is the present estimate. The acreage planted there is about 625 wine grapes and 200 muscats.

On account of the great fruit crop and the increase of the number of railroad shipping points, five new fruit packing and shipping houses are under construction in the vicinity of Lodi.

There will be a big crop of grapes in the Turlock region this season. Buyers have already purchased nearly all of the Malagas at \$24 per ton, which is considered a good price for this season.

The Atwater cannery closed down until peaches come in. They packed 7,000 cases, or 168,000 cans, of apricots and 200 cases of blackberries and a few cases of plums. They expect to handle 1,000 tons of peaches this season.

The California fruit canners began the packing season at Hanford with the opening of the big canneries employing over 500 men, women and children. It is expected the total pack of the season will exceed two thousand tons.

Fruit buyers at Yuba City are paying for freestones \$15 per ton, 2¼ size; Phillips clings \$25, the midsummer variety at \$20 and Tuscan \$22.50. The growers state that they will no more than pull even at the above prices.

Orchardists are busy harvesting one of the heaviest crops of fruit ever produced in El Dorado county. The strain on the trees in most instances is very heavy, as enough props to hold up the heavily laden branches cannot be procured.

Placerville orchardists are complaining loudly of the advance made by the California box trust in the price of box shooks. Coming at this time when the price of fruit is low the extra burden is heavy.

Last year at this time El Dorado fruit The Cone pear orchard in Antelope valley will produce from 1,000 to 1,500 tons of fruit this season, breaking its past record. The crop has been sold and the harvest will soon be commenced, as the fruit is to be shipped green to the Eastern markets.

The fruit buyers of the respective canneries and packing concerns in Sutter county are not offering better than \$20 per ton for pears. This price is considered too low by the growers, and consequently not much of the fruit has been sold at that figure.

Two-thirds of the prunes in Anderson orchards have dropped from the trees. The extremely hot weather and the absence of moisture were the cause. The crop was a light one. Taking the Anderson prune belt as a whole this year's crop will not be one-quarter of an average.

The grape growers of Santa Rosa and vicinity are wondering what will be the outcome this year. There are indications of a good crop of grapes, but prices are problematical. Many of the wineries are full, and from present indications there will not be enough cooperage to handle the crop.

A. J. Ramirez owns twenty-four acres of land near Encinal in Sutter county. March 10th of this year he planted sixteen acres to rooted Zinfandel vines. He is now exhibiting to friends large clusters of grapes which he had picked from these vines, and he says the vines are now over two feet high and growing rapidly.

The yield of Bartlett pears in the Anderson region, Shasta county, will be the best ever known. This is because the blight has been pretty thoroughly eradicated and other conditions favorable. The price offered for pears is far from satisfactory. Repeated offers of \$15 a ton have been made, only to be declined by the growers, who are holding out for \$20.

The Government Experimental Farm near Indio is meeting with marked success in the cultivation of the African date palms, and Bruce Hammond, the arboriculturist in charge, has developed twenty-two specimens to the point where he will place them in depressed gardens, according to the Arabic method. It is stated that G. Johnson of Redlands has returned from Algiers with 800 trees to be planted in the Coachella valley, near Mecca. He obtained these from the Arabs on the Sahara.

The California State Board of Trade has secured for distribution a number of bulletins on the thrips, which pest is ravaging many orchards in various districts, issued by the United States Department of Agriculture. These bulletins will be sent to any grower interested, on application. Also bulletins on "Sulphuring Fruit and Its Relation to the National Pure Food Law." Address A. L. McDonald, secretary, Ferry building, San Francisco.

Sonoma county's apple crop this year will, numerically speaking, be about double what it was in 1907. But despite that fact, the marketable quality will not run half what it was last year, when the crop of packing and shipping apples was small. The apples this year are small in size, due to the cold weather and lack of moisture. The fruit gives promise of ripening before it has become fully matured. The undersized apples will be fit only for vinegar and drying. With an overabundance of that character of fruit throughout the county, the price per ton this year will probably be less than last season.

### AGRICULTURE.

It is reported that Irish potatoes in Turlock are a drug on the market.

On the Wores Ranch near Brawley, Imperial county, there is a field of 1,000 acres of corn.

Alfalfa seed is quoted in the local market at 20 cents a pound, the highest price touched in many years, says the Sanger Herald.

The big beet sugar factory at Oxnard commenced its annual sugar campaign Saturday. The crop of beets in Ventura county is very good.

S. M. Parker has placed on exhibition in the Napa Chamber of Commerce building some red onions that measure 17 inches in circumference.

Butte supervisors find themselves powerless to eradicate the Russian thistle. They cannot have them destroyed at the expense of the land owner.

The potato crop in the vicinity of Vina, Tehama county, is now being dug. Almost the entire crop has been purchased by buyers from Sacramento and is being shipped to Seattle.

It has been many years since the same amount of grain has been raised on the ranches near Grimes, Colusa county. Probably not in ten years has the crops generally been as good in that vicinity. On the Balsdon farm the barley averaged thirty-six sacks to the acre, and in spots the estimated yield was more than forty sacks per acre.

It is stated that Charles Fisher of West, Imperial valley, is threshing eighty acres of barley and getting twelve sacks to the acre. The field is three years old, never having been seeded except the first time, the other crops being volunteer. Mr. Fisher has pastured from 200 to 450 head of hogs on this barley all through two winters, and has been harvesting crops as noted above.

Advices from Sutter county state that while the new crop of grain is coming in there is but little buying or selling. Wheat will no doubt be a good price, as it is scarce and but little milling quality can be had. Quotations for wheat are about \$1.50. The barley market has sagged badly and owing to quality being somewhat off, the opening quotations are not much better than \$1 per cental.

P. J. Prein of the Sacramento Valley Sugar Co. states that the crop on about 1,400 acres in Yolo county will be harvested by farmers with whom the company has contracts. In some instances good stands were not secured, owing to a lack of sufficient moisture, and the crop will therefore be light. But in all instances where an artificial application of water was made the crop will be very heavy.

Salinas valley threshing outfits are getting busy and operations on the barley crop are now in full swing in that section. From one ranch, that of David Jacks at Chualar, the yield will be 100,000 sacks of fine barley. Crop experts state that from Hilltown road north to Moss Landing and all the adjacent territory west of Salinas, the crops, at a conservative estimate, will yield from 25 to 40 bags to the acre. Some of the chevalier crops will run over forty sacks to the acre, which is a remarkable showing.

C. W. Dorsey, chief of the Western division, Bureau of Soils, of the United States Department of Agriculture, is making a personal inspection of the work being done by the Bureau of Soils in the Sacramento valley. The Department of Soils is an interesting as well as a useful branch of the Federal service. It is the duty of the bureau to survey and make maps of different regions of the country, according to soil species. After the sur-

veys and general inspection, charts and maps are put in shape, describing the different types of soil and the best products adapted to that particular region. The present work is planned for Yolo, Colusa, Tehama, Yuba and Sutter counties.

### LIVE STOCK.

Frank Graves, one of the large sheep ranchers of the Buttes locality, shipped his wool clip, about 12,000 pounds, to Oakland.

Cholera is said to be decimating swine herds in Glenn county and also in two or three herds in Tehama. Sheep Inspector I. B. Paxton is making an investigation.

The farmers of Tulare county are testing the merits of beet pulp which, with alfalfa, is said to be unexcelled as food for hogs. Not only does it possess nutritious qualities, but its cheapness will give the farmer an increased profit. The market is practically at his door.

An Imperial stockbuyer says that a contract has been made by Los Angeles meat packers for the purchase of 5,000 head of hogs in the Imperial valley, for which the ranchers are receiving 6½ cents per pound. Many ranchers are sending out their hogs even before they have reached the highest stage of the "finishing off" process.

The last of Tehama county's wool, practically, was sold to Findley & Co. of San Francisco and Boston. The lot consisted of 108 bales from Mandus Johnson, John Scribner and Anton Nunes. The wool was a fine grade which the three sheep men had been holding for a better market than that prevailing last month. The price paid is said to have run from 12¾ to 13½ cents.

The sheepmen of Lake county, Oregon, have disposed of their wool clip at a fair price. The shearing season was a few weeks later than last year, but the fleeces were considerably heavier, and though the prices were several cents lower than last year, owing to the increase in the clip, the revenue from the wool will be almost as much as it was last year. The price ranged from 13 to 15 cents per pound. Most of the clip has been contracted for by representatives of Eastern firms.

### MISCELLANEOUS.

Tehama supervisors appropriated \$1,000 toward an exhibit to be made at the State Fair in September.

The American Fruit Product Co., at Vacaville, is preparing to crush a large amount of apricot pits this summer.

The Moreno Irrigation company is a new corporation which will endeavor to provide the lands of the Moreno valley, near Riverside, with a supply of irrigating water.

The Western Apple Vinegar Works at Petaluma expect to work about 300,000 gallons of vinegar this season. The company this season will devote its entire time and energy to crushing apples, not packing any for the market.

The supervisors of Shasta county have restored the bounty on coyote scalps. The bounty will be \$2.50 on each scalp, whether a full grown coyote or only a pup. Siskiyou and Trinity counties each pay \$2.50. Tehama county, including a bounty allowed by sheep men, pays a bounty of \$5.

The Russian thistle, one of the worst known pests, has made its appearance near the line between San Bernardino and Riverside. The Horticultural Commissioners of both communities are taking up the question of its extermination. The English sparrow pest is also being taken up by both counties, and it is expected that some uniform action will soon be forthcoming to control the pest.



## Live Stock and Dairy.

### Live Stock Exhibits.

By E. W. MAJOR of the University of California.

The dates of the State Fair and the various district and county fairs are being announced, and it is time that exhibitors of live stock were getting their strings ready. Of course those who exhibit at the State Fair have had their animals in hand for some time, as most of them are old hands at the business and know that no animal can be fitted properly in a short time. For district fairs and county fairs, however, animals are not, as a rule, put in such high condition, and therefore a shorter period of preparation is sufficient. Perhaps, as the writer has had considerable experience in judging at these fairs, some suggestions to the newer exhibitors may not be out of place.

In selecting the prize winners in a class, it must be remembered that the judge must make his awards on the animals as they stand before him in the ring. He is not dealing with the future nor in the past and cannot award a prize to an animal that might have been a winner had it been fitted properly, nor can he award a prize to an animal because it was sired by a famous bull, or out of a prize-winning cow. Unless your animals, therefore, show individual merit they cannot win, and it is important, also, that the animals be shown at their best. Stock must be clean and well groomed, for nothing disgusts a judge more than to have animals brought before him in the ring that are covered with manure and whose coats look as though they had never felt a brush. Then the animals should be taught to stand well in the ring. Good animals frequently lose premiums because of the great difficulty the judge has of seeing them at their best, and at times it is almost impossible to put hand on them.

For some time before the fair exhibitors should accustom the animals to be led by the halter and to train them to stand in any desired position. This will enable him to show them to much better advantage. Exhibitors at small fairs can learn a great deal by watching the herdsman at the State Fair. Note how particular the herdsman is to have their animals in position before the judge starts his work; see how careful they are to have the heads held just right, legs well placed under the animals and to have them standing on level ground.

In exhibiting dairy cattle, cows that have freshened within a few weeks always make a much better showing than those which are dry. It is almost impossible for one to tell from the appearance of the udder on a cow that is dry just the shape it will take when she is fresh. Another disadvantage is that she is generally heavy with calf, and this is against her good appearance. In the younger class age is also an important consideration, and those animals that most nearly approach the limit of age will, other things being equal, make the best showing. Take, for example, in a yearling class, it is difficult to make a comparison in a heifer just one year old with one that is nearly two and has freshened.

What has been said about cattle applies to other classes of stock. Statements advanced by some exhibitors that they "brought their stock in off the field," or, "I show mine in ordinary farm condition," will not help them at all. People do not go to fairs to see stock in ordinary—which generally means poor—condition.

There is another point to which I would like to call attention of exhibitors, while it has nothing to do with the showing,

and that is that they should know the individuals in the herd thoroughly; know their ages and their breeding, know if they are bred and when they will freshen. I have seen a number of possible sales lost because the owner of the cattle was not quite sure about the name, age or breeding of the individuals. Intending purchasers want to be sure about these things and are apt to think it strange that the owner does not know the animals and everything else concerning his stock. Of course there are cases where the owner does not come in close contact with his stock and the herdsman is the one who knows the animals best. In this case it is better to leave the sales to the herdsman.

### The Proposed National Dairy Register of Merit.

In a previous article attention was called to the importance of testing the productive capacity of the cows. Nearly all associations for the registration of dairy cattle have, as a part of their work, the testing of animals for advanced registration. Many of these tests, however, are made for only a short period, although some associations do provide for annual tests.

At the present time the United States Department of Agriculture, in co-operation with these associations of breeders of dairy cattle in the United States, has established the National Dairy Register of Merit. This Register of Merit is to be based on yearly records only. The year for the test shall consist of 365 days without restriction as to periods of lactation or of the calving of the cows. The testing shall be done under the supervision of representatives of state agricultural colleges or experiment stations, and their reports must be countersigned either by the director or by the professor in charge of the dairy stock work. Tests for this register shall be made only of pure-bred cattle registered in associations co-operating in this National Dairy Register of Merit. A breeder desiring to make such a test shall apply to his breeder's association, and this association, in turn, will make application to the professor in charge of such tests in the State from which the application comes and report the application to the United States Department of Agriculture. The breeder's association shall be responsible to the experiment station or agricultural college supervising the test for the costs of the tests.

Expert supervision must cover a period of two days of each month in the year

test, and the milk record of the owner of the cattle accepted as the record for the year, provided it agrees practically with that of the supervisor for the two days of each month. The butterfat record for the year shall be obtained by multiplying the milk record for each month by the average percentage of butterfat shown in the tests for the two days supervised by the expert.

Cows may be admitted to the register on the production of a minimum amount of either butterfat or milk. The minimum standard for cows two years old or under shall be 250 pounds butterfat, or 6,500 pounds milk. The minimum standard for mature cows five years old or over shall be 360 pounds butterfat or 10,000 pounds milk.

The department provides rules for calculating the amount that must be produced by animals between two and five years old, the amount varying with the age of the individuals.

When the year's test is completed the United States Department of Agriculture will furnish certificates of merit to the owner of the cow tested, setting forth the details of the test, including a description of the cow, the age, register number and a photograph of the cow furnished by the owner.

There is no doubt but that if breeders take up this proposed register with the interest that they ought, it will not be long before animals possessing such a certificate will be in demand, and breeders of young stock will want to know how many of the female ancestors possess these certificates and the amounts which they produce.

E. W. MAJOR.

### Holstein Veal in Chicago.

Chicago is the leading calf market of the world, says the Drovers Journal of Chicago. From the dairy districts of Wisconsin and northern Illinois tens of thousands of vealers are brought into Chicago every year. April and May are the two months when they are marketed in largest numbers, although they are coming in all the year long from a few hundred a day to as many as 9,000 a day. The record day's receipts was 9,284 on May 1, 1906. Last year 421,934 were received, and so far this year 157,000 have passed under the buyer's eye.

The great bulk of vealers come from a few counties in Wisconsin. Strictly speaking, those sections containing the largest number of cheese factories send in the largest number of calves. A line drawn from Green Bay on the north, southwest to Richard Center, and taking in twenty-five counties in the southeastern portion of the State, would represent the area from which Chicago receives the great bulk of its calves. This area also comprises the great cheese-making section of the State, the greater portion of the nearly 2,000 factories of which Wisconsin boasts being located in these counties.

Calves are sold when from four to six weeks old. They do not run with the cows, but are turned in to suck morning and night. No feed other than the cow's milk is given them. When sold they weigh anywhere from 100 to 160 pounds, although the most desirable weights are from 110 to 125 pounds, as veals of that size dress out best.

The calves from Green county are mostly all Holsteins, but toward Green Bay they run more to the Durham type. Chicago buyers say the Holstein calves make the best veal, as they have more size for their age. They are larger than the other dairy breeds when born and consequently are larger at six weeks old. While preference is given to Holstein veals, any good fat calf will sell well.

## DE LAVAL CREAM SEPARATORS

The World's Standard

New Improved Machines



FIRST—CHEAPEST—BEST  
Send for new 1908 Catalogue

THE DE LAVAL SEPARATOR CO.  
CHICAGO NEW YORK SAN FRANCISCO

The calves coming from the Holstein sections are all bulls. Dairymen keep and pay a premium on the heifers, as they are wanted for dairy cows, but the bulls are disposed of. It pays better to sell them as veal than to feed them as steers.

### Cactus Fruits for Stock.

In line with the interest shown in the feeding of cacti, the government has undertaken some extensive experiments with the feeding of prickly pear and the results have been issued in Bulletin 106 of the Bureau of Animal Industry. The experiments were carried on by Professor of Chemistry R. F. Hare of the New Mexico Agricultural College. The object of the experiment was to determine the digestibility of the prickly pear by cattle, its adaptability as a foodstuff and how best to feed it.

It is shown in the experiments that the prickly pear is digestible as follows: Dry matter, 65 per cent; ash, 33 per cent; protein, 57 per cent; fat, 68 per cent; crude fibre, 41 per cent; nitrogen-free extract, 81 per cent.

If fed with cured fodders or grains the digestibility of both pears and these feeds are increased.

Best results are obtained when prickly pears are fed with foods of higher protein content.

Stock seldom drink water when fed prickly pears alone. About 100 pounds of pears contain eight gallons of water,

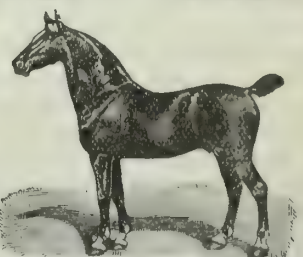
### MORE MILK—MORE MEAT

IF YOU USE  
**LILLY'S BEST**  
**FLY KILLER**

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.  
A. F. CHAPMAN, Monahan, Wash.  
For Sale by Dealers

Warranted to Give Satisfaction.

### Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.



## EXCLUSIVE Tubular ADVANTAGES No. 4

### EASIEST TO CLEAN

The illustrations herewith tell the story of the difference in the amount of work required in cleaning the Tubular Bowl and the numerous pieces of others.

All dairy separators except the Tubular have bowls filled with complicated contraptions that make an endless and tiresome amount of labor in the kitchen twice a day.

The 3-piece Tubular bowl Cut No. 1 can be washed in three minutes.

The other kinds are about equal to washing dishes for three dozen people twice a day.

Would you think of imposing such a task on your wife every day? Of course, you wouldn't.

Remember this one exclusive advantage of Tubular Separators and also that we have been making them for 25 years, improving them in every respect possible—keeping them so far ahead of others that all weak is a comparison by inspection or actual test. We guarantee they will skim cleaner—are easier to clean—run easier—cost less.

Write for Catalog No. 131 today. It will interest you.  
**The SHARPLES SEPARATOR CO.,**  
West Chester, Penna.  
Toronto, Can., San Francisco, Calif., Chicago, Ill.

which is more water than the stock ordinarily drink.

Animals scour badly when fed the pears alone.

A ration for a 1,000-pound milch cow of 50 pounds of prickly pear, 10 pounds of wheat bran and 10 pounds alfalfa would furnish about the correct theoretical amount of nutrients.

### Curing of Alfalfa.

In making alfalfa hay, says a recent hay philosopher, all the leaves possible must be saved, as they are worth, pound for pound, nearly four times as much as the stems, and to avoid heating and spontaneous combustion the hay must become so dry before stacking that when a handful of stems is tightly twisted together no moisture can be squeezed out. After the alfalfa has been mown, the leaves, so long as they remain alive, pump moisture out of the stems and exhale it through their pores into the air. After the leaves become dead the only way moisture can escape from the stems is by evaporation, and this is a slow process unless the weather is hot and the air dry. When newly cut alfalfa is spread out directly to the hot sun, the leaves are quickly dried and killed, and their help in exhausting the water from the stems is lost. When this is done the leaves may become so dry in a short time that they may easily be crumpled to powder, and the outside of the stems will appear dry, while on the inside the stems are almost as full of moisture as when cut. Alfalfa should be cured as rapidly as possible, because the great loss in curing comes from the shattering off of the leaves and delicate stems. The longer the leaves can be kept alive the more quickly the alfalfa will cure. The less the leaves are exposed to the sunlight, and the more the stems are exposed to the air, the quicker the hay will be cured. The best method of doing this will vary with the conditions of temperature, dryness of air and amount of wind. The digestible food materials in alfalfa hay are more easily dissolved out and lost by leaching from rains than those from most hay plants. Repeated wetting and drying from showers not only cause this loss from washing, but bring on fermentation, and with

it additional loss. Perhaps the one thing that is of material assistance in curing alfalfa hay is a well-made hay crop. Exposure to the direct sunlight results in rapidly drying up the leaves.

### Cream Business of the West Side.

A meeting of considerable importance to the dairy interests in the vicinity of Los Banos, Merced county, was held recently, and a correspondent of the Pacific Dairy Review says that a body of the most prominent dairymen of that section assembled and completed the preliminary steps toward a permanent organization for mutual benefit.

It will be the aim of the association to put forth a product of the highest sanitary degree. An executive committee will have charge of this branch of the cream industry, and will visit the plants of its various members, making suggestions wherever necessary and giving advice and information.

The meeting was conducted in due form and the following officers were elected: President, Chas. J. Welch; vice-president, C. A. Starkweather; secretary, P. W. Pray; treasurer, L. T. Mason.

The forming of this association tells its own story of the rapid growth of the cream producing industry on the west side of the San Joaquin valley. The number of years that section has even been mentioned as a possible dairy region might be counted on the fingers on one hand. With the almost perfect irrigation system, the fine soil and the universal growing of the luxuriant alfalfa, both for hay and pasturage in the summer, and the green foxtail in winter, the conditions for dairying are pronounced ideal.

About three years ago the first creamery station was started, when some eight or ten cans was the daily output. Now there are four such stations, besides a buttermaking plant, and the daily shipment from Los Banos will average about 150 cans of cream, with a daily revenue of between \$1,200 and \$1,500. This is entirely aside from any of the by-products that go with the cream industry. A conservative estimate by leading dairy and creamery men who understand conditions in other portions of the State place the increase in output within the next three years in almost the same ratio that it has been in the past three. This being the case an association for the guidance and benefit of dairymen in and around Los Banos is capable of doing an inestimable amount of good.

### Dairy Notes.

Pleasanton will soon have in operation one of the largest and best equipped dairies in California, according to the Livermore Echo. The Berkeley Farm Creamery Co. has just completed its buildings on the Lilly Dale farm and this week has marked the installation of its first drove of dairy cows, to be followed ten days later by the second drove. When both are installed there will be over 300 cows, and it is estimated the daily output will be in the neighborhood of 900 gallons of milk.

The Pleasanton holdings comprise 176 acres of the finest land in the valley, most of which has been sown to alfalfa, and in spite of the unusually dry year, the stand is a very satisfactory one. In connection with the Pleasanton dairy they have a range of 1,300 acres in the hills southeast of Livermore.

The secretary of the Oregon Dairy Association has completed the report of that body for the past year. It is the most comprehensive report which has appeared concerning dairying on the Pacific Coast.

Oregon has grown wonderfully in fruit, agriculture and general industries, but dairying holds the record for greatest increase, dairy products have risen from a value of \$5,000,000 annually five years ago to \$17,000,000 in 1907.

The Hanford creamery is working on the contract for 100,000 pounds of butter for the United States navy. Robert McAdam, a government inspector, is to supervise the work, to make certain the jacksies will receive the kind of butter Uncle Sam ordered for them.

S. B. Wright, of Santa Rosa, has, says the Breeder and Sportsman, received from F. W. Krempin, of Newcastle, Australia, a handsome silk sash which was awarded the colt Zolock Patchen at a recent great horse show held in Australia. Mr. Wright sold the colt which is by Zolock 2:05 1/4 out of Maud Patchen, to Mr. Krempin, and the latter exhibited him at the show, winning the championship, and then paid the breeder of Zolock Patchen a neat compliment by sending him the sash.

### The New Agricultural Building at the University.

The graduates of the University of California are preparing to carry on an active campaign in every county of the State in the interests of that institution, particularly in the matter of increased financial support. One of the chief questions that they have taken up is that of an adequate building for the College of Agriculture on the campus at Berkeley. The university authorities have been working for such a building for years without success, so that the alumni, now about 7,500 strong, have decided to take the matter up.

It will be remembered that it was through the efforts of the alumni that the two cent tax, from which the chief source of revenue to the university from the State, is derived, was adopted unanimously by the State Legislature in 1897. It is now proposed to awaken popular interest and sentiment to the needs of the university's agricultural interests in the same way that favorable opinion was created for the taxation bill. With this end in view, the council, which constitutes the governing body of the Alumni Association and directs its policies, have been working for the past year, and

through their efforts and the co-operation of local alumni the Republican County Committee of Modoc county incorporated in their platform a plank favoring increased State aid for educational purposes and particularly favoring the erection of an agricultural building at Berkeley. An effort will be made in other counties to secure similar recognition of the university's agricultural needs by both parties. The council intend to carry on their plans on absolutely non-partisan lines.

The president of the association is Edmond O'Neill of the famous class of '79, while the general business management and work of directing the organization is in the hands of Gurden Edwards, '07, the alumni secretary, who has established the general offices of the association at Berkeley.

### Gopher Poison.

A correspondent of the Highland Messenger gives the following as a sure cure for gophers: "It is simply alfalfa and strychnine—two or three stalks of green alfalfa, the ends doubled over and tied with a string so that the tuft on the end somewhat resembles a fist, and a little strychnine mixed with orange juice concealed inside it. Like all other schemes, this is a sure one. It is important to find the main subway and push a bait into each opening, closing the hole behind it with earth. Twenty-four hours later the holes may be reopened, and if they remain open the gopher is dead. I have been following this method now for half a dozen years, and—with my right hand up—it has never failed. If you doubt it, try it."

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## KENDALLS SPAVIN CURE

**FRIEND OF THE HORSE**

No other remedy so sure and speedy for  
Curb, Splint, Ringbone, Spavin, Lameness.

"I have used your Spavin Cure and found  
it the greatest horse medicine I have ever  
seen."  
W. A. Varney, Canada, Ky.

World's greatest liniment for man and  
beast. At all druggists. \$1 a Bottle; 9 for  
\$5. Get the genuine. The great book,  
"Treatise on the Horse," free at drug  
stores, or write

**Dr. E. J. Kendall Co.,**  
Enosburg, Falls,  
Vt.

### FOR SALE.

1-2-Year-Old High-Grade Merino Bucks, \$10 per Head. H. G. BROWN, Elmira, Cal.

## Pasteur's Anthrax (Charbon) Vaccine

Used for 25 years in Europe and 13 years in U. S. A. Price: \$1.75 per double tube of 10 large or 20 small doses.

**Important.** The tubes of vaccine freshly made and imported this year are dark yellow or amber. Refuse last year's vaccine in blue tubes. In ordering specify "Sorby."

**SORBY VACCINE CO. (Inc.)**

(General Agents U. S. A.)

161 Randolph Street, Chicago.

**SERWE & PRIEN**

(Distributors for Pacific Coast.)

San Francisco. Los Angeles. Seattle.



## The Poultry Yard.

### The Green Food Question.

By M. R. JAMES.

Just now the question which confronts the average poultryman is how to provide sufficient fresh green food for his fowls. Each day the foothills and fields grow browner and green things scarcer. Inopportunely, the demand for green feed increases and the supply decreases. The hens, having been pushed for egg-production during the past month, especially need this food as they go into the moult to bring them into condition, while the young stock, the pullets that are to lay the nickel eggs in November and December, should have all of it that they can

green feed. A good quality of this run through a clover cutter and steamed with the mash is an excellent substitute for the real article. Some poultry raisers simply dampen it over night and feed it in troughs. Alfalfa hay together with sprouted grain meet the requirements of the fowl and answer the green feed question when there is no other source of supply. It is profitable to occasionally prepare the latter even when not required for greens, as the value and bulk of the grain is increased some four-fold, while it makes a wholesome change for the fowls. Its preparation is simple. Put the desired quantity of grain (barley is best) to soak 24 hours in water as warm as the hand may be comfortably held in. Then pour it into shallow boxes that have been prepared with good drainage. Let the grain cover the bottom to about an

every fortnight, the fowls may be given a feed of this appetizing fresh grain and green feed every day.

[In discussing timely poultry subjects, the RURAL PRESS will be glad to hear from the poultry raiser: his methods and experiences; his failures and successes. An exchange of ideas will help all. The RURAL PRESS will appreciate suggestions, opinions and news upon poultry topics.—EDITOR.]

### Orpingtons.

By M. R. JAMES.

The Orpingtons belong to the English class of fowls and occupy the same place as the larger breeds of the American class, being a general purpose fowl and

is a millionaire who can afford to hold his fowls for any price he pleases to ask; the purchaser is a wealthy woman who can afford to gratify a whim at any price, and the amount paid for the pen is no more extravagant from her viewpoint than \$7.50 would be to many another woman.

### Shearing Pigeons.

The following in the Denver Post is certainly a unique "chicken story:"

I. F. Ramacciotti of San Francisco is one of the principal owners of an unique industry. He has a pigeon farm of 10,000 acres situated on an almost impenetrable mountain top, not far from Boonville, Mendocino county, California, thirty miles from the Pacific coast. The company has 80,000 pigeons, and the down is mixed with Australian wool and a cloth of the finest texture made. The wool is bought by the Oregon Wool Co., which pays \$2.90 per pound for the down to the owners of the pigeon farm.

The industry is the result of a secret discovered by George Maxwell of Santa Rosa, Cal. The feed given the pigeons makes the down valuable. There is a trick in the shearing of them that no one else in the world is said to know except the employees of this particular farm. Mr. Ramacciotti says it has cost a fortune to start the unique industry, but it is now on a paying basis.

### Poultry at the State Fair.

There is considerable inquiry among poultry breeders in the State relative to offerings of the State Board of Agriculture in the way of prizes, and these are resulting in a big demand for space. The fact is there has been a change in the entry fee, which formerly called for \$5, and the exhibitor was then entitled to enter as many birds as he wished; it is now made 50 cents for each bird up to ten, then 25 cents for each additional bird entered. In this way the small breeder who has a few high-class fowls can enter these for 50 cents each, and this results in more exhibitors and a better class of exhibits.

We were pleased recently to learn that A. R. Coulson, the "Chicken Doctor," was back again in California at his old business. Mr. Coulson built up a great chick food industry at Petaluma a few years ago, then went to Kansas City, where he started another house. Now he is in San Francisco and is general manager of the Western Feed Co., located at 365-371 McAllister street. Although having been started but a few months the company is sending out a carload of their products daily and in a short time expect to double the amount. The three leaders of the Western Feed Co. at this time are: The Egg Maker, the Chick Saver and the Scratch Feed.

The progressive poultryman is always open to conviction.

### POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

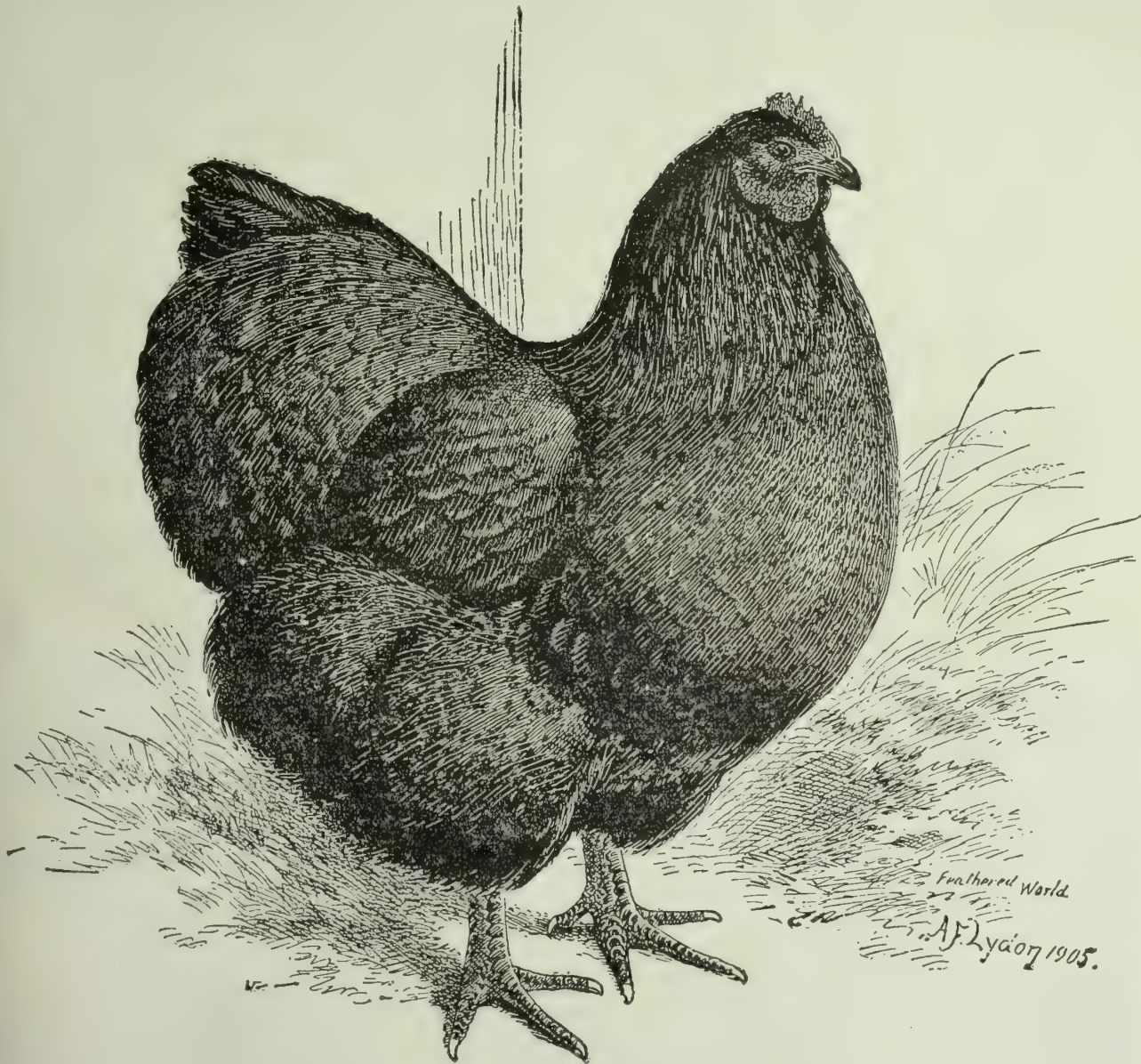
**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.



TYPICAL BLACK ORPINGTON HEN.

eat at least twice a day, and would be better still to range among growing vegetation. In fact, a full supply of this class of food, together with the proper summer care of the fowls, will decide the question of profit or loss in the year's poultry work. An abundance of fresh green food largely takes the place of meat and lessens the amount of grain required—an important item in this season of high-priced feed-stuffs.

"But that don't help us any when we haven't the green feed," some one grumbles. It should make us wise for another season, however, and in the meantime we must consider ways to get our poultry through the dozen or more dry weeks ahead of us. To buy cabbage or other vegetables is entirely out of the question, and the refuse from vegetable wagons and stores, even when obtainable, is in such a condition that little of it is wholesome for fowls. In the arid sections of the country alfalfa hay is largely used for

inch depth. Tack a single thickness of sacking across the top and set in the sun. Be sure to keep it moist all the time, but do not allow any water to stand in the box; straighten the grain over the bottom evenly until it is set. When there is a healthy green sprout of some two inches, begin to feed by cutting out small squares and placing them on clean boards in the poultry yards. After the roots are matted together care must be taken not to water too often or it will rot at the roots and become unwholesome. Before it sprouts a bucket of water will have to be put on each box two or three times a day, for it does not hold the water and it must not be allowed to dry, but after the roots have formed a mat the water does not run out readily and it only needs a light sprinkling about once a day. If the roots begin to turn yellow it is kept too wet. The roots must be white and sweet and the tops a rich green. By having a number of boxes and starting a new supply about

good layers of brown eggs. Their originator was William Cook of Orpington, England. There are ten varieties of this breed, but only three: the single-comb Buff, White and Black—have been admitted to the American standard of perfection. The standard weight is ten pounds for the cock and eight pounds for the hen, with a pound and a half less for the cockerel and a pound less for the pullet. They are white-skinned fowls with shanks and toes pinkish-white in the light varieties and bluish-black in the blacks. The combs, earlobes and wattles are bright red. The breed has become quite popular in this country and are being vigorously pushed by breeders and specialty clubs. It was from a strain of the White Orpingtons that the pen of four hens and a cock were sold to Madame Paderewski for \$7,500, which seems a big thing in chickens to outsiders, but to the parties concerned it was but a small affair. The owner and breeder of the birds



## The Home Circle.

### The Zoological Orchestra.

The turkey plied the drumsticks, while  
The puppy took the bones;  
The bullfrog played an instrument  
That gave the lowest tones.

The elephant could trumpet, and  
The fiddler was a crab;  
The Katy-did a song and dance  
Upon a graveyard slab.

The inch-worm counted measures, while  
The woodwind turned the leaves;  
The quail, he had to whistle, for  
Those mocking-birds are thieves.

The yellow-jacket's organ point  
Was rather sharp and thin;  
The kitten brought an article  
To string the violin.

The cow tossed off a solo, for  
No one could low so well;  
Her horn was blew and tipped with brass;  
She also rang the bell.

The bee could play upon the comb;  
They wished he hadn't come,  
For all the music that he knew  
Was "Hum, Sweet Hum."

—H. W. Loomis in Success Magazine.

### The Boy From Up Country.

"Are you Mr. John Whiting?" the boy inquired.

"Yes."

"When you are at leisure I'd like to talk to you."

"I can't listen to you now. You'll have to wait until the officer comes."

The boy smiled.

"It's you I want to talk to," he said.

The man looked at him with a frown. Then he turned to his desk, and from a drawer drew two other slips of paper, and compared them with the first. He was doing this when a light rap at the door drew his attention.

"Come in," he said.

A slender man quickly entered and closed the door behind him.

"Ah, Runkle," said the man at the window, "glad to see you." He held up one of the slips. "The third and last warning is here."

The slender man came forward and took the slip. As he passed the boy he looked at him sharply.

"Who is this?" he said.

"A boy who says he saw the fellow who brought the warning. I found him in the outer office."

The slender man, whose gaze was still on the boy, had a quick, sharp way about him, and his eyes were singularly keen.

"What business had you in the outer office?" he asked.

"I came to see Mr. Whiting."

"What for?"

The boy looked at the man by the window.

"My business was with Mr. Whiting."

"I want you to give me a job."

"Didn't you know that Mr. Whiting never sees applicants for work?"

The boy smiled.

"He sees me," he said.

The slender man threw a quick glance at the factory owner. Then he turned to the boy.

"What about these men who brought the paper? How many were there?"

"Three."

"Describe them."

"They were dark and undersized and plainly dressed."

"Yes. Would you know them if you saw them again?"

The boy paused.

"I think so," he said.

"Any peculiarities about them?"

The boy half closed his eyes.

"One of them had a white scar on his forehead, high up in his hair. The tallest man had lost the top of the little finger on his right hand. The shortest man, the one who left the paper, walked just a little lame."

The slender man stared at the boy. "How did you happen to notice all his?"

The lad smiled.

"I've been a boy on a farm all my life," he answered, "and when there ain't much of anything to see I guess you get to noticing little things."

The slender man nodded.

"I suppose you'd know me again if you met me?"

"Guess I would."

"But if I was disguised?"

"Guess it wouldn't make any difference. Th' rim of your left ear looks as if it had been touched by a red-hot iron, an' there's a little white speck in your right eye."

"What's your name?"

"Thomas Clayton."

"Where's your home?"

"Upstate. I've been living on a farm near Bruceville."

"And what are you doing in the city?"

"Came down to make my fortune. Didn't get here until this morning. Should have been here yesterday. The freight train got ditched an' I had to do some walking. Then I helped a fellow to get his automobile out of a hole in th' road an' he gave me a ride. An' I walked some more, an' a fellow who couldn't handle his young horse gave me another ride—I did the driving—and now I'm here."

"Your trip didn't cost you much," said the detective, his eyes on the shrewd young face.

"Nope. I had just \$37 when I started, an' I've got \$53 now."

The detective suddenly smiled. Then his face grew serious and he joined the factory owner at the window. They talked in low tones, looking at the boy from time to time. Presently they came forward.

"Thomas Clayton," said the detective, "you have stumbled on a peculiar condition of affairs. The three men you saw in the outer office were blackmailers. They were trying to extort money from Mr. Whiting here. Do you know what that means?"

"It means that they're trying to scare him into paying them something," said the boy.

"Yes. They want \$5000 from him. They threaten him. They tell him that they will destroy the factory if he doesn't leave the money in a certain place. They have sent him two letters before—this is the third. Listen to what they say." He took the slip of paper from the factory owner and read it aloud.

"You have had two warnings," the detective slowly read, "and this is the third and last. You get one more chance. If the \$5000 is left at the place—you know where—you won't get hurt. But if it ain't there inside of forty-eight hours we are going to smash things and hurt you. Keep away from the police. No more warnings. From you know who."

The detective looked at the boy.

"Do they mean it?" the lad asked.

"I think they mean it."

"That's a poor way to make money," said the boy.

"They'll make no money here," replied the officer. "But they may do some mischief. We hope to catch them before they get the chance. Your keen eyes have suggested an additional way of blocking their game." He turned to the factory owner. "Look the lad over, Mr. Whiting. He's keen and he's quick and strong. He's an ambitious boy, he wants to climb. If he does the thing he is expected to do he will be rewarded. Is that right, Mr. Whiting?"

"Quite right, Runkle." He put his hand on the boy's shoulder. "If you can help capture these scoundrels, if you can in any way prevent them from carrying out their threats, I promise you a place here in the factory where you are sure to rise if you are the boy Runkle and I take you to be."

The boy flushed.

"Tell me what I am to do," he said.

"I can do that very quickly," replied the detective. "Beginning tomorrow morning you are to watch the factory from the outside—more especially this end of the building. You are to watch in a way that will avert suspicion. You are to keep a sharp lookout for the three

men you saw in the outer office. If you see one of them you will prevent him from doing harm if you can. Do you know what a bomb is?"

The boy nodded.

"I've read about them."

"No doubt these fellows will endeavor to set a bomb against the office wall. I size them up as being of that stripe. You must look out for this. You'll have to change your clothes and you ought to be employed at something."

He paused and wrinkled his forehead.

"What do you say," suggested the boy, "to my being a street cleaner?"

"The very thing," cried the detective.

"I mean the kind with the broad hoes and the little carts," said the boy.

"Yes, yes, that's the thing. You can take lots of time and keep your eyes open, too. You will start in at seven o'clock tomorrow morning. You will bring your lunch and eat it sitting out there on the curb. Here." He scribbled an address on a card and handed it to the boy. "Come there this evening at eight o'clock and get your outfit and instructions."

The next morning a shambling young fellow appeared on the street in front of the Whiting factory. His suit was of a grimy gray, and he carried a broad hoe and trundled a little cart. He was a deliberate worker, this cleaner. It took him a long time to get the crosswalk scraped to his fancy, and it was close to noon before he had cleaned the gutter opposite the office section of the big factory. Then he took his lunch pail from its hook beneath the cart, and, sitting on the curb, deliberately ate its contents.

He thought over what the detective had told him the night before. He understood why he could do this work better than an older man. If an officer did the watching the plotters would take some secret means for securing revenge. This the detective wanted to avoid. He wanted the desperate fellows to believe the coast was clear while he closed in upon them from the outside.

The boy had seen nothing to rouse his suspicions as he scraped in the street. The factory owner had passed him twice without a look, and people came and went, but he saw no suspicious face.

So the next day passed uneventfully and the next morning found him back at his post of duty. It was a dark and rainy day. For the most part the rain was more like mist, and the boy, toughened by years of outdoor labor, worked on without heeding it. When the rain fell faster he stepped into a sheltering doorway and waited until the downfall slackened. And the morning wore away and it was mid-afternoon.

He was standing in a doorway of the factory at a little distance from the office front when a man crossed the street and passed him at a leisurely pace. The man's hat was pulled down and his coat collar turned up. He did not look at the boy, but the boy's eyes searched the half hidden face of the man.

He waited a moment until the man had passed a little ahead and then he slipped from the doorway and followed him. Without stopping the man stooped and left a brown package on the broad outer sill of an office window, and at once quickened his pace. The boy, following close, caught up the package, which gave forth a whirring sound as he raised it, and with a strong swing flung it across the highway and beyond the opposite sidewalk, where it fell on the loose soil of the vacant lot. Then he started after the fleeing stranger. In a half dozen strides he caught him and clutched him and held him fast. As the fellow struggled in the strong grasp he gave a quick cry and two other men ran from the shelter of a nearby doorway to his assistance. There was the gleam of a knife—then came a frightful roar and a crash of glass and the boy remembered no more.

When he awoke he was in a beautifully furnished room, a room that seemed a part of a dream, and the factory owner was bending over him.

The lad looked up with a faint smile.

"Town's a pretty lively place," he murmured.

The man softly laughed.

"You have good cause to think so," he said. "But it's all coming right. You'll be out again in a few days and that place I promised you, or a better one, is waiting in the factory."

The boy nodded and his keen eyes roamed around.

"I seemed to have come down in a palace," he said.

"I had you brought to my home," the man explained, "and you are to stay here until you are quite well again."

The boy drew a long breath.

"And what happened?"

"Well, you saved the office and several lives—perhaps mine—by your quick handling of the bomb. In turn the bomb may have saved you. One of the wretches had a long knife in his hand when we picked him up. Two of the fellows were badly hurt, and the third one was held in your throttling grasp. All three, if alive, will be sent where they can do no more harm."

The boy looked up with another faint smile.

"When I said I meant to rise," he murmured, "I didn't expect to be blown up!"—W. R. Rose, in Cleveland Plain Dealer.

### Politeness Should Begin At Home.

True politeness is founded on consideration for others, yet it is so much a matter of form or habit that politeness is sometimes shown where there is no consideration; it is sometimes neglected where there is affection and every reason for kindly consideration.

Thus, in the intercourse of near relatives made familiar with each other by daily meetings, there is naturally less formality than between people who are only thrown together by chance for a few hours or days at long intervals.

But along with the laying aside of formality some necessary features of politeness are sometimes sacrificed by relatives and very close friends.

The youth who is careful to salute his lady friends and acquaintances according to the usage of good society sometimes forgets to pay to the same respect to his sister, not because he is wanting in affectionate regard, but because he has grown so familiar with her that it seems awkward to treat her in any formal way. Yet when he meets her in company he should, out of his consideration for her, be markedly polite and attentive.

Although politeness necessarily follows to a great extent set forms, it should have its origin in affection for the individual, or in a more general way, in consideration for others.

It is estimated, says Harper's Weekly, that the annual aggregation of the circulation of the newspapers of the world is some 12,000,000,000 copies. To grasp an idea of what these figures mean one should be told that these papers would cover no fewer than 10,450 square miles of surface; that they are printed on 781,250 tons of paper; and, further, that if the number (12,000,000,000) represented, instead of copies, seconds of time, it would take more than 333 years for them to elapse. In lieu of this arrangement, we might press and pile them vertically upward to reach our highest mountains. Topping all these and even the highest Alps, the pile would reach the magnificent altitude of, in round numbers, 500 miles. Calculating that the average man spends five minutes in the day reading his paper (a very low estimate), we find that the people of the world altogether annually consume in the reading of their papers an amount of time equivalent to 100,000 years.

"Dose Irish make me sick, always talking about vot gread fighders dey are," said a Teutonic resident of Hoboken, with great contempt. "Vhy, dot Minna's veddung der odder nighd dot drunken Mike O'Hooligan bittid in, und me und mein bruder und mein cousin Fritz und mein friendt Louie Hartmann—vhy, ve pretty near kicked him outd of der house!"



## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

### Audubon Was A Missouri Grocer.

It is not generally remembered that the worldwide reputation of Audubon as a naturalist, incidentally, is due to his failure to establish himself permanently as a Missouri grocery merchant and a dealer in the best brands of Kentucky whisky.

In 1810 he and Ferdinand Rozier of St. Genevieve loaded a keelboat at Louisville, Ky., with 310 barrels of whisky and groceries and started down the Ohio and Mississippi to St. Genevieve to open a grocery store. The trip was made during the winter, and the streams were so full of ice that the boat was drawn up against the bank and winter quarters were established just below Cape Girardeau.

When St. Genevieve was reached, after the opening of navigation, the firm of "Audubon & Rozier" opened its store and did a prosperous business. But the business was done by Rozier, for Audubon preferred the woods to the counter and devoted more of his time to sketching and stuffing birds than he did to marketing the 310 barrels of good Kentucky bourbon, or any other groceries. This led to the dissolution of the partnership. April 11, 1811, Audubon, convinced of his unfitness for business, sold out to Rozier and took up the work for which he was better fitted than anyone who had lived before or who has lived since, and from a fourth-rate grocer became the great ornithologist. The grocery business which Audubon abandoned grew until finally it extended throughout all of upper Louisiana.

### A Woman's Chances.

It has been estimated that the percentage of a woman's chance to marry at different ages is as follows:

One-quarter of one per cent, from 50 to 56 years of age.

Three-eighths of 1 per cent, from 45 to 50 years of age.

Two and a half per cent, from 40 to 45 years of age.

Three and three-quarter per cent, from 35 to 40 years of age.

Fifteen and a half per cent, from 30 to 35 years of age.

Eighteen per cent, from 25 to 30 years of age.

Fifty-two per cent, from 20 to 25 years of age.

Fourteen and a half per cent, from 15 to 20 years of age.

### The Idle Chickens.

Little Margie on her first visit to a farm was told to wander about the barn and search for eggs. Some time later the child returned almost in tears.

"Couldn't you find any eggs, dearie?" asked her mother.

"No," replied Margie wearily. "I think it's mean, too, 'cause lots of hens were standing around doing nothing."

### Pith, Point and Pathos.

A figure is a dressmaker's efforts to improve on what Nature called shape.

Genius generally has to employ mere talent to assist in getting the works of genius sold.

Lots of men can make fools of themselves without waiting to fall in love as an excuse for it.

No man is ever ready to take advice until it is too late for the said advice to do him any good.

As soon as the world starts arguing about religion Satan feels able to rest from his labors a little while.

It is funny how much a man and woman will believe before marriage and how little after the knot is tied.

When a man keeps yelling for justice it is a safe bet that he would dodge if he saw it coming toward him.

The penalty of fame is having some biographer get busy and print things about you that you wanted forgotten.

It makes a man feel mighty peculiar to hear a woman tell something wrong, and not dare to correct her about it.

Reconciliation is too often merely the wait between the rounds of the battle for the contestants to catch their breath.

### Raising A Boy.

Somebody has figured out that the raising of a boy from birth to twenty-one years of age costs parents an average of \$4000 each. The question rises, would not some other line pay better? That depends on whether you have spent the \$4000 wisely. If the boy, under your able tutelage and expenditures, becomes a loafer or a sot, you would have done better to have kept the \$4000. If he becomes a useful man, grows up to be level-headed, healthy and honest, you have done the best work of your life, for you have added to the real capital and backbone of the nation. The investment of money in rearing children may be wise or foolish, just as any other investment. — Waitsburg (Wash.) Times.

### Impecuniosity.

The editor of the Times attended a Jersey cattle sale. It was his intention to buy a bull or two, a few cows, and a lot of heifers.

He saw an aged bull sell for \$5000, and a yearling for \$1500. He didn't purchase a bull.

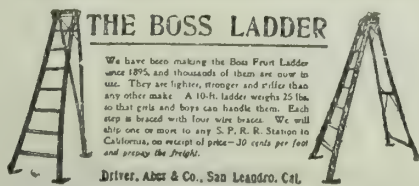
He saw a cow sell for \$2600. He decided not to buy a cow.

He saw one heifer sell for \$1650, and weanlings change hands at \$400. He concluded not to invest in heifers.

He is now in the market for a kind, gentle, unpedigreed milk goat.

The twins were being congratulated upon the arrival of a small brother when the neighbor enquired, "Well, how did you boys like the boy?"

"Oh," answered Howard nonchalantly, "we thought it was all right; but mamma would rather have had an automobile."



### Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. **Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00.** Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

## IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

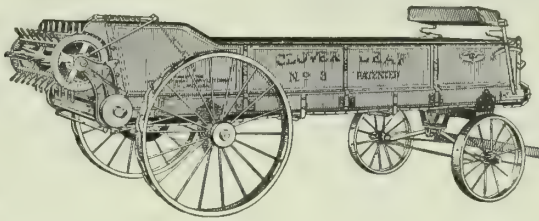
IF you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense. For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading.

The Cloverleaf Endless Apron Spreader  
The Kemp 20th Century Return Apron Spreader  
The Corn King Return Apron Spreader

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.  
(Incorporated)



You will make no mistake in buying any one of these right working, durable I. H. C. spreaders.

I. H. C. spreaders are not built excessively heavy, but they have the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but all have good strong broad tired wheels, simple and strong driving parts, are easily and conveniently controlled, and do first class work with any kind of manure.

Any I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

If you prefer, write direct to our branch house nearest you for any information desired.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which seed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,  
President John Crouch Land Company

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## ORANGE SEED-BED TREES

One year old sweet orange and sour orange seedlings; get your order in early. Now is a good time to plant.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.



## THE MARKETS.

San Francisco, July 22, 1908.

Unless otherwise noted, quotations represent prices paid to the growers.

### WHEAT.

The local market remains quiet, though somewhat more interest is taken than a week ago. Prices on all grades show an upward tendency, with an advance on all spot offerings of from 2½ to 5 cents. Present quotations are for the most part only asking prices, as very few of the buyers have done any business since the advance. Increasing quantities of new-crop wheat are offered, California white Australian being quoted at \$1.70 to \$1.75. Transactions in December wheat are few, but the price is higher.

California White Australian	\$1.70 @ 1.75
California Club	1.65 @ 1.67½
California Milling	1.67½ @ 1.70
California lower grades	1.40 @ 1.60
Northern Club	1.65 @ 1.67½
Northern Bluestem	1.67½ @ 1.72½
Northern Red	1.65 @ 1.72½
Turkey Red	1.67½ @ 1.72½

### BARLEY.

Trading is still very slow in barley locally, though there is some buying all the time, and some activity is observed in other parts of the State. Arrivals are rather light this week and prices show a much stronger tone. Brewing and shipping grades are quoted a little higher and sales of choice feed have been made 2½ cents above the top price of last week.

Brewing and shipping	\$1.33½ @ 1.35
Chevalier	Nominal
Good to Choice Feed, per ctl.	1.27 @ 1.32½
Red, feed	1.30 @ 1.45

### OATS.

The principal feature in this grain is the speculative buying of red oats for seed purposes, causing an advance in the best quality. Feed grades of red, however, are easy, and other varieties are as dull as ever at unchanged prices. Stocks are low and very little is offered, but there is very little spot demand.

Choice white, per ctl.	\$1.45 @ 1.50
No. 1, white	1.35 @ 1.40
Gray	1.40 @ 1.45
Red, choice	1.47½ @ 1.52½
Red, feed	1.30 @ 1.45

### CORN.

Very little business is being done in this market and no California grain is offered. The Western grades have taken a sudden jump in price and are firmly held. Supplies of these grades are light in the producing sections, with the growers holding for high prices.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	Nominal
White	Nominal
Western State Yellow	1.87
White, in bulk	1.95
Mixed, in bulk	1.87
Brown Egyptian	Nominal
White Egyptian	Nominal

### RYE.

Quotations on this grain are unchanged, being practically nominal, as there is very little moving.

California new, to arrive	\$1.35 @ 1.40
Spot, old	1.47½ @ 1.50

### BEANS.

The bean market continues very steady, with a strong shipping demand, mixed carloads for the Southwest still being the leading feature. Stocks are now very small, particularly of white beans, and any increase in the demand would cause an advance. Reports from the growing districts are conflicting as to the condition of the crop, a good stand being reported in some localities, while in others the plant looks poor and will give only a light result. Spot limas are firm on account of the small stocks on hand, but future limas are quoted a little lower in some quarters.

Bayos, per ctl.	\$3.20 @ 3.25
Blackeyes	3.25 @ 3.50
Butter	4.50
Cranberry Beans	2.75 @ 3.10
Garvanzos	2.50 @ 3.50
Horse Beans	2.00 @ 2.50
Small White	4.40 @ 4.60
Large White	4.40 @ 4.50
Limas	4.40 @ 5.00
Pea	4.40 @ 4.50
Pink	3.25 @ 3.35

Red	3.25 @ 3.75
Red Kidneys	2.75 @ 3.00

### SEEDS.

This is the off season in the seed business and very little buying is being done. Prices show no change since last week, most varieties being practically nominal. The following prices are quoted by dealers in San Francisco:

Alfalfa per lb.	17½ @ 20 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3½ @ 3½c
Canary	4½
Flaxseed	3
Hemp	4½ @ 4½c
Millet	2½ @ 3½c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

California millers quote the same prices as formerly, but Kansas and Dakota flours are higher. Business is about up to the average of the last few months. Little is moving to the Orient, either here or from the north. Japan now produces about 6,000,000 bags of flour annually, consequently taking much less of the American product than a few years ago.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

### HAY.

After a flurry which sent choice wheat hay up to \$18 per ton in some cases, there has been a slight easing off and the extreme figure is now 50 cents lower. Nevertheless prices are quite firm and it begins to look as though the holders of hay had charge of the situation. Local business is quite slow and dealers continue to predict a reaction. It is understood that large quantities of hay are awaiting shipment and the fact that the high prices brought out fully 25 per cent larger shipments this week than for the week before, seems to indicate that hay can be had if the right price is named. The export business is very light, with no immediate prospects of a turn for the better. In the meantime arrivals continue heavy, though there is beginning to be talk of a car shortage in certain quarters.

Choice Wheat, per ton	\$15.50 @ 17.50
Other Grades Wheat	11.00 @ 15.00
Wheat and Oat	11.00 @ 16.00
Tame Oat	11.50 @ 15.50
Wild Oat	10.00 @ 13.50
Alfalfa	9.00 @ 13.00
Stock	8.00 @ 10.00
Straw, per bale	45 @ 70c

### MILLSTUFFS.

Northern millers are firm in their quotations on bran and millstuffs, and the local demand keeps up fairly well, but the local market for bran and middlings is easier, with prices slightly reduced. Shorts are stronger at an advance. Other lines are unchanged.

Alfalfa Meal (carload lots) per ton	\$22.00 @ —
Jobbing	23.00 @ —
Bran, ton—	
White	29.50 @ 31.00
Red	28.00 @ 29.50
Broom Corn Feed, per ctl.	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00 @ —
Jobbing	26.00 @ —
Corn Meal	39.00 @ 40.00
Cracked Corn	40.00 @ 41.00
Mealalfa	22.00 @ —
Jobbing	23.00 @ —
Middlings	32.50 @ 35.00
Mixed Feeds	23.00 @ 28.00
Oil Cake Meal, per ton	36.75 @ 38.25
Rolled Barley	27.50 @ 28.00
Shorts	31.00 @ 32.00

### VEGETABLES.

Onions are still plentiful in this market and prices on both reds and yellows show some reduction. There is a good demand for shipment, however, which prevents stocks from becoming burdensome. Local vegetables, cabbage and cauliflower, are higher. Miscellaneous lines of garden truck are in large supply, and some lines are inclined to weaken, but contrary to expectations prices show little decrease, a number of vegetables being higher. Summer squash is weak, but all good lots of tomatoes and cucumbers are quite steady. Little asparagus is now coming in. Green corn, which has been the firm feature, is now arriving in large quantities and a decline is looked for.

Garlic, per lb., new	4 @ 5c
Green Peas, sack	\$1.25 @ 1.75

String beans, lb.	2 @ 5c
Lima Beans, lb.	4 @ 5c
Cabbage, per ctl.	50 @ 75c
Onions—	
New Red, sack	60 @ 65 c
New Yellow	70 @ 85c
Summer Squash, large box	75 @ 1.00
Tomatoes, box	1.00 @ 1.50
Carrots, sack	75 @ —
Turnips, sack	50 @ 75c
Green Peppers, box	60 @ 75c
Cucumbers, box	1.25 @ 1.75
Green corn, sack	1.50 @ 2.25
Egg Plant, box	1.25 @ 1.50
Cauliflower, doz.	75 @ 85c
Okra, box	1.00 @ 1.25

### POULTRY.

The poultry market shows no improvement whatever in prices, and several lines of less desirable stock are even lower than last week. On account of the high prices asked for feed, many of the California poultrymen are marketing their stock, and local arrivals have continued heavy. With four more cars of Western stock coming in this week, supplies in this market are unwieldy and prospects are not very encouraging. Young roosters, fryers and ducks show a decline. Fancy stock, however, is still in fair demand at steady prices. Prices on turkeys are maintained and some dealers say that there is not enough choice spring stock here to supply the demand.

Broilers	\$3.00 @ 4.00
Small Broilers	2.50 @ 3.00
Fryers	4.50 @ 5.00
Hens, extra	6.50 @ 7.50
Hens, per doz.	4.50 @ 5.50
Small Hens	3.50 @ 4.50
Old Roosters	3.50 @ 4.00
Young Roosters	5.00 @ 6.00
Young Roosters, full grown	6.00 @ 7.00
Pigeons	1.00 @ 1.25
Squabs	1.25 @ 1.50
Ducks	4.00 @ 6.00
Geese	1.50 @ 2.00
Goslings, per pair	2.00 @ —
Spring Turkey, lb.	24 @ 26c
Gobblers, live	\$ 19 @ 20c

### BUTTER.

The only change in prices is on firsts, which are ½ cent lower. There is a feeling of easiness on all lines, however, as arrivals continue larger than the local trade can absorb. A large surplus of extra grade is still going into storage, but low-grade stock has also been accumulating and is hard to dispose of at current prices.

Cal. (extras) per lb.	22½c
Firsts	21 c
Seconds	20½c
Thirds	20 c
Fresh Packing Stock, No. 1	19½c
Fresh Packing Stock, No. 2	18½c

### EGGS.

Increasing firmness is noticed in eggs, with a gradual improving demand and all grades are easily disposed of at higher prices. Extras have jumped 2½ cents, and, while they continue in good demand, trading runs more strongly to the lower grades, which also show a slight advance.

California (extra) per doz.	25½c
Firsts	23 c
Seconds	19½c
Thirds	17 c

### CHEESE.

Arrivals of new California flats continue largely in excess of the demand and are still lower at 10 and 10½ cents. Even at this price the movement for the local trade is very slow, a large part of the arrivals being taken for storage. Oregon flats are ½ cent lower.

Fancy California Flats, per lb.	10½c
Firsts	10 c
New Young Americas, Fancy	13½c
Storage, do.	—
Eastern, New	Nominal
Eastern, Storage	—
Cal. Storage, Fancy flats	—
Oregon Flats	12 c
Oregon Y. A.	14½c

### POTATOES.

Potatoes are plentiful and inclined to easiness, new whites being lower for the best grade. There is a steady demand for shipping, however, which keeps low-grade stock well cleaned up, and fancy offerings are well taken by the local trade.

Oregon Burbanks	75 @ \$1.10
New Whites	75 @ 1.15
Early Rose	75 @ 1.00

### FRESH FRUITS.

Business in most varieties of fresh table fruits is lively, and, while receipts are heavy, prices in general show some improvement over those of last week.

Apricots, peaches and plums bring about the same prices as before, with a strong demand for the best offerings. Bartlett pears are more plentiful and slightly lower. Figs are rather scarce at firm prices. Melons bring better prices than last week and cantaloupes are quite firm. Grapes meet with ready sale and prices are well sustained. Most berries are firmer, but blackberries are inclined to drag.

### FRESH FRUITS.

Apples, fancy	65 @ \$1.00
Strawberries—	
Longworths, chest	\$4.00 @ 7.00
Large varieties, chest	3.50 @ 5.00
Blackberries, chest	2.50 @ 3.50
Raspberries	4.00 @ 6.00
Loganberries, chest	1.00 @ 4.00
Huckleberries, lb.	15 @ 20c
Apricots, ton	10.00 @ 20.00
Plums, crate	30 @ 65c
Peaches, box	25 @ 50c
Figs, single layer, drawer	40 @ 60c
Cantaloupes, standard crate	1.50 @ 2.00
Watermelons, doz	1.50 @ 2.50
Grapes, crate	1.00 @ 1.25
Pears, Bartlett, box	1.00 @ 1.25

### CITRUS FRUITS.

Citrus fruits are in good supply, but most lines meet with ready sale at about the same prices quoted last week. The best lemons are higher, while ordinary stock is easy.

Choice Lemons	\$2.50 @ 3.75
Fancy Lemons	3.25 @ 4.00
Standard	1.25 @ 2.00
Limes	4.50 @ 5.50
Oranges—	
Valencias	3.00 @ 3.50
Mediterranean Sweets	2.75 @ 3.25
Grape Fruit	3.50 @ 4.50

### DRIED FRUITS.

Very little Eastern business is being done in this line, pending the adjustment of terms. There is considerable interest, however, in prunes, both here and in the East, in view of the heavy drop of the last few weeks. Several other lines are now being taken on by the packers, the prices offered being quoted below. In some sections the dried apricots have mostly been taken out of growers' hands. New black figs are being contracted at 2½ cents. The price generally offered for new peaches remains about 5 cents. Packers' prices on old-crop raisins show a general reduction, as quoted below. The old crop is being taken off the growers' hands at about 2½ cents, sweatbox.

Evaporated Apples	5 @ —
Figs, black	2½ @ —
Figs, white	2½ @ —
Apricots, new crop	5½ @ —
Peaches, new crop	5 @ —
Prunes, 4-size basis	3 @ 4c
Pears, new crop	5 @ 6½c

### RAISINS.

2 Crown	3½ @ —
3 Crown	3½ @ —
4 Crown	4 @ —
Seeded, per lb.	5½ @ 5½c
Seedless Sultanias	4 @ 4½c
London Layers, per box	9 @ 1.00

### NUTS.

New almonds are still being bought up at prices formerly quoted, but the packers are not yet naming prices on the new crop of walnuts. Spot stocks are very light and an active movement is expected as soon as the crops reach the market. The almond growers of Sutter county have agreed to pool their crop of about 300 tons, which will be sold to the highest bidder, providing the bids are satisfactory.

Almonds, Nonpareils	11½ @ —
IN L	10½ @ —
Ne Plus Ultra	10 @ —
Drakes	9½ @ —
Languedoc	9 @ —
Hardshell	— @ —
Walnuts, Softshell No. 1	13 @ —
Softshell, No. 2	10 @ —
Italian Chestnuts	10 @ 12½c

### HONEY.

Further shipments of honey are moving from southern California to the East, including a considerable quantity of fancy comb. The amount available in Imperial valley is estimated at about 600 tons, most of which will go East direct. Prices are well maintained in this market and there is a strong demand for the new crop.

Water White, Comb lb.	16 @ 17 c
White	15 @ —
Water-white, extracted	8 @ 8½c
Light Amber	7 @ 7½c
Dark Amber	5½ @ 5½c
Candied	5½ @ 5½c



## WOOL.

Wool is still being bought up for shipment, but the buying season on the Coast will soon be over for the summer. Prices are unchanged and the market shows no great activity, a good many growers being inclined to hold.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15 c

## HOPS.

Hop prices are steady as last quoted, but there is very little business going on in this market. The picking season will soon begin and the California yield is estimated at considerably less than last year. Some fields have not been cultivated and the crop has suffered some damage from insects. A large holdover will, however, tend to hold down prices.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

Some heavy shipments of livestock are being made from San Luis Obispo, both to Los Angeles and San Francisco. Arrivals of hogs have been light, causing some firmness in prices. Dressed mutton and lamb is slightly lower.

Beef: Steers, per lb....	6 @ 7 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7 1/2 c
Small.....	8 @ 9 c
Mutton: Wethers.....	8 @ 8 1/2 c
Ewes.....	7 @ 8 c
Spring lamb.....	9 @ 9 1/2 c
Hogs, dressed, heavy.....	7 1/2 @ 8 c
Light.....	9 @ 10 c

## LIVESTOCK

Steers, No. 1.....	3 1/2 @ —
No. 2.....	3 1/2 @ —
No. 3.....	2 1/2 @ 3 c
Cows and Heifers, No. 1.....	3 @ 3 1/2 c
No. 2.....	2 1/2 @ 3 1/2 c
Bulls and Stags.....	1 1/2 @ 1 1/2 c
Calves, Light.....	4 @ —
Medium.....	4 @ —
Heavy.....	3 1/2 @ —
Sheep, Wethers.....	4 @ —
Ewes.....	3 1/2 @ —
Spring Lambs, lb.....	5 1/2 @ 5 1/2 c
Hogs, 100 to 200 lbs.....	6 1/2 @ 6 1/2 c
200 to 300 lbs.....	5 1/2 @ 6 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., July 21.—(Special Correspondence)—Plenty of orders for the best quality lemons, in fact orders are way ahead of the available supply, and prices have gone up in consequence. Mr. Jones, Mr. Smith or Mr. Brown, the lemon men, are feeling pretty good these days, thank you. Mr. Jones opens his morning mail and dictates half a dozen letters something like this: "Answering your letter, will say that we can sell you a car of the Blue X brand, standard sizes, for \$4 f. o. b. This brand is from the Excellent district and is so scarce that you may have to wait three weeks before we can ship a car. We have the Red Y brand from the Very Good section that we can sell for \$3.50 and ship within a week. Fancy fruit from the Good section will cost you \$3 and we can ship at once. If you can handle a car from the Only Fair Valley we can divert one to you inside of two days."

As a rule the buyers want the best. There are too many foreign lemons in the country from Only Fairville to make this stock much in demand. Dealers have refused to stock up on this sort of stuff, and this accounts for the poor prices received for Sicily fruit this season. In years past it has been the custom of the dealers to buy heavily in May and June in anticipation of hot weather in July. This year they did not do so on account of the poor keeping quality of most of the fruit offered.

The amount of foreign lemons available within the next thirty days is 180,000 boxes, as against 270,000 in 1907 and 220,000 in 1906. A total of 55,000 boxes will be offered for sale this week in New York City.

Orange demand is very inactive and shipments are light. The eastern dealer overstocked for the 4th of July trade that

did not materialize on account of the great supply of peaches and other deciduous fruits. F. o. b. prices have been cut to \$2.75 for fancy brands with but very few exceptions. The auctions are showing an average of \$3.75 delivered, while some special brands run up to \$4.50.

The citrus fruit shipments up to and including Sunday, July 20, were 26,520 cars, of which 3772 cars are lemons. To same date last season, 25,569 lemons, amounting to 2912 cars, and in 1906, 24,244, of which 3727 cars were lemons.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., July 21.—Since the report of the 15th the deciduous market has taken on an advance on all varieties of fruit, with the exception of pears. There is a sharp demand for peaches at the present time and the prices have gone steadily upward the past three days. We understand that some of the fruit shipping concerns have actually more orders than they can fill, and at good prices, too. The prices quoted on Crawfords is 45 cents f. o. b. for immediate shipment, and some markets are obtaining 50 cents f. o. b. It is expected that the price will go even higher on the late varieties of peaches.

All varieties of plums are doing much better. Tragedies sold in New York at 85 cents to \$1.35, Germans \$1.10 to \$1.25, Wickson, 95 cents to \$1.50, Purple Duane 70 cents to \$1.35. As the freight and icing to New York is about 47 cents, deduct this and you have approximately the net amount f. o. b.

Shipments of Sugar prunes have been going forward the past ten days, and we note that one lot sold in Chicago yesterday at \$1.25. Kelseys will be ready for shipment next week. There is a fairly good demand for plums on f. o. b. orders.

The price on pears has been reduced to \$1, although quite a few cars have been accepted at \$1.10 to \$1.15 f. o. b. Quotations of \$1 seem to be in line in view of the very heavy shipments going forward, and there is a good demand at this price. However, as soon as the Sacramento river "rush" is over, the market will undoubtedly advance on pears, and those having later varieties will obtain good values.

The first car of Thompson Seedless grapes was shipped from Lovell on the 16th. This car, of course, will go to auction, and handsome prices will be realized.

Taking the deciduous situation as a whole, it is expected the present demand for peaches will continue, and prices will undoubtedly be advanced. It is also anticipated that there will be a good demand for plums, as there will be some very fine stock shipped the next week. Bartletts will probably remain steady at the present price. Nothing can be said in regard to grapes until after the first cars are sold, and thus the opening price will be established.

Comparative shipments for the season 1907 and 1908 to June 15th are as follows: 1907, 1107 cars; 1908, 1889 cars.

First Grower—Hello, Bill, hear you've bought a hog ranch in the Imperial country; goin' to give up oranges?

Second Grower—Nope. Just preparing for tariff reduction on citrus fruits.

First Grower—How's that?

Second Grower—Goin' to feed my oranges to the hogs if they let foreign oranges in free.

The apricot season in the San Bernardino valley has closed. The crop in that section will aggregate about 1,000 tons, for which the growers received about one-half cent per pound from the dryers. Between 300 and 400 people were employed in handling the crop. In Orange county much of the crop was lost owing to lack of help.

The total citrus shipments from the section north of the Tehachipi for the season to date have been 3,244 cars, with about fifteen cars yet to go out. Of this number, 478 cars were shipped from Butte, Sacramento and Placer counties and the balance from the central part of the State, mostly from Tulare, Fresno and Kern counties.

The cantaloups season in the Imperial valley came to a close this week, with total shipments approximatelg 2,000 cars.

## PUBLISHER'S DEPARTMENT.

H. A. Heath, who for over twenty-five years has been the manager of the Kansas Farmer, has sold his interest in that property and is now in California looking for a good spot to locate and enjoy a well-earned rest. Mr. Heath has been very successful in his business affairs and was well to the front with the cattle interests of Kansas, and if he decides to locate in California we will be the gainer thereby.

The Alexander Pipe Co. of this city have renewed their advertising contract with us after a try-out as to results from using the columns of the RURAL PRESS. If our readers would keep in mind when dealing with our advertisers to mention the RURAL PRESS, we will be helped and the advertiser pleased.

## GOOD ADVICE TO FRUIT GROWERS.

In a letter received this week from Mr. Frank T. Swett of Martinez, he ordered a copy of the coming edition of "California Fruits," and said: "I wish that every new settler coming into California could have his attention called to this useful and authoritative book. It would save many an expensive and useless blunder. Many horticultural books are written by enthusiasts, who are not always gifted with financial good sense. But Professor Wickson, with his long and broad California experience, adds to a remarkable technical knowledge of the subject that rarest and most uncommon thing, commercial common sense."

We have received from the Krueberg Press of Los Angeles, who are printing the book, the first pages and frontispiece, with blank pages, all bound in handsome manner, which shows how the book will look when finished. The new edition will be larger, more handsomely gotten up than the old one, besides carrying more information and being down to date. We will be pleased to show it to those interested. See advertisement on another page.

## A COMPLIMENTARY EDITORIAL.

It is generally true that an external remedy that is good for an animal is also good for the human body, and Gombault's Caustic Balsam is no exception to this rule. In fact, we sincerely believe that there is no liniment or external remedy on the market that is as good or as safe and reliable to apply to the human body as Caustic Balsam. We can safely recommend it in all cases where an external application could benefit. It is also cheaper according to cost because it requires very little, and that little is effective.—Editorial "Horse Review," Chicago, July 14, 1908.

The Fresno Republican states that because growers did not bite at the opening of the market, and are, as a matter of fact, holding out for still better prices, packers have sold short, and the price of dried apricots has gone up to 6 3/4 cents. This at least is the reason given for this increase in price, and it is said that buyers are offering the new figures rather freely. Peaches are said to sell at 5 cents a pound, but so far 3 cents is the highest offered for the new crop of raisins. It is reported that all Malagas and Thompsons will be accepted and shipped only on a commission basis, and that owing to the condition of the Eastern markets, no cash is being paid for them.

## I WANT A FARM

in exchange for the controlling interest in a San Francisco wholesale business, value \$20,000. Business established 10 years and without debts. Books show net profit for past 3 years of \$20,000. Will invoice about \$22,000. Will sell in whole or part or exchange for a paying improved farm in Central California. Ill health only reason for selling. If you want to trade vocations with me, send description of your property and price to E. R. ROWE, 1524 Union street, San Francisco.

**Blake, Moffitt & Towne**  
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

William Jennings Bryan  
Speaks in a Million Homes

This is because the Great Commoner has made Edison Phonograph Records of his ten best speeches, and Edison Phonographs are owned in one million homes in this country.

The newspapers are filled with conflicting reports of what Bryan says in his political speeches, but you can know for certain by hearing these records made by Bryan himself. He spoke into the Edison in his best platform style on the red-hot political issues, and you feel as if you were right there when it happened, for you hear the ringing words and genuine voice of the silver-tongued orator of the Platte.

You get the full effect of his sonorous voice and his wonderful tricks of voice and manner. It is all so natural and life-like that you are apt to find yourself applauding the speaker.

If you own an Edison Phonograph you should send for these ten records immediately. Send a money order for \$3.50 with your order and we will pay the express charges to your nearest railroad express office to any point west of the Rocky mountains.

Bryan speaks on the "Tariffs," "Railroads," "Labor Question," "Trusts" and six other of his favorite subjects. Send for them today.

If you do not own an Edison Phonograph we will send you an outfit (machine, records and all) on ABSOLUTELY FREE TRIAL, and if it is satisfactory you do not have to pay all cash, but can pay for it by the month, with no advance in price; if not thoroughly satisfactory, you may return the outfit to us at our expense. Write today to Clark Wise & Co., 1420 Van Ness avenue, San Francisco.

INDEX TO ADVERTISERS  
Pacific Rural Press

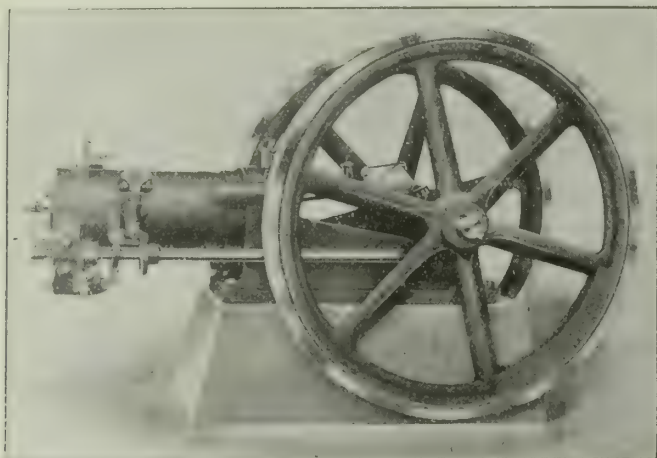
(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	64
Beckman, Geo. V.....	58
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	63
Bray Brothers.....	64
Breeders' Directory.....	58, 59
Brown, H. G.....	58
Croley, George H.....	59
Clark Wise & Co.....	63
Cutter Laboratory, The.....	58
De Laval Dairy Supply Co.....	57
Deming Co., The.....	—
Dewey, Strong & Co.....	64
Dietz Company, R. E.....	61
Disbrow, F. H.....	61
Doak Gas Engine Co.....	64
Driver, Aber & Co.....	61
Driver, E. S.....	58
Fresno Agricultural Works.....	64
Galloway, A. J.....	61
German Kall Works.....	—
Hamlin, Miss Sarah D.....	61
Hart, Ed.....	59
Hopkins & Son, G. H.....	61
Howard Cattle Co.....	58
International Harvester Co.....	61
Jackson & Co., T. W.....	64
Kendall, Dr. B. J., Co.....	58
Lawrence-Williams Co.....	57
Lilly Co., Chas. H.....	57
Lister, Henry B.....	63
Lynch, John.....	58
Meacham, Frank A.....	—
Mountain Copper Co.....	64
Murphy, P. H.....	58
National Wood Pipe Co.....	64
Oakland Poultry Yards.....	59
Pacific Pipe Co.....	—
Pear Blight Remedy Co.....	64
Rix, O. A.....	64
Robinson, John R.....	61
Roeding, Geo. C.....	58
San Francisco Sulphur Co.....	64
Sharples Separator Co.....	58
Silva & Bergthold Co.....	64
Simmons Hardware Co.....	61
Smith, Francis.....	64
Sorby Vaccine Co. (Inc.).....	58
Southern Pacific Railway.....	64
Standard Oil Co.....	—
Stowe, C. A.....	58
Sullivan, W.....	59
Teague, R. M.....	61
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Vermont Farm Machine Co.....	—
Wagner, J. B.....	61
Walte, Thos.....	58
Western Gas & Power Co.....	—



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.  
Sales Office and Factory: 4th and Madison Streets, Oakland.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

July 21, 22, 23, 28, 29.  
August 17, 18, 24 and 25.  
Sept. 15 and 16.  
Sept. 23, 24, 25 to Kansas City Only.

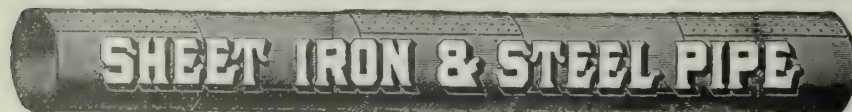
HERE ARE SOME OF THE RATES:

Omaha	. . .	\$ 60.00
Council Bluffs	. . .	60.00
Kansas City	. . .	60.00
Chicago	. . .	72.50
St. Louis	. . .	67.50
New Orleans	. . .	67.50
Washington	. . .	107.50
Philadelphia	. . .	108.50
New York	. . .	108.50

Tickets sold on July dates good for 90 days; those sold August and September good until October 31. Stopovers and choice of routes going and coming. See nearest agent for details.

### SOUTHERN PACIFIC.

FRANCIS SMITH & CO., Manufacturers of



### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

### NATIONAL WOOD PIPE CO.

Patent Machine Banded  
Patent Continuous  
404 Equitable Savings Bnk. Bdg.  
Los Angeles  
Olympia, Washington  
Dooley Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

### GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



### SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

### MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**

150 PINE STREET, SAN FRANCISCO.

### SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "S.S." Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.  
Telephone Kearney 4336.

## PIPE

500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft. black.	Price per 100 feet dipped.
1/4 inch	.84 lb.	2.25	3.25
1/2 "	1.12 "	3.35	4.35
1 "	1.67 "	4.00	5.00
1 1/2 "	2.24 "	5.65	6.90
2 "	2.68 "	6.50	8.00
2 1/2 "	3.61 "	9.00	11.00
3 "	5.74 "	15.00	17.50
3 1/2 "	7.54 "	18.25	21.25
4 "	10.66 "	28.50	32.50
5 "	14.50 "	41.00	46.00
6 "	18.76 "	57.00	63.00

### ALEXANDER PIPE CO.

1083 Howard St., San Francisco, Cal.

## The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1880.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St.,  
Buyers of Grain and Beans, San Francisco, Cal.

Members Merchants Exchange.  
Established in 1855. Correspondence Invited.

## Almond Hullers

—For Sale by—  
A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 5.

SAN FRANCISCO, SATURDAY, AUGUST 1, 1908.

Thirty-eighth Year.

## The Raisin Grape.

By FREDERIC T. BIOLETTI.

In the PACIFIC RURAL PRESS of July 4 an attempt was made to define "the wine grape." This was found difficult because there are innumerable wine grapes. The term "the raisin grape" is, however, a little more definite, as there is one variety, the Muscat of Alexandria, which is used so much more extensively than any other and is so much better adapted to the production of the highest class of raisins that it seems to have a right to this distinctive title.

The word "raisin" is derived from the French word for "grape," and is a contraction of the expression, "raisins secs," which simply means "dry grapes." Our word raisins has a more limited meaning and does not include all kinds of dried grapes. The process of preserving grapes by drying yields four distinct groups of commercial products:

First—Raisins (large raisins or raisins proper). These include many sub-groups distinguished by local and trade names. They vary much in quality, but are all made from large, fleshy grapes, usually white. The finest are made from the Muscat of Alexandria, whether in Spain, California, Chile or Asia Minor. Others of fair quality are

ciently sweet. Unlike Muscat, these varieties must in most cases be dipped in a lye solution to facilitate drying. The best of them are inferior to the Muscat in appearance, texture and flavor.

None of these varieties should be planted as

best Sultanas are made from the Sultanina, called more commonly in California the "Thompson Seedless." Another seedless grape, the Kechmish, called in California "Seedless Sultana," is used here to a considerable extent for drying, but the



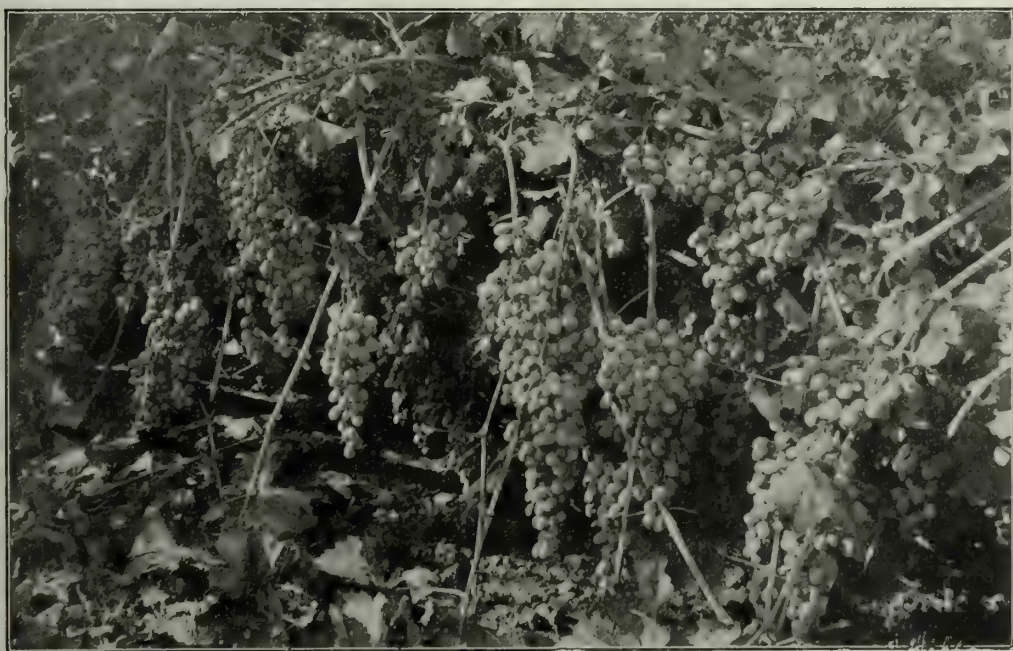
PICKING AND DRYING GRAPES IN A FRESNO VINEYARD.

raisin grapes. They are simply turned into raisins when market conditions make this more profitable than to use them for the table or wine-making

product is not equal to that of the Sultanina. There are no other varieties that can be used for this purpose.

Third—Currants. The so-called "Zante currants" are made by drying the minute seedless grapes known as White and Black Corinth. The black variety is most used. It is smaller than the white, and when dried is dark in color, unlike the Sultaninas, which are desired as light as possible. The White Corinth, as grown and dried in California, is too large and light colored for the market. It is intermediate in character between a Zante currant and a Sultana and is therefore not salable as a good quality of either.

Fourth—Dried Grapes. In the warmer and drier grape-growing regions any variety of grape can be preserved by drying. Most grapes when dried, however, are unpalatable and unsightly and will not be accepted by the trade as raisins for domestic use. Immense quantities of such dried grapes were frequently prepared in the warmer parts of the Mediterranean region and exported to various countries where they were used for making inferior wine. Zinfandel and other wine grapes have been dried in this way in California. Since the re-establishment of the vineyards destroyed by phylloxera in France the production of dried grapes has been much curtailed. With fresh grapes selling for \$5 to \$8 per ton, the condition in southern France for several years, there is no possibility of our supplying the wine-makers of Europe with any quantity of dried grapes at prices they could afford to pay.



THE SULTANINA, OR THOMPSON SEEDLESS.

made from a number of varieties, of which our Malaga and Feher Szagos are typical. All that is necessary for the medium and inferior qualities is that the grapes shall be large, fleshy and suffi-

purposes for which they were planted.

Second—Sultanas. These are the seedless dried grapes made formerly in the Levant, but now extensively produced in California. The true and



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

The fruit harvest is approaching its full tide and there is quite a call for help in the large centers. During August there will be also a demand in the peach and raisin districts. The large apricot crop forced the situation and the low prices naturally make the labor problem harder, because a grower has to be very careful not to put the whole value of the crop on the expense side. At Fresno last week the Japanese contractors agreed to reduce the charge for grape picking to 2¼ cents per tray, a reduction of a quarter of a cent from last season. For tray handling and stacking the rate will be from \$2 to \$2.25 per day, as against \$2.25 and \$2.50 last year. Four thousand men were then employed in the field and 3,000 more expected from all parts of the State in a month. The Eastward movement of fruit fortunately continues as interestingly described in each issue by our special correspondent in Sacramento. If any readers have not noticed yet the special citrus and deciduous fruit markets which we are now publishing, they should look for them.

People who believe in the government ownership of things should read about the Japanese government and irrigation development in Formosa. It is proposed to spend fifteen millions in such works, and the calculation is that this will come back in twenty years or less and that the Government will then have a net annual income of a million. The United States is also spending millions on irrigation development, intending that those who go to farming on the lands will own them in fee simple as soon as they pay the cost of the works without interest. Uncle Sam works to make independent citizens; Japan apparently plans to make lessees in perpetuo. Which is better, to develop private ownership and let the independent citizen do as he will with what he has earned or to build up a government trust to get money for national aggrandizement. We shall know all about it in a generation or so.

United States Assistant Secretary of Commerce W. R. Wheeler, whom we recently commended as a Californian likely to do the whole country great service by the working out of his broad western ideas, believes California and, indeed, the entire country, will see the greatest tide of immigration in its history during the ensuing twelve or fourteen months. In part, he thinks this will consist of those aliens who fled by hundreds of thousands last fall before the advancing hard times back to their native lands. New York steamship agencies alone have 600,000 return tickets out, held by that class of aliens. Each of these is expected to influence one or more of his neighbors to come to the land of big wages. Industries are springing into action all over the land, and the alien laborer scents prosperity as quickly as he forecasts business depression. The activities of the employment

branch of the Department of Commerce and Labor insure, Mr. Wheeler thinks, that the larger portion of this influx will be headed toward the Pacific coast, where many opportunities are awaiting it.

The grape growers and winemakers convention in this city last week decided upon an active propaganda through the "organization of a grape growers' association for the purpose of devising ways and means to inaugurate a campaign of education throughout the United States in order to educate the American people to the use of light table wine at their meals, and thus forever drive out of our country the evil of drunkenness." They propose to appeal to the legislature of this State to pass such laws as may be necessary in order that wine in California shall be permitted to be distributed freely to the people of the State, and this important product of the State shall not be affected by any prohibition law or regulation in any town, city or county in the State of California. This brings a clear issue which should be fought out, and the sooner the better. Does household use of wine increase or decrease drunkenness? The prohibitionists do not propose to tolerate this, if we are to judge by their efforts to stop the traffic in every form, but they should perhaps give some attention to the proposition if thereby they can secure the co-operation of the wine interest to close all public drinking places. We do not know that they could secure that co-operation, but it would be a good counter proposition for them to make and let us see whether or not the saloon makes the drunkards.

Our interest in this matter, at least so far as these present comments go, is to have some questions affecting a great producing interest in the State settled upon some reasonably permanent basis. We are helping people to our utmost to grow grapes and to make a living or a fair return for their investments in this recognized and beneficent industry. Does this industry on its wine grape side make for drunkenness and moral degradation? Those who have most opportunities to observe the facts in other countries claim strenuously that it does not. They are met with counter assertions on the general ground that light table wines contain alcohol and therefore must make for evil, because alcohol in any form is bad. This point is not conceded, therefore there should be some serious attempt made to secure some demonstration which all supporters of good morals can appreciate and act upon. We believe and have said before that the wine interest should hold itself aloof from the anti-prohibition forces who are endeavoring to protect the saloon and fight the local prohibition movements which are so notably improving our rural communities. It seems to us if our wine people persist in alliance with the pro-saloon forces they will not only be ignominiously beaten with them, but they will be in no position to secure any hearing at all for their claim that table use of wine has any relation to the promotion of temperance. It will not do for the wine interest to claim to be a moral factor and at the same time show itself to be an immoral factor by trying to stem the anti-saloon wave. For these reasons it is important to know two things: First, whether table use of wine does make for temperance; second, whether our wine men are willing to help to close places where drinks are sold which do make for drunkenness. The association proposed will be charged to begin a campaign of education. There is no use whatever to try to educate the people into the notion that general drinking is a good thing. Every cent spent in that line will be wasted. The only chance, as it

seems to us lies in proving that home use of light wines tends to health, comfort and sobriety. The people may be willing, for the sake of an important industry, to try out that question if any reasonable line of demonstration can be laid down.

A good many of our readers will be interested to learn, as we have just learned by reading the current news, that Christiansen, the grand old man of Denmark, is a farm boy who took to country school teaching and then advanced by sheer force of character and will, and by keeping his weather eye always open for a rift in the clouds, until he is now Premier of Denmark, Minister of War and Marine, and accounted one of the most remarkable men in Europe. He was born on a small farm in a desolate part of Denmark of poor parents, and in a public career of only fourteen years he not only rose to the highest position in the land, but, as an account says, "demonstrated the final triumph of the downtrodden and despised class from which he sprang." Good for Chris! Has any other boy in any other country gone so far and so fast by the farm-boy-country-school-teacher route? We trow not. The account continues:

"Personally Christensen is a thickset man. His large head is capped with a great mass of tow hair. There is a tinge of gray here and there, but his fifty-two years have not brought any diminution in his forcibleness and enthusiasm. He is at his flat-topped desk twelve hours of the day and sometimes far into the night. He throws off the work of his triple office with ease, and insists upon attending to a great deal of the detail work of each. His associates declare that if he had his way Christensen would administer every office of the Cabinet himself."

What a mine of efficiency for the future biographer and historian to tunnel into. The best we can say of Christensen is that he is of the stalwart American type, and he has doubtless made his way over difficulties which no American has to encounter.

We are beginning to believe that we can calculate the reappearance of agricultural fakes nearly as closely as the astronomers can fix the return of comets. For instance, this one was clearly due to reappear in July, 1908, and it comes from Tacoma, Washington: "The discovery of a new variety of wheat on the ranch of W. W. Ward, seven miles south of Dayton, which it is claimed, if cultivated, will yield 280 bushels per acre, has aroused intense interest. An interesting feature of the species is the head, which really consists of seven distinct heads, united at a common base. Wheat growers believe that if the cereal is found adapted to cultivation, the wheat can be made to yield seven times as much as the ordinary wheat." This is, of course, the old "seven-headed Egyptian" which has been disappearing and reappearing for decades—perhaps for centuries. Each generation has to discover it anew and base wild calculations upon it. What becomes of it between times we do not know. Perhaps it is always in sight somewhere, but only once in a while a man appears whose head is soft enough to be split into seven parts by calculating upon it. It is of no use, except to forget.

The California products protection committee is hard at work, fortunately, with Mr. Arthur R. Briggs as permanent chairman. Mr. Briggs' sulphur-record will make him Governor yet if he doesn't look out. He seems to be just the man for a hard job which has to be nicely done. Mr. Briggs has associated with him as a special committee of three Mr. W. Frank Pierce and Mr. A.



G. Kendall, and they are all right for it. This committee has decided to recommend a plan to the general committee, which shall comprise the creation of committees to consider matters pertaining to special industries in California; these committees to act as an advisory board to the executive board. The plans will be formulated soon and submitted to the general committee at its next meeting. So the affair is going ahead well, and California will be ready for the issue.

At last the limit to the digestive capacity of a goat has been reached. There is a law suit on at Chico by which a goat grower has sued a company of Japanese for the value of twenty of their goats, which died as a result of eating giant powder left within their reach by the Japanese, who were engaged in cutting wood on the land where the goats were pastured. The plaintiffs claim the Japanese were warned not to leave the powder exposed. The Japanese, in turn, demand pay for the powder the goats ate. The goat owners will probably be beaten on the no-fence law. If the Japanese owned or leased the land and had tied up the goats before they died, they could probably collect the value of the powder. It promises to be as interesting as some of the old calf cases and to be remunerative only to the lawyers.

A Nevada assemblyman has a plan by which the homesteaders on the Government land in Nevada will have their freight delivered to them through their irrigating ditches in competition with the railroad. Fitzpatrick has ample capital and plans to make the network of irrigating ditches in Churchill county navigable from the Truckee river into the Carson sink. It will be a great scheme to restore to service all the old prairie schooners which were abandoned on the Nevada plains.

Here is another reason why our people should hurry up and build something which they need, as we remarked in a recent issue. The report comes this week from Seattle that because of a war between the Gray's Harbor and Columbia river mills for control of the California market, the profits of the trade in San Francisco, San Pedro, San Diego and other points has fallen off to such an extent that the mills engaged in the business show only a loss. The claim is that lumber is selling in Seattle on the basis of \$10 for merchantable lumber, and in San Francisco for \$10, \$10.50 and \$11. Other California towns have been quoted the same rate.

## Queries and Replies.

### Zante Currants or Corinth Raisins.

To the Editor: I send you a sample of a new product from Fresno county in the shape of fresh Zante currants from the vineyard of Mr. John S. Dore in Fresno county. Mr. Dore has now about fifty vines, on which he has been experimenting for some years, and this year is the first season they have come into bearing; ten to forty pounds to the vine have been produced. It is stated that the currants bear very prolifically; in fact, as heavily as the Thompson Seedless grape. Mr. Dore is so impressed with the success of the experiments that he will plant out this season as large an area as the cuttings from his present bearing vines will allow.—Receiver, San Francisco.

The fruit is the Black Corinth grape, from which the so-called Zante, or English currants, are prepared. It is interesting to note that this grape was first grown in California and small seedless raisins made of this fruit by the late W. B. West of Stockton in the early seventies. The vine was planted by a good many growers at that period,

and the objection to its farther planting was just what your specimens indicate—the occurrence of too many berries which, in the favoring California climate, develop seed, which, when the fruit is made into raisins, interfere with its seedless character, which is one of the chief points of value in the product. Since the production of Sultana and Sultania seedless raisins has become great in California, and especially since the recourse of seeding raisins has produced such a large product, there seems to be less reason than ever to undertake the production of Corinth raisins in this State.

Another objection is that the Corinth vines often disclose a shy-bearing habit, which makes them less valuable than the other small seedless grapes which we are producing in such large quantities. It is, however, interesting to see such fine specimens as Mr. Dore has produced.

It might be added from the point of view of a chef, that this product of the Corinth grape has a somewhat different flavor and has never been wholly displaced by the small seedless raisins already referred to. For this reason it is enterprising for us to keep the variety under observation in case conditions should favor a California product if a decline in the large output of the Grecian archipelago should open a way for its profitable marketing.

### A Peculiar Vine Trouble.

To the Editor: I forward you a box of grape vines which have been ravaged by some sort of bug. The damage thus far is not very extensive, but they may be found here and there over the entire vineyard of 180 acres. Any information you can furnish in regard to this pest will, I am sure, be a public benefit. I have asked them to procure, if possible, a few of the bugs that you may see the depredator and his vicious work.—Vine-Grower, Woodbridge.

The insect sent is *adocus vitis*, a vicious pest of grape roots, leaves and young growth of cane, but we never saw it do anything like your specimens show. The injury was done to last year's growth and seems to be due to some agency which killed the bark of these canes last winter, so that this summer's growth was made with sap which passed up through the center of the cane which retained its vitality. But the bark being dead there could be no return flow, and, therefore, the new cellular tissue is heaped up near the bottom of the new growth, causing the enormous enlargements which your specimens show. Can it be possible that your vines were under water last winter? This is, of course, only a guess, but something has occurred which destroyed the bark as described. And as the dead outer bark seems to be still in place in some cases, it looks as though it could not have been attacked by an insect or other bark-eating invader. Whatever was the agency of injury to the inner bark, the damage was done several months ago.

### Not Yet Attained.

To the Editor: I would like to know if you have any grass seed that will grow up here. It never rains here in summer, but it rains quite frequently in winter. The weeds grow very fast in the spring, but seem to die out after it begins to get hot. For the months of June, July and August the temperature ranges from 90 to 100 degrees in the shade, but we never have any hot winds. There are two kinds of wood growing on this land I am speaking: greasewood and sagebrush, but mostly greasewood. I was figuring on sowing some grass on this land next fall and if it grew successfully I would get some sheep to turn out on it next spring. There isn't enough water to do any irrigation.—Farmer, Greenwater.

Greasewood often indicates a good deal of alkali, and if that is your case, you may not get summer growth of anything. But aside from that

question and wholly with reference to moisture supply we must say that we have been looking for thirty years for such a plant as you describe, but have about concluded that it is not to be found. We have introduced a number of hardy grasses which will endure moderately dry situations, such as the low lands of the coast or interior river bottoms, but nothing which will thrive upon interior plains or dry slopes either inland or on the coast without irrigation. The best that can be done with such lands, if they offer good winter growth, is to encourage it during the rainy seasons by being careful not to overstock, and especially to allow some growth of seed during the latter part of the rainy season, from which a new growth may start with the first rains in the autumn. It would be a great thing to have our dry hillsides covered with verdure in the summer, but when you consider our winter growth as compared with the dormant season in colder countries under a snow blanket, one has to conclude that the California resting season is, on the whole, shorter than in countries where they delight in green summer pastures.

### Trees in Alfalfa.

To the Editor: As I could not spare the alfalfa this season, I dug large holes and set fruit trees in it and have kept well spaded up for a space of six feet around them. I water the alfalfa about once a month and try to keep water from the trunks of the trees, but do not always succeed. I shall plow the alfalfa another year and cultivate properly. A part of the trees are outside the alfalfa on a deep sediment soil, and cultivated as ordinarily, but as yet given no water, are doing finely, too, making plenty of growth. Should these be watered once or twice? Why are trees injured by the water flooding the trunks?—Grower, Sacramento county.

If the unirrigated trees are looking well, with plenty of good, green leaves, they ought to go through on such a deep soil as you describe without watering if kept well cultivated. The fact is that water standing around the trunks of trees, especially during the growing season, is apt to induce decay of the bark, gumming, etc. The reason is to be sought in the nature of the tree; it is not natural for it to grow under such conditions which may benefit plants of aquatic proclivities. The injury is proportional to the length of exposure, moving water which rapidly disappears may occasion no perceptible injury, but reflected sun heat, even for a short time, may cause serious bark burning.

### Free or Cling Plums.

To the Editor: Please tell me if the following plums are freestones, so that one can pit them easily: Hungarian, Washington, Kelsey and Satsuma?—Enquirer, Los Gatos.

The plums you mention are freestones, except the Satsuma. Only the Washington is, however, suitable for drying, if that is what you have in mind. The others are too thin in juice; that is, have too little sugar, and the Kelsey and Satsuma have a very wry flavor on drying. The Satsuma looks like a piece of shoemaker's wax when dried.

### Grasses for Dry Ground.

To the Editor: I send two kinds of grasses. Will you please tell me the names of them, and are they of any value for hay? They seem to thrive on dry land.—J. H. C., Ruth.

One is "tall oat grass" which we are continually commending as a winter growing plant with considerable drouth resistance. The other is "silvery oat grass" which is of another botanical genus. We have no account of its value. Both will make a rather coarse, moderately nutritious hay.



## Horticulture.

### PRESERVING FRUIT SPECIMENS FOR EXHIBITION.

The putting up of fruits in glass jars with preservative fluid for exhibition purposes is one of the most intricate operations and requires judgment and the wisdom which comes to a bright person through the teachings of experience. It is not a matter which can be achieved by the possession of a recipe, although a recipe is a thing to begin with. Such help to beginners is given here by Professor B. O. Langyear, of the Colorado Agricultural College:

A great many experiments have been made in the attempt to find some fluids or solutions in which the more perishable fruits could be kept for exhibition at fairs and expositions. Some of these have proved very satisfactory for certain fruits, but it is doubtful if any process will ever be discovered by which the softer kinds, such as strawberries and raspberries, can be kept for any considerable length of time without much change in color.

The specimens to be preserved should be the most perfect obtainable, free from blemishes and imperfections. In most cases, fruit of a fair degree of ripeness is better than pretty green specimens.

Exhibition jars should be clear white glass, and preferably with ground glass stoppers. The tall cylindrical form is desirable, especially for the smaller fruits.

The sorted fruit is first carefully placed in the jar, which is then filled with clear water. After standing a short time the water should be poured off so as to remove all particles of dirt from the jar and contents. The jar may then be filled with the preserving fluid and kept in a dark, cool place until the time for exhibition. Frequent examination should be made to determine how well the fruit is keeping. If the liquid becomes colored with the fruit it should be poured off and replaced by fresh fluid.

The following formulas have been successfully used at the Colorado Agricultural College, especially with plums, grapes, cherries, currants and gooseberries:

Formalin, five parts; saturated solution of common table salt, ten parts; water (boiled and cooled) enough to make 100 parts. This may be made up by measures as follows: Formalin, one pint; salt solution, two pints; water, seventeen parts.

When made up, the solution will keep indefinitely. Another solution weaker in formalin has also been used here satisfactorily. The proportions are: Formalin, three parts; salt solution, ten parts; water enough to make 100 parts.

For raspberries the following mixture is recommended: Formalin, one part; glycerine, ten parts; water, 89 parts.

Strawberries may be preserved fairly well in a saturated solution of common salt, and better still in a fluid composed of formalin, one ounce; alum, one drachm; glycerine, five ounces; water, three pints.

Red currents keep best in a solution of corrosive sublimate, one part; glycerine, ten parts; water, 90 parts.

The corrosive sublimate must be dissolved in hot water and the solution and fruit preserved in it should be labeled poison, as it is very deadly if swallowed.

The glass stoppers of bottles and jars may be made perfectly tight by smearing the ground surface with a small amount of light-colored vaseline. This will also prevent in great measure the sticking of the stoppers when it is desired to remove them.

A saturated solution of salt is water containing all the salt that can be dissolved in it.

### NATIVE BLACK WALNUTS.

To the Editor: In a recent issue of your valuable paper you inquire about native black walnuts. We have on our ranch here several quite large black walnut trees. I am not sure they are native, but there is a large brood of young trees coming up around them. Will these make good

stock on which to graft the English walnuts. How old should the young trees be when grafting is done? When a walnut is struck with blight should it be cut back to the stump at once for grafting or is there a particular season for so doing? We are new in this section (the extreme eastern part of Stanislaus county), but find fruit of all kinds does well here and has excellent flavor.

M. & S.

Knights Ferry.

[You can graft walnuts at any size from an inch upwards—the larger the easier, until you get so large a stump that the wood will rot before the wound barks over. You do not need to be in a hurry about cutting back for blight. Walnut blight does not kill the tree like pear blight. You do not gain anything against blight by grafting, unless you have scions which are more resistant than the old tree. That is what every one is looking for now.—EDITOR.]

### STATE FAIR PRIZES FOR RHUBARB.

To the Editor: Please ask attention to the fact that I am offering prizes for a rhubarb contest at the next State Fair to be held in Sacramento as follows:

For best exhibit of winter rhubarb: First prize, \$50 worth of rhubarb plants; second prize, \$25 worth; third, \$10 worth. To all who compete and do not receive one of above prizes \$2.50 worth of plants will be given. This offer open to all growers of the State regardless of where they secured plants.

The time is short to do much in way of forcing for exhibition, but very surprising and satisfactory results can be obtained by following rules or method below, viz.: Cut off all the buds carefully, except a couple of strongest simply cut off close to crown, thus forcing all the growth to a few crowns or buds. Not over one or two should be allowed to develop stems.

To stimulate it to its utmost get a large flower pot or old five gallon oil can, placing same about one or one and a half feet from the plant, having holes inside and bottom. Bed it in the ground so the top is even with surface, between the hills. Fill this often with liquid manure and water, of which too much cannot be used.

A good substitute for liquid manure is nitrate of soda dissolved in water, using about a teaspoonful to two or three quarts of water, applied every few days. The results of either process will be highly satisfactory and surprising and pay any one for the effort.

Exhibitors can exhibit at no expense to themselves if they will place it with their county exhibits. While no limit is placed on size of exhibit, I prefer to see a small box of at least 10 to 20 pounds shown. Quantity more than that does not count.

Quality, size and neatness will dominate in making awards. I shall not compete, though I expect to exhibit several sorts of rhubarb grown without any forcing, among which will be some foreign and medicinal kinds, together with my new Giant. I certainly wish to make it interesting and beneficial to all.

The planting this year has been very heavy. About 200 acres are being planted at Pomona by a local company. Also a large number have put in from five to ten acre fields. Several other large tracts are being considered. Mr. J. R. Loftus of Los Angeles, together with myself and a couple of others, intend to put in from 100 to 200 acres, and probably much more, next season. At Monrovia the company is now in the embryo stage, but we may plant some next month and may put out several hundred acres. J. B. WAGNER.

Pasadena.

### THE ARGENTINE ANT.

To the Editor: You doubtless know of the presence of the Argentine ant over a square mile of territory in East Oakland. I have been expecting an article on the subject to appear in your paper. From the article in the Call it is the most serious thing in the insect line that has ever appeared in the United States. If as bad as stated it behooves our farmers, and in fact everyone else, to awake to the gravity of the situation. If correctly

quoted, one of the professors at the University of California prophesies that unless some method of combatting them is found that they will spread over the whole State of California in ten years.

At present no method of extermination is known. Such being the case it would seem wise to adopt heroic measures at once, even to the extent of condemning the square mile, flooding with oil, and burning, or some similar drastic action, before we are in the condition of part of the Mississippi valley, where it is said to be in complete possession of 5,000 square miles of territory.

The farmers will look to their leading agricultural paper to bring such a prospective menace to the attention of the public.

I am much pleased with the recent improvement in the PACIFIC RURAL PRESS and am loaning some of the late copies to neighbors in the hope of getting you more subscribers. A. W. CARR.

Vallejo.

[The authorities are onto it and conferences are being held. At least four places in widely distant parts of the State are infected. Adjacent is a note on the subject from Professor Woodworth.—EDITOR.]

### WHO HAS ANTS?

To the Editor: Will you kindly request your readers to submit specimens to the Entomologist of the University of California, Berkeley, for identification in any case where ants are unusually troublesome? The reason for this request is the fact that the Argentine ant has recently gained a foothold in at least four localities in the State.

The Argentine ant is much more persistent and annoying than any of our native species, besides being a great menace to horticulturists. Wherever they occur, lines of these ants can be seen going up and down the trunks at nearly every tree in the neighborhood.

The Experiment Station has in preparation a circular which will give a full account of the insect and will be sent free to any residents of the State who desire a copy.

Berkeley, Cal.

C. W. WOODWORTH,  
Entomologist.

## Citrus Fruits.

### PACKING HOUSE POLICIES AND APPLICATIONS.

Following the crisp paper presented at the Riverside Fruit Growers' Convention by Mr. C. E. Rumsey, and which was published in the PACIFIC RURAL PRESS of May 9, some pertinent extempore remarks were made by Mr. P. J. Dreher, manager of the San Antonio Fruit Exchange, as follows:

The best equipment for a packing house is a good, level-headed, sensible foreman. When you have that, the other is all easy. The less machinery you put into a packing house, the better equipment you will have. It has certainly been demonstrated by the results of Mr. Powell's investigations, that the more you handle fruit the more you are likely to injure it, and the less you handle it the better will be the results.

I think that some of the troubles which have been the greatest in the packing house have been machinery that was put in there because the manufacturer had something to sell. It looked nice. It was a nice equipment to talk about, and the party to whom it was offered thought it was good to put it in. Primitive ways were the best. A few years ago—I don't know just how long—some shipments were made of fruit that was packed by growers in the fields up north, from near Auburn, I believe. It was packed in a crude way. It was shipped East in poorly loaded cars; and yet all that fruit arrived without decay. It was all sound. It was a surprise to the Eastern agent of the California Fruit Growers' Exchange at that time, and he commented upon it. Now, the reason was that it went back to the primitive way. The men who did this were the owners of the fruit; they clipped it carefully; they handled it carefully; it was not bruised or brushed or hurt, and it went to the market sound.

There are some things that you cannot dispense



with in a packing house. A box-making machine should be in every well-equipped packing house. We, who live near the coast, need brushes. Some think you do not need them. That is a matter for each section to decide for itself, but when you do brush, I don't think the fruit should be brushed with hard bristle brushes, or, rather, with stubble or wood brushes, and it should not be brushed under heavy pressure. I think dusting the fruit, such as can be done and is now done with some of the better equipped and later brushes, will not hurt it. And I do not think that weights should be heavy. Wherever fruit is more than dusty, wherever the gathering on it be of dirt or smut and is heavy, I believe it will be well to wash it if it can be safely handled—better than by brushing it hard dry.

Now, in regard to the hopper, you have got to have that for your sizer. The hopper that Mr. Rumsey mentioned I think is the best that has been adopted. Have a soft rubber tube if you can, but, in the absence of that, your hopper should be of smooth garden hose, so you will have some give-way in dropping through. Care should be used in handling. Do not chuck the fruit in on the edges of the boxes. I think it would be better to have a very light springy substance to drop your fruit on. When it gets through the hopper, and runs over the brushes, there is only one thing to do, and that is to carry it on belts. Don't roll your fruit. Any kind of chute we have is likely to injure it. Fruit can be carried on belts a long way without injury.

The model packing house, in my judgment, should be built with a drop of a foot, two and a half feet, or three feet, just as is most desirable; and your receiving floor is on a higher basis. You carry your own fruit from the brusher on belts, along your sorters, and bring it down to the level, where it goes over to the roller. You can hardly dispense with a roller or with a sizer of some kind. You must have something beyond the hand for sizing the fruit. I believe a sizer is now being made that handles the fruit quite carefully, drop it upon spongy or loose canvas—not upon a hard surface. And this is an advantage. When that is done, you get it down to the packers, and there, you all know who have been in a packing house, that care is required. No packer can reach into a box of fruit and take it out indiscriminately with long finger nails without injuring the fruit. I think every one should wear gloves in a packing house.

The processes of packing fruit have been improved upon. The grader has been improved upon; and I think it should be so constructed that the fruit be brought together in a compass or place not larger than the box, and the pressure on the box in packing should not be enough to spring the box.

Now, take the brush, the sizer, the boxes and the press, and I think you have all the machinery that the packing house ought to have. I think everything else is waste. If I had a packing house, I would not have a place where the fruit could roll a foot. I would carry it on belts, and I believe it can be done.

You have got to have arrangements in your packing house for cooling your fruit. That is absolutely necessary. Whether you ship fruit under ventilation, or under refrigeration, I do not believe that the car is the proper place to cool it. I think you should have blowers. In your wash room have a blower to take the moisture off and cool your fruit. If you expect to ship it under refrigeration, have it in use. That is not a machine, and yet it is a part of the machinery. Fruit should be carried from the nailers into the pre-cooling rooms and into the car in the most careful manner. We have a packing house equipped at Pomona on the same style that Mr. Rumsey speaks of, with patent rollers. I think we have a good many hundred feet of them. All fruit is taken right from the press, and goes on to the gravity roller, and passes through the different spaces down under the floor, and goes into the pre-cooling room under the floor. In loading it out again, the reverse is the rule. We put fruit in the pre-cooling room and it goes down into the hallway, and it is there loaded into the vestibule of the car. When such an arrangement is made, it is an economy of labor. It is cheaper to run it over these patent ways than any other way, and less injury is done.

## The Vineyard.

### VINE ROOT ROT—WINERY POMACE.

To the Editor: In your issue of July 18, "Grower," of Santa Rosa, inquires as to the prospects of vines grafted on resistant roots (No. 3309) planted where old vines have been dug up the same season.

As regards ravages of the phylloxera he may feel absolutely safe, if his vines are on roots true to name, a matter sometimes in doubt when stock is imported from other countries.

There is, however, a fact worth considering in the immediate replanting of dying vineyards. In vines is prevalent in spots. The root rot may not have killed or very seriously injured the old vinifera vines, but if it is in the soil when young vines are planted, it is apt to kill them in two or three years, and the grower is apt to think it is bugs that have killed them.

When an old vineyard is dug up, the roots should be carefully examined, not with a microscope, but by ordinary common sense inspection. If the old vine's roots are soft and wet, with streaks of white threads running up and down under the bark; if the roots are like soft, squashy bundles of fibres; if the smell is that of an antique toadstool or mushroom, it is evidence of root-rot. And any vine, no matter how healthy or how resistant, is likely to die when planted in the same hole.

Many of these root-rot areas in old vineyards are not over 30 to 50 feet in diameter. Probably the original vineyard was infected with oak-roots left when the land was cleared, perhaps 20 years before.

If such spots must be used for vineyards, the ground should be subsoiled to the depth of two feet and all rotten roots cleared from the ground. A crop of hay or grain should be grown on the land so that the rot may have some chance to disappear.

Root-rot is usually worst on heavy, loamy or sedimentary soils, particularly where drainage is poor. But I have seen it killing a few vines on a steep, almost untillable, hillside, on a clay loam underlaid by permeable shale.

It is apt to exist where large oak trees have been cut. The oak itself does not poison the ground, as many people think, but if the oak roots become affected with the fungus, vine roots planted over them will catch the disease.

The hybrid No. 3306 is more resistant to root rot than No. 3309, but on our own vineyard here I find the most resistant vine to root rot is a hybrid produced ten years ago. It is a cross between Flame Tokay and Rupestris St. George. It is an enormous grower, and seems resistant to the phylloxera after years of trial on infected ground. Alongside of other hybrids which were purposely planted on ground known to be affected with root rot, it is far less affected than any of the others, although it is affected to a slight extent. The vines are about four times the size of Rupestris St. George and of 3309 alongside.

It is only useful as a stock upon which to graft, the grapes being small and uneatable, and only just a little larger than those of Riapria or Rupestris.

**Winery Pomace.**—In a recent issue is a query as to the value of winery pomace as a fertilizer. I have used hundreds of tons of this material with uniformly good results. Ton for ton it is not quite as effective as stable manure, but it is far too useful and valuable to be thrown away, as is too often the case.

There seems to be a popular impression that it may "sour" the land to which it is applied. Well, it will do so if applied two feet deep! But an application of 20 tons to the acre will not damage land in the least. On a valuable piece of nursery land at Lodi, three years ago, we applied pomace at the rate of 20 tons to the acre, with marked advantage to the ensuing crop of bench grafts which we grew the following season.

On our orchard at Martinez we haul out the pomace from the winery into the pear and prune orchard fresh from the winery, dumping from a dump cart in heaps in the orchard, and spreading

it out, when we get time, in December. Not a tree has ever been damaged or soured. On gravelly hillside soil, the wild oats and weeds on the margins of the pomace piles are dark green and lusty, and three times the size of the same plants on unfertilized soil.

Nearly ten years ago the University analyzed a sample of pomace I sent to the station. In terms of commercial fertilizer—that is (if one had to buy the potash, phosphoric acid and nitrogen contained in a ton of such pomace), the value was over \$3 a ton. I would be always willing, if I could get pomace as a gift, as is usually possible, to haul it four miles. It is useful on clay soil for loosening the soil.

On soils very deficient in lime, it might in some cases sour the land temporarily. But on most of our California soils there is ample time to neutralize the small amount of acetic and tartaric acids contained in pomace. If in doubt treat the land with a dressing of 500 pounds of slacked lime to per acre.

FRANK T. SWETT.

[These suggestions are very pertinent and valuable.—EDITOR.]

### RAISINS AND TABLE GRAPES.

At the Riverside convention there was a discussion of table and raisin grapes following the paper of Mr. Blemner, which was published in the PACIFIC RURAL PRESS of May 16 last, and we take

Mr. S. H. Taft, of Santa Monica: I have a grape which I have called the "California Concord." Eight years ago. I found this grape, and found it different and superior, in my judgment, to anything that I had tried. I learned that it was sent down from the north with six or eight Isabellas. I investigated to see if this was true and found that it was. This vine had very much larger leaves and a more vigorous stock than the Isabella, and the fruit was somewhat larger—not so much, but larger. I tried to buy the vine, but could not; and I got some of the cuttings, and from those cuttings I commenced to develop the vines, so that for a few years past I have been selling them wholesale and retail. I will say in regard to the leaf that it is very large. You will find some of them in the Chamber of Commerce. I took some there that measured 14 inches across. I took some there later that measured 18 inches across. It is utterly immune to this disease that has swept the grapes all over the country. There is never a sign of it. Its vigor seems to give it entire protection. I call it the California Concord.

President Jeffrey: Mr. Taft, who is our guest today, is one of our oldest citizens. The grapes he speaks of are nearly as large as olives. It has exactly the flavor of the Concord. It is grown at Santa Monica and is very free from disease. Whether it would be a commercial variety or not we don't know. If Mr. Taft has got a grape which will succeed anywhere and everywhere, we will all be very glad to know it. Mr. Taft does not claim to have created this variety, but he claims to have developed it and brought it out. It is a remarkable grape in itself. Whether it will be a good variety to plant or not, we don't know. [It is probably the "Isabella Regia," or "Pierce Isabella," which originated by bud-variation on an Isabella vine at Santa Clara over 25 years ago. This should be determined before the new name "California Concord" is used.]

Mr. Geo. C. Roeding, of Fresno: It should be borne in mind that there is another large interest outside of the wine industry in this State, and that not only pertains to the table grape, but to the raisin grape as well. You must have some realization of the development of the raisin grape business when I tell you that the production last year was between sixty and seventy thousand tons in this State. The table grapes shipped, if I remember correctly—I am subject to correction in this—amounted to something like 8000 carloads last year. With these facts before you, it is not necessary to believe that the industry of grape growing in this State is going into the ground because the wine business is not in the position that it was a few years ago. There has been a very extensive planting of raisin grapes—more during the past season than of table grapes.

**The Muscat.**—I know of my own knowledge that in Fresno county alone there were at least 5,000,000 Muscat vines sold by nurserymen there,



mostly planted in Fresno county and some of the adjoining counties—not many of the adjoining counties, because of their restrictive ordinances, from which I am a sufferer, I am sorry to say; but these ordinances have not prevented the very extensive planting of Muscat grapes and other varieties in Fresno county and in other counties of the State.

It must be borne in mind that although planting is very heavy all these vines don't grow. There is always a very large percentage of vines that fail to start; and this, with another fact, that many of the older vineyards are gradually going to decay, either from old age or the ravages of the phylloxera, evens up the production when these younger vines come in bearing. I am of the opinion that it is a mistake for one man to do just exactly what his neighbor is doing. Nevertheless, that seems to be the tendency of people in a great many cases. If Muscat grapes happen to bring a very big price in one year, the tendency of all those who intend to engage in the growing of grapes inclines to the planting of that one variety of grape, regardless of whether their soil is adapted to it or not. This is a mistake that a great many planters make. Because a certain variety of grapes has brought a large figure, the tendency is to plant that in preference to anything else. It would be far better if those who intend to plant grapes would plant the varieties best adapted to their soil conditions.

**Other Table Varieties.**—There are a great many other varieties of grapes which are profitable and have been profitable in this State outside of the Muscat; and the table grape business, in my opinion, has a great future. The varieties which people have planted, as a rule, are the Malaga, Flame Tokay, Emperor, and Black Hamburg. I am of the opinion that the Flame Tokay is not adapted to San Joaquin valley conditions; and even in this locality, where the climatic and soil conditions are very much like they are in the San Joaquin valley, I don't think it would be advisable to plant the Flame Tokay—not because it does not bear well, but largely because it does not color well. There has been a very extensive planting of the Malaga and Thompson Seedless in the Imperial valley, and probably a limited planting in this section. There is no doubt that the latter variety has a great future as a shipping grape up to a certain time. There was a car of seedless grapes shipped out of Fresno county last year that sold for a higher price than any carload of grapes ever sold in the United States before. This carload of grapes brought \$3600, if I remember right, in New York, which is the heaviest return ever received for grapes. It is a very promising kind for shipping purposes, but of course must be shipped early in order to be profitable.

This grape is followed by the Malaga, which is a very large white grape. Most of you know of its firmness, thickness of skin, and other qualities it has always carried well; and unless the market is glutted by too many carloads in any one city, it has brought a good price. The latest grape that we have in Fresno that has been planted to any extent is the Emperor. This is very similar to the Tokay, but ripens fully a month later. Most of the shipping commences toward the first of October, and continues up to the first of November, and even later than that. There is another grape which has been extensively planted, and that is the Black Cornichon. It is very similar in shape to the Emperor, ripens a little earlier, and is a heavy producer. It has even a thicker skin than any of the other varieties of grapes, and for this reason has always shipped well.

There are other varieties which I might mention, namely, the Black Morocco and the Gros Colman. Both of these varieties ripen later than the Emperor or any other variety I have mentioned, but they are little known; and the only reason I can understand why they are not planted more extensively has been, as some of the fruit men have told me, because the demand has never been as heavy in the Eastern market for black grapes as it has for red. Otherwise there is no reason in the world why such varieties as the Black Morocco and the Gros Colman have not been planted extensively. They are very good producers and ripen fully two weeks later than the Emperor.

**New Kinds.**—There are two new varieties, one called the Dattier de Beyrouth, also known as the Risington. I predict a great future for this grape. It is something on the form of the Malaga, only

much larger, and has the remarkable faculty of ripening almost at the same time as the Thompson Seedless. It is a beautiful amber color, and in that respect is far better than the Malaga. Another variety, which will probably be extensively planted when it is better known, is the Sultanina Rosa. That is the same as the Thompson Seedless. The true name is Sultanina Rosa, not Thompson Seedless. That is a misnomer. The Sultanina Rosa is identical with the Thompson Seedless, except instead of being white, it is pink; and it is a striking grape to be packed with the Thompson Seedless.

The Dattier de Beyrouth comes from Asia Minor, and it is also grown in Smyrna.

## Patrons of Husbandry.

### GRANGE NOTES.

Sonoma Pomona Grange had a good meeting recently in Santa Rosa. The officers elected for the ensuing term were: J. M. Talbot, worthy master; Walter Church, overseer; C. E. Wingate, lecturer; Hugh N. N. Latimer, steward; Percy Hansen, assistant steward; Mrs. Harvey Gregory, chaplain; H. A. Griffith, treasurer; Mrs. Walter Church, secretary; Mrs. George Brigham, ceres; Mrs. Carmody, Pomona; Mrs. E. E. Miller, Flora; J. K. Howard, trustee; H. Misener, gatekeeper. The officers will be installed at the next regular quarterly meeting in this city in October.

At the last meeting of San Jose Grange, Bro. S. P. Sanders said: "In Mr. Free's address before the Pomona Grange touching the matter of legal rights of women, he pointed out the fact that in many cases the women have the best of the men under the laws of the land, pointing out the manner in which property belonging to husband and wife is disposed of on the death of one or the other of them. Why is it necessary to have one law for the husband and another for the wife if by birth they are free and equal? The mother will nourish and defend her offspring prompted by an instinct of nature. Not only the human mother, but mothers of the lower order of animals will protect their young even at the expense of their own blood and life itself. Why then should we humiliate the mother of a family of children, who is a widow, by interfering with her care of them, by appointing a guardian for them.

"There are many inequalities before the law between man and woman. I want to declare that there is no apology for the inequalities and the clamor for equal rights will never be stilled until the inequalities are removed."

### GOOD ADVICE ABOUT OBJECT LESSONS.

To the Editor: In a recent number of the PRESS some San Francisco reader asks how to find out what the matter is with his fruit ranch, that it does not pay.

A recent experience of mine produced such gratifying results, I am tempted to advise my fellow reader to use it. If he will spend two or three weeks, or a month, if possible, visiting other ranches of the same kind; choosing men who have made successes of their places, he will learn more in a year in most any other way.

In the inspection trip I took I would go to some town and inquire who were the successful men in a given line, and make a personal visit. By tactful questioning, openly and frankly telling those I called on why I came, who I was and where I lived, and I kept the fullest notes, taken on the ground.

I went as a learner, not trying to argue, but learning by every possible method. I learned to get some of my best lessons studying other failures, too. I got a good idea here, another there, saw another fellow failing over yonder, and saw why, but at the end of the month I knew who were making money and how they did it, and so can any other inquirer.

It may cost \$150. I spent \$100 in three weeks, but I took in 18 towns and the country about them, and it will repay anyone who is bright enough to see a plain fact many times over. Try it.

Los Angeles.

W. R. LEE.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

Prune growers of Sutter county report that prunes are dropping badly.

Grape growers of Santa Cruz say they will have only an average crop this year.

The packers of Watsonville are making every preparation for a big season, as the fruit picking has already begun.

The fruit trees of Tehama are now reported to be entirely free from pear blight and tree pests of all kinds.

Malaga grapes are being shipped out of the Imperial valley in car lots. This is about the earliest shipping section in the State.

There is every indication as the harvesting of apricots progresses that the Haywards crops will total the heaviest in many years.

The first carload of grapes for the East was shipped from Reedley for Chicago. It consisted of Thompson's Seedless of a fine variety.

A fruit grower of the Turlock vicinity has raised strawberries so large that six of them placed in a row measured twelve inches in length.

In the Carneros district, and in fact all over the Pajaro valley, there are small orchards promising the heaviest apricot crop in ten years.

Giblin Bros. of Yuba City sold their crop of green gage plums for \$20 per ton. This is considered a fairly good price; in fact, about as good as one can secure for that product any year.

Work was begun at the Selma cannery on early peaches. Preparations have been made for a run of 1,880,000 cans of peaches this season. As in former seasons only peaches will be handled.

Apricot pits find ready sale this year and will bring somewhere in the neighborhood of \$5,000 into Suisun valley. A few years ago orchardists found much difficulty in finding places to dump the pits.

As near as can be estimated about 75 per cent of the dried apricots in the vicinity of Vacaville have been sold at prices ranging from a little below 6 up to 7 cents per pound. The average would probably be 6 or 6 1/4.

The pear crop in the Placerville section is unusually fine, there being little scab and a very small percentage of wormy fruit to contend with. Packing prices are high, and ordinary packers are making from \$3 to \$6 a day.

Buyers are in the Lodi field after Tokay grapes. John Boyce is reported to have sold his crop of 40 acres on the vine at \$200 per acre, all risks, including picking, packing and sulphuring to be assumed by the purchaser.

The famous Cutts & Hudson orchard, Sutter county, this year will have in the neighborhood of 540 tons of cling peaches and about the same amount of frees. The Hearst orchard will yield close to a thousand tons of peaches.

Charles Silliman, manager of the Watsonville Fruit & Land Co., has begun operations in the large apricot orchard of the company, and expects to see the season's cutting reach close to eight hundred tons, or an equivalent of one hundred and sixty tons of dried fruit.

A number of the small growers of peaches in the Yuba City district are experiencing trouble in disposing of their crops for the season they held for bigger prices until the canneries, for fear of an overstock, began to call off their buyers.

Malaga and Thompson Seedless grapes are being sent from the Coachella valley. Grape growers are receiving 25 cents ad-

vance from the distributors. This valley has about 1,200 acres planted to grapes, not all in bearing, but next year the output will be much heavier.

C. L. Maltby, manager of the South African Fruit Co. of Cape Town, South Africa, is in San Jose. He is investigating the packing and drying methods employed by Santa Clara valley fruit men with a view to putting their experience into practice in South Africa.

The fruit canning plants at Winters and Yuba City have commenced operations for the season, but are finding difficulty in securing sufficient help. Several hundred women and girls are employed in the establishments, packing the fruits picked in the orchards by hundreds of men.

The plant of the California Fruit Canners' Association at Hanford is in operation with a force of 500 men and women at work canning Crawford and Tuscan Cling peaches. About 2,000 tons of green peaches will be canned, and it is expected that later on a quantity of grapes will be put up.

The fruit canning season in Visalia has opened and the cannery of the California Fruit Canners' Association has begun the season's run with 350 men, women and girls. A still larger force will be employed later. It is said that the fruit is ripening very slowly despite the recent hot weather.

The Sutter Farmer says that while there may be a small variation, the following are the prices at which the bulk of the fruit crop has been sold for: Phillips clings, \$25; Tuscan and other mid-summer varieties, \$22.50; Orange clings, etc., \$20; freestones, from \$15 to \$17.50; plums, \$20; pears, \$20. These varieties must be free from gum and up to size.

The Los Angeles Examiner is authority for the statement that the Imperial valley cantaloupe growers will net about \$1,500 from the entire crop this season. From the 1,800 cars shipped the gross receipts are \$246,500; from this is deducted \$180,000 for freight and express charges, \$35,000 for commissions and \$30,000 for refrigeration. If the above estimate is true, the cantaloupe industry is in a bad way.

A bumper fruit crop, probably the largest in the history of fruit raising in Lodi district, will be the record for the season of 1908, says the Lodi Sentinel. Peaches, plums and prunes in the colony orchards east of Acampo, which is claimed to cover a larger acreage than any other orchard in the world, are so thickly set on the trees that it has been necessary to prop the branches with supports to prevent their breaking.

The crop of peaches near Yuba City is the heaviest ever known in that section. The Chamber of Commerce of Yuba City is assisting the fruit growers and using every effort to get help into Sutter county for the purpose of saving the fruit crop of the growers. The superintendent of the California Fruit Canners' Association at Yuba City stated that his company could furnish employment to 100 families more than he has, as the capacity of the plant is so great that twice the fruit could be handled if they only had the help.

Redlands leads Riverside so far this season in the number of cars of oranges shipped, its total to date being little over 4,560, while Riverside has shipped about 4,480 cars. Lemon shipments have been heavier from Riverside than Redlands, the first named having sent out over 349 cars, while Redlands has shipped but about 35. For a number of years Riverside has been the heaviest orange shipper in the State, but now Redlands has passed her in the race, and has a large acreage of young trees planted and she will in all likelihood keep the lead.

### AGRICULTURE.

Turlock's acreage of sweet potatoes will be larger this year than ever in its history.

The Port Costa warehouses contain about 8,877 tons of wheat, while on the same date last year they held 17,162 tons.

Moses Stockdale of Grass Valley raised a turnip on his place that measures 25 inches in circumference and weighs six pounds. He believes it is a world-beater.

E. E. Proper, an extensive grain grower of Sutter county, states that his grain crop is running 25 sacks and better to the acre. This grain was sown about March 15.

Preparations are under way in the Imperial valley to plant 200 acres to onions the coming fall. It is thought that onion growing will become one of the permanent crops in the valley.

F. A. Thompson of Angola, Tulare county, has 1,000 acres of wheat which yielded about nine sacks per acre and was sold for \$1.50 per hundred. The 1,000 acre tract was sown on overflowed land.

The lima bean crop in Ventura county is in fine condition except in the Mound district, where the bean lice have destroyed some fields. The acreage for the county this season is placed at 45,000 acres.

M. A. Nelson of Roberts Island holds the record for a yield of barley, says the Stockton Record. Off of 280 acres he secured 11,570 sacks and from one patch of five acres he obtained 423 sacks. The grain is of fine quality.

J. H. Leggett of Oroville has perfectly ripened pumpkins, grown between the trees in his orchard. It is safe to say that this comes pretty near to being the record for early pumpkin-raising, not only in this county, but in the State.

H. H. Jordon of the Sholame, San Luis Obispo county, reports the crop conditions as a whole in his section as quite satisfactory. The yield this season would not be quite as heavy as in some former years, but the quality was the equal of the best ever produced.

William Semple of East San Jose exhibited a branch of White Winter Pearmain apples that was about four feet long, two feet of which was so thickly covered with the fruit that the branch could not be seen. The apples were of good size and about 120 in number.

From eleven acres of land at Salinas, Jasper Phares harvested 380 bags of Chevalier barley. The barley will weigh about 125 pounds to the bag, which makes a yield of about 70 bushels to the acre. This is a good report and shows that a little land well tilled is better than a great deal just skimmed over.

The United States Department of agriculture has ordered the corps of soil experts previously engaged in making surveys in the Sacramento valley, to Klamath Falls, and survey to be made of all the lands in the Klamath reclamation project. The work will embrace a territory covering about 500 square miles.

Orange county's bean crop promises more than an average yield per acre from present prospects. About 15,000 acres of limas and 4,500 acres of blackeye beans is the estimate, being an increase in limas of 3,000 acres and in blackeyes of 1,000 acres over last year. Last season's yield of limas was eight sacks per acre.

The conditions which surrounded the crops at Greenview, Siskiyou county, this spring foreshadowed a very light harvest of hay and grain, but outside of some alfalfa fields that were hard hit by frosts, the crops are excellent, especially the timothy, red-top and clover, while grain is for the most part exceedingly good. Barley is above the average.

The sugar beet planters at Corcoran have begun the harvest of the crop. They are required to give notice of how many tons they can deliver per day to the factory and other information about the harvesting of the crop. The sugar company has kept a man in the territory planted to beets to see that the crop was properly cultivated, and to give needed information to the growers.

The farmers of Grand Island and Mormon basin, Colusa county, will this year experience difficulty in storing their grain at Grimes. The large warehouses will be filled to the roof and thousands of sacks will have to be banked on the river and sold before the rains. This season's crop, despite the scarcity of rain, is the heaviest in years, and owing to the dry spring all the tule land was put in, which will make from 25 to 40 sacks per acre.

### LIVE STOCK.

Two San Francisco men have purchased a ranch of 160 acres at Hooker, Tehama county, and will raise hogs.

Howland & Hurd have started a goat farm in the Yucaipe valley, near Redlands. Imported Toggenburg goats are used and the milk will be shipped to Los Angeles.

The State Veterinarian of Oregon has ordered that all horses affected with mange should be dipped. This disease is prevalent amongst hundreds of Indian horses on the forest reservation.

The Tehama county assessor did not assess Tehama sheep that are taxed in Trinity county for pasture, though belonging to Tehama county owners. The value of the Tehama flocks that pay tribute to Trinity is considerable.

The Sonoma County Co-operative Poultry Association is appealing for 500 more members from amongst the poultrymen of that county, and assert that if it can have this increase it can effectually control the market situation.

An egg within an egg was proudly exhibited at Red Bluff by a resident of the Sunnyside district. The freak eggs were laid by a Buff Orpington hen. The hen died in laying the eggs. One of the eggs—the inner one—is the size of an ordinary chicken's egg. The other, surrounding it, is twice the size of an ordinary egg.

### MISCELLANEOUS.

The Roma winery in Healdsburg is to be doubled in size. A distillery will also be built.

An El Centro advice states that the honey crop of that section will amount to about 20 carloads.

A century plant in Colusa county has been sending up a bloom stalk which, it is claimed, made a growth of one foot per day.

A Yuba City farmer has installed a complete water system for fire purposes, every building on the farm being protected by means of an electric pumping device.

The red spider has made its appearance in the hop fields along the American, Sacramento and Consumnes rivers and is doing considerable damage. It is one of the worst pests known to hop men.

Deputy Fish Commissioner Charles A. Vogelsang of San Francisco and a party from Washington, D. C., will visit Gilroy and investigate certain tracts of land with the view of establishing a game preserve.

Work will soon begin on the dumps for the Sacramento Valley Sugar Beet Co. at Woodland to load the beets on the cars for shipment. The first dump will be constructed at Davis. There will be two more, one at the Peart Switch and one at the Union warehouse.



## Live Stock and Dairy.

### VALUE OF COW TEST COMPETITIONS AT COUNTY FAIRS.

By E. W. MAJOR of the University of California.

During the past four or five years there has been a revival of interest in county fairs. This is particularly true of those held in the great interior valleys.

Every effort is being made by those in charge to make these exhibits educational. During the live-stock judging the judge is expected not only to make the awards, but also to give his reasons and answer questions that exhibitors and interested spectators may ask. A judge at these fairs certainly has his hands full, for he must be prepared to give good sound reasons for his decisions.

It is certainly gratifying to those interested in live-stock advancement to find that these conditions exist and that interest is increasing all the time.

This year the Tulare County Agricultural Association, which has its annual

milking tested for butter fat, which shall be estimated at 30 cents per pound.

While a test of this nature does not demonstrate which animal will be the most profitable dairy animal, yet it is bound to stimulate an interest in the testing of cows. The fact that a man has found out just what his cow will do during one week is likely to make him anxious to find out what she will do during the year. It provides, too, an opportunity for the dairyman to learn something about the Babcock test, and the educational value will not be limited therefore to the owners of the cows; it will have its influence over other dairymen who attend the fair, by inducing them to give some time and study to the animals entered in the competition and to the results of the test. Once they become interested in these competitions they will wish to study and test their own herds in order that they may find out what the individual cows are doing.

#### Questions and Answers.

**HINTS TO A BEGINNER.**—A young man who is thinking of starting a dairy writes to inquire how he shall commence. He

determining the butter fat content. The student of dairy type will be able to select a good herd; but he will find that not all the cows will prove to be profitable producers, as some cows fail to live up to their good looks. The test, therefore, is the only certain method of determining the ability of the cow as a profitable producer of butter fat. The young man must study the principles of feeding, and he will, as a rule, be well repaid for time spent in visiting some of the most successful dairymen in his vicinity. He should study their methods and then see where they can be improved upon.

One of the most important points will be the care of the young stock, as on these will depend the future success of the herd. The heifers from the best producing cows must be saved and handled so as to develop them as much as possible along dairy lines.

In regard to stabling, much might be written, but cost will have to be the important factor, and therefore as simple a building as possible should be erected. As much ventilation and light must be provided as possible, for the health of the herd is one of the most important considerations. It is better to construct a barn of such a plant that no feed is to be stored above the part where the cattle are stabled. Cement floors and mangers are the most sanitary, and, while costing a little more to put down, are cheaper in the long run.

It would, without doubt, pay a young man who is contemplating starting in dairying to attend the short course in Animal Industry at the University Farm at Davis this fall. He will have the opportunity there of studying animals of the different breeds and the method of feeding and caring for them. Association, too, with men interested in the same problems will bring out many points that will be of value to him.

### MAKING GOVERNMENT BUTTER IN KINGS COUNTY.

The Fred L. Hilmer Co. of San Francisco has placed an order with the Maple Grove Creamery Co. of Hanford, says the Journal of that city, for the furnishing of 108,000 pounds of butter to the United States Navy Department, and the local creamery of this company is even a busier place than usual, now that the contract is being filled. This contract was let by the navy department to the Hilmer company on bids, and that the Maple Grove company has been selected by the San Francisco concern to furnish the order is a compliment not alone to the creamery company itself, but to the dairy interests of this county as well.

The butter is being made and packed according to specifications prescribed by the United States Department of Agriculture.

Robert McAdam of Rome, N. Y., a representative of this department of the federal government with headquarters in the national capital, is here superintending the making of the butter, and when seen at the creamery by a Hanford Journal representative gave some interesting notes in regard to the manner in which the butter is handled.

The order calls for 108,000 pounds and it is estimated that between 40 and 50 days will be required to fill the order. Arrangements are being made to ship in some additional sweet cream from outside points, however, and if this be done the time it will take to deliver the butter called for will be reduced somewhat. The average daily output of the Maple Grove creamery at the present time is about 2,000 pounds, but this average will be increased in the next few days.

The process in which the butter is handled will be of interest to our readers. All

the butter is inspected before it is accepted by Mr. McAdam. Every churning accepted must grade at least "creamery extra," and must contain not to exceed 13 per cent of moisture and not less than 2½ per cent or more than 3¼ of salt. A chemical analysis of every churning is made to determine if the butter contains the correct per cent of salt and moisture before it is packed. R. E. Dow, a chemist of San Francisco, is at the creamery for the special purpose of making these tests. The test requirement is 94 per cent to 96 per cent, and this means butter almost pure.

When the butter has been inspected and accepted it is packed in three-pound tins. These tins are sealed hermetically (without the use of solder) and are airtight. They are thoroughly washed and sterilized with steam before being filled, and each is provided with a key-opener. The cans are furnished by the contractor, but are made in accordance with specifications drawn up by the Department of Agriculture.

Upon each can is pasted a label showing the net weight of the butter contained in it, the date the butter was packed and the name of the contractor, in this case the Fred L. Hilmer Co. After the tins are filled they are wrapped with paper and packed in cases lined with corrugated paper, 24 to the case, making 72 pounds of butter to the case.

When the cases have been carefully packed the cover is put on and bound with strap iron.

The butter is, as stated, for use on the warships, and as soon as a sufficient number of cases to constitute a carload is accumulated, a carload is shipped to the navy yard at Mare Island, at which place it is held in cold storage at a temperature of zero or less until placed aboard the ships.

Butter for navy consumption is contracted for in all parts of the United States (wherever the successful bidder



Dairy Farm in the Modesto-Irrigation District.

fair September 21 to 26 at Tulare, will open a new building which will be devoted solely to everything connected with dairying. In this building they intend to run a testing department, where cows can be entered in competition in a seven-day test. The division of Animal Industry of the University of California will have charge of the testing. In order to be eligible for competition the stock must all be registered in the herd book of the respective breeds.

During the test the cows shall be fed and cared for by the owners, or their representatives, who shall indicate each day the amount and kind of feed to be given to each cow. The superintendent of the tests shall weigh out the quantity of the various feeds supplied to the cows each day and shall charge for them at the rates fixed by the association. These rates have all been announced so that owners can figure out the most economical rations. The cows are to be milked twice a day, under the direction of the superintendent, and the milk weighed and sampled and a composite sample of the day's

has a small farm in the interior valley and part of it is planted to alfalfa.

The first thing to do is to decide what breed of cattle he likes best. He should select one of the four leading dairy breeds—Holstein, Jersey, Guernsey or Ayrshire—and, having selected the one he thinks will suit him best, stick to it. There is really not much difference in the value of these breeds; there is greater difference between individuals of the same breed than there is between good animals of the several breeds. As the young man has had little experience in handling dairy stock, and as he says his funds are limited, it will be better for him to start in with grade females and learn his lessons with them. He should purchase the best pure-bred bull that he can, and, when opportunity offers, buy a pure-bred heifer or two. In purchasing these it is best not to rely on pedigree alone, as there are lots of pedigreed scrubs, but rather see that each animal is of good individuality as well as one with a choice pedigree. As soon as the herd is gathered commence testing them by weighing the milk and

## Ruddy Harvester Oil

For Harvesting Machines, Mowers, Hay Tedders, Feed Cutters, or any farm machinery, this will be found superior for all around use, and particularly on loose bearings. It is a heavy bodied oil, never turns rancid, never gums. Flows freely, no matter what the temperature. It lessens friction, saves wear and tear on horses, and cuts down repair bills.

Put up in one and five gallon cans, half barrels and barrels.

At all dealers in farm machinery.

**STANDARD OIL COMPANY**  
(Incorporated)

## Horse Owners! Use

GOMBAULT'S

# Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## MORE MILK—MORE MEAT

IF YOU USE

# LILLY'S BEST FLY KILLER

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.

A. F. CHAPMAN, Monahan, Wash.

For Sale by Dealers



## EXCLUSIVE Tubular ADVANTAGES No. 5

### EASE OF OPERATION

Let us forget, we review the four previous exclusive advantages we have mentioned.

No. 1. The light, Suspended Bowl.

No. 2. The Low Supply Tank.

No. 3. The Perfect Self-Oiling arrangement.

No. 4. Ease of Cleaning, 3 minutes to wash the 3-piece, light Tubular Bowl.

No. 5. Now, we come to another important and exclusive advantage in favor of the Tubular. Having so many less parts, and what few it has, being of the simplest construction, means less weight to turn and less friction.



Let your wife test the easy running Tubular in comparison to others, and see what she says. Remember, we've been making Tubulars for 28 years. That means skill and perfect workmanship.

Write a postal for Catalog No. 131; it will open your eyes on separator building.

The SHARPLES SEPARATOR Co.,  
West Chester, Penna.

Toronto, Can., San Francisco, Calif., Chicago Ill.

places the order), and Mr. McAdam came here from one of the Middle Western States, where he has been on a mission similar to that which brings him to this city. The butter form that place was shipped to the New York navy yard.

The rules under which the butter is put up are very strict. After the butter is taken from the churn it is placed in the tins, which have previously been washed and sterilized. It then passes to the weigher. The filled tin must balance the scales, upon the opposite side of which is a three-pound weight and also an empty tin. After the tin is weighed it is placed on the hermetical sealing machine. In the sealing five seams are made. After the can has been sealed it is placed in a sawdust box and is then cleaned with a towel. The tin is then placed in the cold-storage room and later wrapped in paper and packed in a case.

### A NATIONAL DAIRY SHOW.

The third annual Dairy Show will be held at Chicago in the Coliseum Decem-

ber 2 to 10 inclusive. The time and place for holding it were given much consideration. The exhibitors of machinery prefer the winter months for displaying their goods, and the exhibitors of livestock would like to have the Dairy Show held early in October or at the close of the State Fair season. The officers being anxious to please both the cattle and machinery exhibitors, brought this matter before the stockholders at the regular annual meeting and discussed very thoroughly the most suitable time for holding the show. It was finally decided to hold it not later than December 15. The exact dates and place was left to the executive committee.

It is desired to make this Dairy Show a strong representative of all dairy interests, to bring together dairymen, butter and cheesemakers, farmers and manufacturers of dairy products from all parts of the country, for educational purposes; also to present at this gathering the best and most up-to-date makes of dairy machinery, and to show choice herds of cattle representing all the different dairy breeds; in fact, it is desired to make the occasion the big event of the year for dairying, and to so exhibit the different branches of the dairy industry that the people of the country will realize the importance and magnitude of this great industry.

The purpose is to make this exhibition of cattle and machinery something more than a show. It is the purpose to make it a strong educational affair where questions of national import may be discussed and plans made for a greater development of all dairy interests. The first two shows were a success, and it is the desire to make the coming one better, bigger and more instructive.

All communications should be addressed to the National Dairy Show Association, 154 Washington St., room 307, Chicago, Ill.

### DAIRY NOTES.

The creameries in Hanford report increasing business.

Unable to make payments for cream purchased during the month ending July 15, the firm of Murphy & Paul of San Francisco, which did a big business throughout central California, has been attached on complaint of the creditors. The failure of the company will fall heavily on dairymen around Modesto, Hughson station, Crows landing, Newman, Gustine, Los Banos and other points in the interior of the State, where they were heavy buyers. The dairymen engaged an attorney to look after their interests, which led to the attachment. There is a possibility that the company may be able to make arrangements with the Oakland cream depot to handle its cream business and pay its arrears to patrons.

### SEARS, ROEBUCK & CO. ENJOINED.

An injunction was recently obtained by the Vermont Farm Machine Co. and the Empire Cream Separator Co., joint owners of the Centrifugal Separating Apparatus under patent No. 555,893, against Sears, Roebuck & Co., who were offering the Economy separator, which infringed upon the complainants' patent.

Under the ruling Messrs. Sears, Roebuck & Co. must pay costs of suit and damages for infringement. This suit has been carried to the highest courts and is now settled in favor of the old and well tried Vermont Farm Machine Co., with whom our readers are familiar. This company is one of the strongest and best of the separator firms, and people generally will be pleased to learn that they have been given their rights.

## Apiculture.

### CARNIOLAN BEES AND THEIR VALUE.

By Mr. RALPH BENTON of the University of California.

What kind of bees shall I keep? is a very common question asked, and rightly so. What fruit raiser would not ask this of his nursery man, or from some other reliable source; or what stockman would not think the field over before investing in a certain breed of cattle? There are differences among bees, and some of these are very marked differences. There are some half dozen well defined varieties of economic importance for one reason or another, and it is our purpose here to take up one of these varieties of the most promising character, especially for the beginner with bees.

Carniolan bees are very gentle, so marked being this trait that they have been designated as the "Ladies' bees." They were first introduced into America about the year 1885, and are now quite extensively distributed and easily obtainable from reliable breeders. Besides being very gentle they are good honey gatherers, capping their honey snowy white. Another advantage for the comb-honey producer is that they gather little or no propolis and so return good clean sections. They are, however, very prolific and must be kept in large hives; ten or twelve frame hives preferably. This adapts them very well to extracted honey production, as they breed up fast in the spring and will fill several such stories in an incredibly short time.

Coming, as their name indicates, from the little province of Carinola, or Krain, as the Germans call it, located east of the Tyrol and north of the Adriatic in the beautiful Carnic and Austrian Alps, these bees are very hardy, and we have every reason to believe more disease resistant than the common black or German bee. They are strong fliers and handle themselves well in sudden wind or rain storms, making them very adaptable for the higher altitudes of the State. They are also good searchers for honey, finding and storing honey when other bees fail to do so. They will also breed when not much honey is coming in, so that when the harvest does come on they are strong and ready for it.

Carniolans are among the largest of honey bees and are a dusty gray in appearance, this effect being given by a coating of gray hairs on the head and thorax or shoulders and by distinct gray bands of hair or rings on the abdomen. They are good queen cell builders, and so produce large well-developed queens. They also are good wax yielders, producing a nice white wax in goodly quantity.



### Harness with a Pull

The load will follow the horse if traces, back strap, breeching and lines are kept soft and strong with

### EUREKA Harness Oil

Makes harness strong because it keeps it alive—prevents sweat and wet from rotting it—makes it look and wear like new. You ought to use it.

Made by  
STANDARD OIL CO.  
(Incorporated)



We commend them especially to those of our readers who are just starting in bees, as well as to those who desire a bee embodying the qualities described.

### DID YOU EVER STOP TO THINK?

#### DID YOU EVER STOP TO THINK?

We have often heard honey spoken of as a luxury along with English jams and the like to be indulged in only on rare occasions. But did you ever stop to think that honey is a real food containing constituents important to the body as foods and so is to be numbered among the most economical of foods?

The carbohydrates or sugars are necessary to the human body, in witness of which fact we have that craving among children for something sweet. You ask a boy or girl if he wants honey or butter on his bread, and if he cannot have both, nine cases out of ten he will say "honey." The same would have been true if you had asked him molasses or butter; he would have said molasses. But molasses and candies in general are what we call "cane sugars" or double sugars. These double sugars have to be broken down into "grape" or single sugars before they can be assimilated by the body as food. This is largely done by the saliva, and unless the sweets eaten are mixed well with saliva and so converted, the body becomes overburdened with a non-assimilative

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

### FOR SALE.

1-2-Year-Old High-Grade Merino Bucks, \$10 per Head. H. G. BROWN, Elmira, Cal.

U S U S  
**THINK OF IT!**  
BICKNELL, IND., June 26, 1908.  
Have used a U. S. six months; it's perfectly satisfactory. I made 17 pounds of butter the week before using the U. S. The following week with the U. S. I made 27 pounds from the same cows, under the same conditions. It's the best investment I ever made.  
ALEX. NEAL.

**An Investment Paying 33 1/3%**

and this is exactly what the U. S. earned for Mr. Neal over his former methods of skimming.  
If you are not using a reliable

**U. S. CREAM SEPARATOR**

but skimming your milk by some other method, you are losing just as large a per cent. of cream (which is money) as did Mr. Neal.  
It is clean skimming that counts, and the U. S. holds World's Record for clean skimming, therefore it is the separator that every one ought to purchase.

Send to-day for Catalogue No. 148  
16 distributing warehouses in U. S. and Canada  
VT. FARM MACHINE CO., BELLows FALLS, VT.



compound which has then to be removed by the liver and kidneys, overtaxing in many instances these two much worked organs. The result is a child abnormally craving for sweets, which in the proper form the system really needs, but which as eaten only becomes a burden to the body, having to be thrown out again.

Now honey, or more properly speaking flower nectar, when first gathered by the bees is a double sugar or cane sugar. But while the busy bee is flying home from the fields she is at work completing in her honey-sac the change of this cane sugar into single sugar—or grape sugar. The honey is then deposited in the cells in the hive and evaporated by currents of air driven through the hive by the buzzing of bees stationed at the entrance of the hive for that purpose, until it is well "ripened" to prevent souring. It is then sealed up and ready to be eaten as a very wholesome food not without medicinal qualities, for honey has a very soothing effect upon the throat. It will be seen that the first stage of digestion is completed, and when we eat honey we eat in so far a pre-digested food. Honey is thus a very economical food, supplying a real need of the system in a proper form, to say nothing of its deliciousness and real beauty on the table.

### IRRIGATION, FORAGE CROPS AND CEREALS.

The farmers who are engaged in general agriculture should be at Davis in Yolo county for the three weeks beginning October 12th next, when the Short Courses in agriculture on the University Farm are under way. An especial feature at this time will be practical instruction in irrigation, forage crops, cereals and sugar beets.

In addition to the large portion of the farm which is now under ditch, thirty acres are now under direct control and experimentation of the U. S. Department of Agriculture. Many experiments in seepage, evaporation, methods of applying water, etc., are under way and the farmers may have advantage of them all.

The State is making an annual appropriation of \$5,000 to better the quality and quantity of our cereals. Forty acres and more on the farm are devoted to this work, and much good is being accomplished. Grain grower, go to see and hear what is being done for your benefit. The sugar beet grower will also learn much that will help him.

No man in the country is better qualified to instruct on California forage crops than Director Wickson of the Agricultural Experiment Station. He will give a course on this topic, which is so vital to all the California agriculturists.

If you want to know more about the Short Course in Agriculture, write to the University Farm at Davis, California.

LEROY ANDERSON,  
Sup't Univ. Farm Schools

Undermined by an unusually high tide, followed by an ebb that receded so fast that the dirt was sucked out from around the supporting piles, 300 feet of temporary earth levee on Jersey island, in the San Joaquin river, about 40 miles from Stockton, gave way on the morning of July 26. The fertile island tract of 3,900 acres, owned principally by the Jersey Island Co., was flooded, with a loss estimated at \$250,000. This company had 300 acres of the finest celery in the river section, estimated to harvest 8,000 carloads, which would have been ready for market in two months. This, with many acres of potatoes and thousands of young celery plants just ready for planting, was a total loss. Much of the island property was leased to small farmers of the San Joaquin valley, who planted it in garden truck. The loss will fall heavily on them.

## The Poultry Yard.

### SUMMER CARE OF POULTRY ON THE COAST.

By M. R. JAMES.

Though the weather is uniformly cool during the three summer months, the coast poultry raisers have difficulties to contend with unknown to the inland dwellers. It is, in fact, the roush season among ill-cared-for fowls. The fresh trade winds which make our summer the most invigorating season of the year are chilling to the chicks, and a chilled chick is pretty sure to be a worthless chick. In the warm valleys of the interior the young fowls will almost raise themselves after the settled warm weather; the time when our cool west winds are the strongest and our chicks huddle and crowd and a large per cent of them are lost. This is when our fowls, and especially the young stock, require

his fowls, the coast poultryman must observe the rules necessary in the summer care of poultry everywhere, viz.:

Cleanliness and a vigorous crusade against all insect pests.

Thoroughly clean water vessels or fountains, protected from the hot sun and from the feet or droppings of the fowls, and always full of pure water.

An abundance of fresh green feed but no dirty half rotten vegetables or leaves thrown down into the dirt and droppings.

Fresh sweet food only—no sour scraps or mashes or mildewed stuff. The mash will ferment in a few hours in hot weather; feed it as soon as cool, and let none lie about the yards. Unless properly made and fed it is better to cut it out entirely.

Well-spaded and mellow ground about the poultry quarters, especially in the small yards and runs of the chicks. The filthy and sun-baked yards are a fruitful source of loss and retarded growth among the chicks.

Guard against diarrhea! This may run

and not proper stamnia. The pullets of the Mediterranean class should not start to lay before five months old, nor before six months in the American class. Be regular in the feeding and care of the fowls; be quiet and gentle in your movements among them; have patience with them and teach them to have faith in you; they don't pretend to as much brains as their care-taker, but they have enough to appreciate fair treatment and to return in kind.

### Poultry Questions and Answers.

A CASE OF COLDS.—"Some of my young chickens are troubled with sore eyes; one or both eyes get inflamed and watery. They are kept clean and well fed; the house dry and tight except between the roof boards, which leave open spaces all around, but they are high up. Do you think that could cause too much draft?"—Mrs. H. D., San Pablo road.

Your chickens have colds. Apply a mixture of olive oil and coal oil and spray out the nostrils with the same; if throat



FRIZZLES—"PURELY ORNAMENTAL, OR GROTESQUE, MIGHT EXPRESS IT BETTER."

extra care in housing. The houses, weaning pens and coops must be perfectly tight on all but the lee side. Fowls also need protection in the daytime from the chill winds and the hot suns. Both shade and sunshine are essential in the poultry yard. A thick hedge on the west or north sides of the poultry quarters is an excellent wind-break and shelter for the fowls. Shrubs and bushes which form a low shelter and have damp, mellow earth at their roots are the delight of fowls. To see them scratch an wallow in such favorite spots gives one an idea of the joy of living. Make the fowls comfortable. This should be the rule of the poultry yard, and if faithfully adhered to there will be health, growth, egg-production and—success. Where hedges and such protection are not obtainable, there should be a solid board fence on the west side of the small brooder runs and yards; burlap may be tacked to the division fences and though not tidy in appearance is considerable protection from sun and wind. The burlap may be readily pinned to the wire netting with nails.

A FEW RULES.—In addition to the extra care required in housing and sheltering

into cholera in hot weather; though the latter disease does not often occur on the coast. They are both caused by foul water, soured messes, decaying carcass, and the other abominations often found in or around the poultry yard.

This is the season when the young stock must have proper care if they are to develop into strong fowls and become money-makers. Yard the pullets in flocks of not more than fifty with as large range as possible; have green feed, hard grain, pure water, grit and charcoal always accessible to them; but feed the mash for growing fowls only once a day, preferably at noon, and no more than they will eat up quickly. Never turn the young stock in with the old fowls. Treat the cockerels retained for breeders the same as the pullets. Yard them by themselves and watch lest they get to annoying each other; this is not likely to happen if they have the space they should have to make strong, muscular cocks, but in small yards they are liable to seriously injure each other. Give no stimulants or forcing rations to the young fowls; we do not want too early development. The cockerels will put on too much comb and wattle

is affected give a teaspoonful of two parts olive oil and one part coal oil. Stop the openings under the roof on all sides except the one open for ventilation. It is rather difficult to fit blocks into these roof spaces, and a good plan is to stuff them tight with tar paper, or, lacking that, common newspaper dampened in strong brine. This is the season when our fowls are liable to colds; when any of them become affected it is well to put a little Douglas mixture in all the drinking water occasionally. We give herewith the correct formula for the mixture. The ingredients may be bought at any drug store. Dissolve the whole or half in a jug, cork tight and this amount will last a long time. Don't overdo the dose and never put it into iron or tin drinking vessels.

Douglas Mixture.—1 ounce sulphuric acid, 3 ounces iron sulphate, 2 gallons soft water. Dose, 1 teaspoonful to a pint of drinking water.

THE SHOW QUESTION.—"Is there any use for us little fellows to try and win out at the poultry shows? I notice that the same parties carry home the prizes and



specials, etc., every time and everywhere—and we carry home our bedraggled fowls and have our trouble to balance our expense."—Amateur, Oakland.

In the showroom as elsewhere the path of the beginner is apt to be a bit rocky; but our correspondent should remember that the big fellows who carry home everything in sight were beginners once and may have felt just as he does; but they gathered up their courage along with their "bedraggled fowls" and went home all the more determined to win the Blue. As to the favoritism hinted at, the personal element will always be a dominant note in human intercourse. When Amateur has become one of the big fellows he will think the shading his way well-earned and perfectly right. The large breeders who are the backbone of the shows and who are always there with big strings of birds are apt to appeal to judge and management more than the fellow who pops up occasionally with his rooster under his arm. Next week we will discuss the subject of the amateur and the showroom, and will explain why it is of advantage to any breeder who desires to sell hatching eggs and breeding stock to enter his stock at the poultry shows even if he fails to win any prizes.

### POULTRY WISDOM.

Small neglects make big failures.

The lazy man's poultry house has "millions in it."

The early hen gets the worm and the early worm gets caught.

It was the goose that laid the golden egg in fable; but any good hen can lay the nickel egg in December.

A ship without rudder and a poultry business without system are bound for the same port.

Horace Greeley's advice to the poultry beginners: "Get down on your knees and scratch gravel along with your hens."

"Is there anything in the poultry business?" asks a correspondent. Secretary Wilson of the Agricultural Department says there was \$600,000,000 in it in 1907.

The poultryman's fowls and poultry quarters are an index to his character. If the former are a mixture of all kinds and ages, unattractive, bedraggled and dirty, unwhitewashed, suggestive of lice and mites, it don't require a professional phrenologist to tell that he is lacking in the bumps of thrift, system and ideality.

M. R. JAMES.

### FRIZZLES.

The grotesque Frizzles are so named from the upward turn of the feathers. They belong to an old family and are mentioned in history as the "Frizzled" fowl. They are purely ornamental, or grotesque might express it better. The rules for judging them are few. The color must be solid and must match in pairs, trios or pens; the feathers must be well curved, the more so the better, and the comb must be single.—M. R. J.

### A BIG DUCK FARM.

With a production of 20,000 White Pekin ducks and 75,000 eggs a year, the "duck farm" of H. W. Meserve and O. H. Burbridge at Inglewood lays claim to being the largest of its kind on the coast, and certainly one of the largest in the world.

A force of Japanese laborers is kept constantly busy killing and dressing ducks for the market, as the ranch sends to market from eight to fifteen dozen birds every day.

"Ducks beat chickens all to pieces when it comes down to a proposition of raising them for the market," says Mr. Meserve, who besides his activities as a rancher is

incidentally clerk of department three of the superior court.

"Just feed a duck right and you have no trouble with them. The stomach is the only thing that needs taking care of.

"With chickens you have lice, mites, roup and a catalogue of diseases that take all your time to combat and leave you with only about 50 per cent of the young birds that you hatch.

"With our 20,000 ducks a year we lose less than 2 per cent from all causes combined, accidents and everything."

At times there are as many as 5,000 ducklings at once in the yards and on the water.

To produce the 20,000 birds almost three times that many eggs have to be set, as the proportion of eggs that hatch is much smaller than for chickens. Incubators holding 330 eggs apiece are used. Eggs not used on the farm are sold at the rate of \$10 a hundred.

Birds are killed in three sizes, 3½, 4½ and 5½ pounds dressed weight, and are sold in Los Angeles to hotels, markets and cafes at from 20 to 25 cents a pound dressed.

"There's money in raising ducks when feed is cheap," says Mr. Meserve, but with corn at \$2 a hundred pounds as it is now, the birds eat up as much as they bring. Our monthly bill for food and labor is \$900 at the present time."

The last hatch of eggs is being put in the incubators now, and when these ducklings break their shells in August there will be no more raised until December. A ranch of 17½ acres with duck ponds, houses, running water and pens maintains the big annual crop of web-feet.—Los Angeles Express.

### FOUR-YEAR-OLD EGGS.

Prof. Hendricks of the University of Aberdeen has this to say of his experiments in keeping eggs in water-glass:

Usually eggs kept in this solution when taken from it show a nice appearance when wiped off. The shells look clean and nearly like fresh eggs. Even those kept several years had the look of fresh eggs.

Eggs kept other ways than in water-glass nearly always show a shrinkage of their contents and rattle when shaken. Those kept in water-glass do not shrink as these others by evaporation.

When kept in this solution a few months they could scarcely, if at all, be distinguished from eggs laid but yesterday. The really fresh egg is not the day-old egg, but the egg laid an hour or two ago. The fresh laid egg holds a flavor distinct from what it will 24 hours after being laid. The air plays this part through its pores, taking off something and adding something.

But eggs which have been kept in water-glass three or four years have made a change easily recognizable to eye and taste. The white has turned a pink in color and quite thin and watery, with a slight taste of soda. Yet the white coagulated by cooking and the taste was not unpleasant.

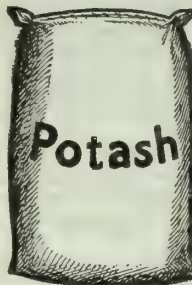
Eggs kept four years in this solution were analyzed. There was little change in their composition. All the change found was due to the small amount of soda entering the egg, and increasing its alkalinity slightly. There was no decay, no entering of the composition of the shell into the egg, and, as analysis shows, but very little also of the water-glass—sodium silicate—which fills the pores of the egg, hardens there, excluding air and all substance or life that would set up decay.

The water-glass proper is syrup thick, and contains when prepared for preserving eggs 2.76 per cent silica (common but pure sand atoms), 1.20 per cent soda and 0.01 per cent potash.

# ALFALFA

Summer and early Fall seeding of Alfalfa will be successful if the plant is given a quick, steady, early start by the proper use of Potash.

Weeds are reduced to the minimum, and winter-killing is practically out of the question where Potash is used to invigorate the young plant and set the crop.



## Potash Grows Alfalfa

Send for pamphlets containing facts about soil, crops, manures and fertilizers. Mailed free.

GERMAN KALI WORKS, 93 Nassau Street, New York  
Atlanta, Ga.—1224 Candler Building Chicago—Monadnock Building

## SAN FRANCISCO SULPHUR CO.

IMPORTERS AND REFINERS OF

"Anchor" Brand, Velvet Flowers of Sulphur; "Volcano" Brand, Sublimed Flowers of Sulphur; "Tiger" Brand, Sublimed Sulphur; "<S>" Brand, Refined Flour Sulphur; "Fruit" Brand, Powdered Sulphur; Roll or Stick, Virgin Rock and Crude Sulphur.

AGENTS FOR

"Fleur de Soufre" Extra Fine. Sublime Pour Blanchiment (for bleaching and spraying.)

Refinery: BORDEAUX, FRANCE.

Office—624 CALIFORNIA ST., above Kearney, San Francisco, California.

Telephone Kearney 4336.

Eggs would be higher if the farmers would be more careful in sorting out their eggs, says the Paso Robles Leader. When the dealer ships his eggs to the city he knows that each egg will be "candled" and all bad ones thrown out. This loss together with those he culls out before shipping, cuts down his margin of profit. If only fresh eggs were marketed the price would materially rise.

H. L. West, a Glenn county farmer, who made a big success in raising turkeys last season and who marketed about 3,000 of them during the holidays, is again going into the business on a large scale. This year he expects to have in the neighborhood of 5,000 of the birds.

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

### BALDWIN'S WHITE LEGHORNS



They Lay  
They Pay  
At every Pop.

They Show  
They Go  
To the very top.

3000 birds on free range and in yard.

1st Prize Hen San Jose and Petaluma

Bargains in Breeders to make room. Write for prices and free booklet.

### FRANK E. BALDWIN,

The White Leghorn Specialist

49 Washington Avenue, San Jose, Cal.

### STATE AID IN FOREST PLANTING.

Mr. G. B. Lull, State Forester, Sacramento, issues the following announcement:

Your attention is called to the following section of the Forest law, which provides for co-operative work:

"Section 4. The State Forester shall, upon request and whenever he deems it essential to the best interests of the people and the State, co-operate with counties, towns, corporations and individuals in preparing plans for the protection, management and replacement of trees, woodlots and timber tracts, on consideration and under an agreement that the parties obtaining such assistance pay at least the field expenses of the men employed in preparing said plans."

The State has thus placed at your disposal the services of the State Forester's office. If you have land which you intend to plant and are in doubt regarding the best species to use, you should take advantage of this offer and apply to the State Forester for an examination of your holdings and the preparation of a plan for planting. A planting plan will furnish you detailed instructions regarding the species to be used, the methods of planting and care of plantations, and an estimate of the returns which may be expected at the end of any period.

Correspondence in this line should be taken up directly with Mr. Lull.

The Anaheim disease is reported as killing most of the grape vines in and around Santa Barbara. The terrible disease has been prevalent there for the past two years. Vines thirty and forty years old, isolated from any other vines, die as quickly as when in a vineyard. In discussing the disease, George M. Williams of that place recently said: "No vine is really immune, but the hardy Mission grape goes first. All the black grapes suffer worst. There is now scarcely a Black Morocco vine bearing in the county, where there used to be hundreds. The Muscat suffers pretty badly, the Tokay being the nearest resistant."

The Redlands Orange Growers' Association have paid growers for all oranges shipped during the season, as follows: All navels weighed into the packing house, \$1.80 per 100 lbs.; Seedlings, \$2.16; Sweets, \$2.68; St. Michaels, \$2.34, and Crafton Lates, \$2.82. This is a very fine showing.



## The Home Circle.

### Advice of Polonius.

Give thy thoughts no tongue,  
Nor any unproportioned thought his act,  
Be thou familiar, but by no means vulgar.  
The friends thou hast, and their adoption tried,  
Grapple them to thy soul with hoops of steel;  
But do not dull thy palm with entertainment  
Of each new hatch'd, unfiedg'd comrade.  
Beware  
Of entrance to a quarrel; but, being in,  
Bear it, that the opposed may beware of thee.  
Give every man thine ear, but few thy voice;  
Take each man's censure, but reserve thy judgment.  
Costly thy habit as thy purse can buy,  
But not express'd in fancy; rich, not gaudy;  
For the apparel oft proclaims the man;  
And they in France, of the best rank and station,  
Are most select and generous, chief in that.  
Neither a borrower or a lender be:  
For loan or loses both itself and friend;  
And borrowing dulls the edge of husbandry.  
This above all—to thine own self be true;  
And it must follow, as the night the day,  
Thou can'st not then be false to any man.  
Farewell; my blessing season this in thee.

—William Shakespeare.

### The Perfect Man.

"I am getting frightfully cynical," Elberta said dolefully, arranging the cushions on the box couch so that the becoming red one would be nearest her face, and I don't like it. My dislike is not founded so much upon moral grounds as from a regard for my complexion."

"Eh?" remarked Mr. Terhune, helplessly. "Your conversation, my dear Elberta, often seems involved. Your remarks are sometimes not as lucid—that is—as intelligible—as one might desire." "Perhaps I am forgetting that the young or very feeble are fed on specially prepared food, John—and the rule probably applies as much to the mental as to the physical," she said with much petulance.

"Now, my dear girl, do not fly off into a psychological discussion—for either nature defrauded me or they left out something in my college course—I don't know which. The only thing I want to know is—why being cynical should affect your complexion."

"That's easily explained—it takes the sparkle out of my eyes, it draws my mouth down at the corners and destroys my dimple—and, to cap the climax, it makes me wonder if there is a living, breathing man worth marcelling my hair for. So, when I get in a cynical mood I go around straight haired, thin lipped, with a listless expression that makes me positively homely."

"But, my dear child," protested Mr. Terhune, "I could run in almost any time to admire the marcelled hair—and if I didn't happen to come at the psychological moment you could 'phone me at any minute and I would be delighted—delighted—to rush to admire—just count on me for any old time," he added graciously.

"John—you are at intervals—positively foolish," she said severely, trying to select from the box in her lap a chocolate that contained a nut. "I am tired of being admired by plain, everyday men."

"Like me?" he suggested amiably.

"I didn't say I was rude or impolite enough to call you names—I merely said I was cynical," she demurred.

"Oh—call me a plain, everyday man, if you like," he conceded graciously—"If it makes you feel one tiny bit better, to work off your cynicism on me, Lady Fair. 'Tis sweet to die for—I'm not strong in poetry, Elberta, but I'm willing to help you out all I can. So you want the marcel to be admired by some wonderful being—Elberta, my child, don't you think a perfect man would let his thoughts run upon—er—scientific lines—and not undulations in—hair lines?"

"He wouldn't, I'm sure, labor under the impression that he could make puns," she sniffed disdainfully.

"Even if he didn't make puns—he might be disagreeable in other respects,"

suggested Mr. Terhune hopefully. "His very perfections, my dear girl, would make him clear sighted enough to see the imperfections of others. Now I think you are perfect—but he probably would not take to you at all on account of your imperfections."

"Indeed? Would you enumerate them?"

The tone struck Mr. Terhune as being slightly icy, but—however foolish—he evidently was not lacking in bravery.

"If you will, for once let me assume that I, even I, am a perfect man, perhaps I can give you a few of the ideals he might entertain."

"Pray do—it cannot fail to be interesting," freezingly.

"That reminds me. I met Miss Deland on the street this afternoon, and I never in my life saw so perfect a profile. She is the exact type that would make a suitable mate for your perfect man. And I think she has the daintiest little nose I ever saw," reminiscently.

Elberta reddened slightly. She had always wondered if her nose were not a trifle large, and her fingers unconsciously flew to her face to be passed furtively over the suspected member.

"And she always makes herself so entirely charming—she doesn't seem to be moody—one could not imagine her ever being—er—rude. She is an ideal feminine character, a perfectly womanly woman—she would give her husband just the proper amount of adoration necessary to stimulate him to success—she wouldn't expect the perfect man to waste time in admiring a mere woman. The perfect man, my dear, would probably—at least, possibly—be the center of attraction himself. I can imagine that his wife would occupy the subordinate position of second fiddle."

Elberta sat quietly stroking her nose with her finger, evidently deeply absorbed in thought.

"John—do you think my nose is very large?" she asked timidly, almost humbly.

"Oh, I have seen a few larger," declared Mr. Terhune airily.

It is hard to have one's sensitive point so negligently handled—and the girl looked at him in grieved surprise. "I had no idea you were so disagreeably critical—of course I never thought I was a beauty—but I can't help the size of my nose."

"Of course you can't," consoling—"nobody can blame you for it," he declared piously. "We should not blame people for their misfortunes—we should sympathize."

She looked at him a second, tears of mortification in her eyes. "You are cruel," she said in muffled tones from the depth of the red pillow where she buried her face.

Mr. Terhune, without her eyes upon him, permitted a look of satisfaction to creep over his face.

"Wouldn't it be awful to live in the same house with a man so perfect himself that he never noticed your eyes or hair—who perhaps has so perfect a nose that he would make disagreeable comparisons of your own—er—features?" he suggested wickedly.

A slight sob from the red cushion, and an unhappy tapping on the floor by the small slippered foot nearest him was the only response.

"Wouldn't you rather have a—well, just a plain, everyday man, who thought you altogether charming?" He dared to put his hand on the mass of fluffy hair that showed off well on the red cushion. He had never been so daring before—and the sobs stopped in amazement.

"He—he might like Miss Deland's type, too. I haven't a profile like hers," came the muffled tones.

"Pshaw!" said Mr. Terhune, with a fine show of scorn; "she is always so exactly the same that she would soon grow monotonous," and he deftly lifted the bowed head to his shoulder.

"But is my nose—so very large?" came a whisper from his shoulder.

"You dear," said the plain, everyday man, enthusiastically, "there's not, in the whole world, a more charming feature."

—Troy Allison, in Philadelphia Bulletin.

The Town of Orso in Sweden has sold \$5,550,000 worth of trees in a generation and by judicious replanting has provided for a similar income every 40 years. There are no taxes; schools, telephones and railroads are free.

An exchange figures it that a man will wait on a bank four hours for a fish that doesn't bite, but he won't wait five minutes for his wife to get ready for church.

## The Temper of a Fork

Try the temper of a Keen Kutter Fork—spring it, twist it, pry with it. After you've tried it you'll be willing to work with it.

# KEEN KUTTER



farm tools don't break—each has a fine oil temper which makes it withstand strain and keep a good edge or point. The Keen Kutter trade-mark covers Forks, Hoes, Rakes, Scythes, etc. as well as all bench tools—Axes, Hammers, Saws, Planes, Adzes, Chisels, Augers, Bits, Braces, Gimlets, Bevels, Squares, Drawknives, Gouges, etc.

If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons. Trade Mark Registered.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

### Misfires of Young Ideas.

Air usually has no weight, but when placed in a barometer it is found to weigh about 15 pounds a square inch.

If a small hole were bored in the top of a barometer tube, the mercury would shoot up in a column 30 feet high.

A right angle is 90 degrees F.

Hydrogen is colorless, odorless and insolvent.

A cuckoo is a thing that turns from a butterfly into a moth.

Horse power is the distance a horse can carry one pound of water in an hour.

The earth revolves on its own axis 365 times in 24 hours. This rapid motion through space causes its sides to perspire, forming dew. — University Correspondent.

### An Old Orchard.

What is claimed to be the oldest apple orchard in America, if not in the world, is in the center of the ancient town of Manzano, in New Mexico. Many of the trees are more than six feet in circumference, but are still fruitful and vigorous. Little is known of the history of the orchard, but the oldest inhabitant of the valley of the Rio Grande remembers the orchard from childhood, and says that the trees have not changed in appearance since then. Venerable Mexicans and Pueblo Indians tell of visiting the orchard as far back as they remember, and finding apples on the ground in all stages of decomposition at least two feet deep.

The latest animal to become extinct, the California sea-elephant (*Macrorhinus angustirostris*), is a species belonging to the seal family, and the male had a tubular proboscis that could be elongated and dilated. Specimens taken to England a few months ago by Walter Rothchild's collectors are the last. They were taken on the island of Guadalupe, off the coast of southern California, and will be preserved in the London Natural History Museum and elsewhere. Until now no museum has had an adult male specimen.

Very stout farmer's wife (to little rustic, her protegee) — Well, Sam, your master and I are going to the cattle show.

Cowboy—Oh, I'm sure I hope yeou'll take the fust prize, 'm—that I do.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,  
President John Crouch Land Company



## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

### Hints to Housekeepers.

Warm your discolored earthenware or granite baking dishes well, then rub them with damp corn meal. It cleans without scratching.

Never wash the face in cold water immediately after exercising in the sun, or while you are very warm. If you wish to wash it before it cools use warm water.

In putting on bands to skirts, etc., make them long enough to turn in about an inch. Make the button hole in this, and being doubly strong it will not pull out.

A small glass of jelly beaten, a little at a time, into the cake or pudding frosting will add greatly to its appearance and taste. A little coloring adds to its attractiveness.

For creamed cabbage, boil the cabbage tender, drain off the water and put into the pot with it a large teaspoonful of flour, a tablespoonful of butter, a little salt and half a cupful of milk. Cook, stirring until the sauce is smooth.

For warmed over boiled potatoes, cut them into dice and put into a buttered baking dish in alternate layers with grated cheese, bits of butter, pepper and salt. When the dish is full, sprinkle the top with grated cheese, turn over it a cupful of milk or cream and bake for half an hour.

An old housekeeper says that cranberries cooked in her way will never fail to jell. She cooks a quart of berries in two cupfuls of sugar and a cupful of water for 10 minutes after the boiling begins. Then she strains them through a sieve and boils 10 minutes longer. At the end of the time they are turned into a mould.

Oysters on toast or roasted in the shell are often relished by convalescents. Other shell fish are considered unwholesome. Oyster toast is prepared in the following manner: Toast six medium sized slices of bread, butter them, and pour over them the boiling juice of a quart of oysters with the oysters themselves. Heat the juice carefully by itself first, and season to taste. Add the oysters as soon as the juice boils. The addition of half a dozen little neck clams to the quart of oysters improves the flavor of this dish.

The muskmelon and cantaloupe originally came from Asia. The watermelon is a native of Africa. Perhaps that is the reason the average Georgia dandy is so industrious in trying to make it feel at home in an African environment.

Those who have a charming inner life will usually reflect it in a charming outer life. A natural good taste and love of the beautiful are mirrored in one's home, lawn and garden.

"Sometimes," said Uncle Eben, "I catches myself lambastin' a mule foh doin' purty much de same as I would do if I was in de mule's place!"—Washington Journal.

### Pith, Point and Pathos.

Progress has a hard time struggling along where it gets tangled up in a mass of superstitions.

A happy marriage results when each party learns that he or she married a mortal and not an angel.

The chaperon who makes a success is the one who leads her presence to a couple but not her eyes nor ears.

It upsets a woman as much to tell her she is beautiful as it does a man to tell him he is intellectual.

There are a lot of men in this world rejoicing because they are not handicapped like the woman by having to be good looking.

It would be mighty interesting to know in what school political leaders learned the mathematics that apply to predictions.

If a man had no enemies to attack him his friends would have a hard time finding an excuse for praising him so vociferously.

When it comes to fooling men the average woman has the best of politicians backed off the board.

The best insurance against losses from burglary is to be known as a frequenter of the race-track.

It is mighty funny to see a hen-pecked man get mad when somebody insinuates that marriage is a failure.

### Hard Lines For Spinsters.

There will be no sad disillusionment of husbands the day after, in Georgia, at least, if a bill introduced by Representative George Green of Whitfield district, and favorably considered by the Assembly, becomes a law. It distinctly provides that an unmarried woman may use as many artificial aids to enhance her charms as she sees fit, but if she wants to get married the deception must end with the beginning of the courtship.

The measure provides that, should a woman entrap a man into marriage through the "use of paints, powder, cosmetics, artificial teeth, puffs, rats, paddings, dropstitched hose, high-heeled shoes, peek-a-boo waists, corsets, V-shaped lingerie or other artifices," the marriage shall be null and void.

The bill has been referred by the Speaker of the House to the Committee on Ways and Means, and is assured of careful consideration.

### California's Population.

According to an estimate by State Statistician Job Wood, based on school census returns, California has a population of 1,828,166. This shows an increase of 86,536 over the estimate a year ago. The counties that made the greatest gains are as follows: San Francisco, 10,329; Los Angeles, 2387; Fresno; 1393; San Mateo, 1004; San Diego, 996; Tulare, 770; Alameda, 718. Humboldt county shows the greatest loss, with a decrease of 216. Monterey shows a loss of 116. To get the total population of the State the statistician used the multiple 4.

There is nothing that gives a house an atmosphere, a history and a distinction so certainly as flowers, shrubs and trees. Not only do these things attract human attention, but the birds and bees carry the word along. Plant vines about your door, roses in your front lawn, a border of shrubs about your place, a flower garden at the side and a vegetable garden in the rear, and you will have embowered yourself with sweet colors, odors and songs. In your praise the blossoms will spread incense and the birds will scatter music. People, too, will praise you in praising your flowers. In what other way can you gain so popularity much with all creatures.

"It's the early bird that gets the worm," but how about the early worm?



## Selecting a Roof

Every prospective builder should show the same discrimination in the selection of a roof as in the investing of money. There are a lot of poor roofings on the market. Discriminate, examine and test roofing before you buy. You cannot do that with all roofings, but it is possible to do so with

# REX FLINTKOTE ROOFING

and we are glad to have you do it.

If you will send us your name and address we will be pleased to send you samples. We would like to have you test its acid-proof qualities—like to have you prove to yourself that REX Flintkote Roofing will not leak or catch fire from falling sparks. By all means investigate before you buy. On every roll of REX Flintkote Roofing appears the boy trademark. It is a sign that means thorough roof-satisfaction.

J. A. & W. BIRD & CO., 91 India Street, Boston, Mass.

Pacific Coast Agents: W. P. FULLER & Co., San Francisco,  
Sacramento, Oakland, Stockton, Los Angeles, San Diego,  
Portland, Seattle, Tacoma, Spokane.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

## Western Gas and Power Company

OAKLAND, CAL.

### How To Get Poor Quick.

Do not try to save your loose change. It is too small an amount to put in the savings bank. It would not amount to much, anyway, and there is a great comfort in spending it. Just wait until you get sufficient worth while before you deposit it.

Do not try to economize. It is an infernal nuisance to always try to save a few cents here and there. Besides, you will get the reputation of being mean and stingy. You want everybody to think you are generous.

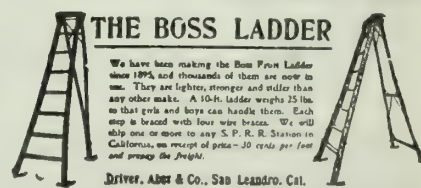
Just look out for today. Have a good time as you go along. Just use your money yourself. Don't deprive yourself for the sake of laying up something for other people to fight over. Besides, you are sure of today. You might not be alive tomorrow.—Success.

"Ought we not to do something for the preservation of our forests?"

"Oh, what's the use?" answered Senator Sorghum, impatiently. "Trees can't vote."

### Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.



### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now for season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock: 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

### FOR SALE

Freshly gathered Eucalyptus Rudis seed—by the pound or ounce.

MINNEWAWA VINEYARD, FRESNO, CALIFORNIA.



## THE MARKETS.

SAN FRANCISCO, July 29, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

Prices on all grades of spot wheat remain as last quoted, and the market is quite firm, though the demand for cash grain is only moderate. December wheat, after a slight advance, is back to former figures. The harvest is now under way in the Northwest and is turning out much better than was expected.

California White Australian..	\$1.70 @1.75
California Club.....	1.65 @1.67½
California Milling.....	1.67½ @1.70
California lower grades.....	1.40 @1.60
Northern Club.....	1.65 @1.67½
Northern Bluestem.....	1.67½ @1.72½
Northern Red.....	1.65 —
Turkey Red.....	1.67½ @1.72½

## BARLEY.

There is more activity in barley this week, and a further upward movement is noted. Futures are also higher. The shippers are taking a lively interest in offerings through the country, but offerings are few, and the growers are holding back for stiff prices. A large lot of shipping barley has been bought in the country at \$1.37½, and most holders here are asking \$1.40 for feed, though this price has not been paid. Under these conditions the market is decidedly firm. Chevalier is not moving here at present, but a large lot has been sold in the country.

Brewing and shipping.....	\$1.40 @1.42½
Chevalier.....	Nominal
Good to Choice Feed, per ctl.....	1.37½ @1.38½
Common feed.....	1.35 —

## OATS.

Oats are also quite firm, at rather higher prices than last week. Offerings of most varieties are light, and all choice reds are taken readily for seed purposes. White oats are quiet. The crop of blacks is large. Samples have appeared in this market, and \$2 is asked for them, but so far no sales are quoted at this figure.

Choice white, per ctl.....	\$1.47½ @1.50
No. 1, white.....	1.42½ @1.45
Gray.....	1.40 @1.50
Red, choice.....	1.50 @1.55
Red, feed.....	1.35 @1.50
Black, new.....	2.00 @ —

## CORN.

Western State corn is firmly held at the recent advance, prices showing no further change. There is scarcely any movement in this market at present, however, as there have been no arrivals for some time, and buyers are unwilling to pay present prices.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	Nominal
White.....	Nominal
Western State Yellow.....	1.87½
White, in bulk.....	1.95
Mixed, in bulk.....	1.87
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

## RYE.

There is no business to report in spot rye, and the price bid on new California grain is lower, though no sales are reported at this figure.

California new, to arrive.....	\$1.30 @ —
--------------------------------	------------

## BEANS.

Arrivals of beans during the week have been light, and while shipments have not been heavy, the market is well sustained at last quotations. Spot stocks are small. Local handlers are looking for high prices during the coming season, at least during the first few months of harvest, on account of the low stocks and a probable heavy demand. The crop of small whites is estimated as quite light. The lima crop will probably be up to the average, but others are likely to be short. The Eastern market is very firm, both for spot and future goods.

Bayos, per ctl.....	\$3.20 @3.25
Blackeyes.....	3.25 @3.50
Butter.....	4.50 —
Cranberry Beans.....	2.75 @3.10
Garvanzos.....	2.50 @3.50
Horse Beans.....	2.00 @2.50
Small White.....	4.40 @4.60
Large White.....	4.40 @4.50
Limas.....	4.90 @5.00
Pea.....	4.40 @4.50
Pink.....	3.25 @3.35
Red.....	3.25 @3.75
Red Kidneys.....	2.75 @3.00

## SEEDS.

Seeds remain very quiet, and little demand is likely before the end of summer. Prices quoted by San Francisco dealers remain steady to firm, as follows:

Alfalfa per lb.....	17½ @20 c
Broomcorn Seed, per ton.....	\$20.00 @25.00
Brown Mustard, per lb.....	3½ @ 3½c
Canary.....	4½ —
Flaxseed.....	3 —
Hemp.....	4½ @ 4½c
Millet.....	2½ @ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

Flour is quiet locally, with little demand for shipment. There is some movement for the Oriental trade from the north, but hardly any from this port, and only comparatively small lots are going to South America and Mexico. Millers quote the following prices:

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras.....	5.40 @5.65
Superfine.....	4.20 @4.50
Oregon and Washington, Family.....	4.90 @5.40

## HAY.

The feature of the hay market is the continued increase in the quantity being sent in. The total arrivals for the past week have amounted to 4510 tons, an increase of 300 tons over last week and of 1600 tons over the week preceding. Though the market here has held together pretty well, there has been a drop of from 50 cents to \$1 from most quotations. Considering the large arrivals this is not so bad. Dealers are predicting a still further falling off in prices if the heavy shipping movement continues. It is understood that considerable shipments have already been contracted for, and the general idea is that arrivals must continue heavy for some time. The consumptive demand here continues about as heretofore.

Choice Wheat, per ton.....	\$16.00 @17.00
Other Grades Wheat.....	11.00 @15.50
Wheat and Oat.....	11.00 @15.50
Tame Oat.....	11.00 @15.50
Wild Oat.....	10.00 @13.50
Alfalfa.....	9.00 @13.00
Stock.....	8.00 @10.00
Straw, per bale.....	45 @ 75c

## MILLSTUFFS.

The only advance quoted this week is on rolled barley, which is higher in sympathy with the raw grain. All other prices stand as before, though bran still has a tendency to easiness, as the supply of low-grade stock is sufficient to fill a large part of the demand.

Alfalfa Meal (carload lots) per ton.....	\$22.00 @ —
Jobbing.....	23.00 @ —
Bran, ton—	
White.....	29.50 @31.00
Red.....	28.00 @29.50
Broom Corn Feed, per ctl.....	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00 —
Jobbing.....	26.00 @ —
Corn Meal.....	39.00 @40.00
Cracked Corn.....	40.00 @41.00
Mealalfa.....	22.00 —
Jobbing.....	23.00 @ —
Middlings.....	32.50 @35.00
Mixed Feeds.....	23.00 @28.00
Oil Cake Meal, per ton.....	36.75 @38.25
Rolled Barley.....	30.00 @31.00
Shorts.....	31.00 @32.00

## VEGETABLES.

Onion prices are well sustained, as arrivals have been light for several days, and the market is well cleaned up. With a light demand, however, there is little strength to the market. Garlic is slightly higher. Arrivals of green vegetables have been heavy, prices on nearly all lines showing a marked decline. Tomatoes and cucumbers are in over-supply, at low prices, and both green corn and egg plant have been marked down. Peas and string beans are firm, though in light demand, and okra is also fairly steady. Some asparagus is still moving, and brings a good price. Bell peppers are fairly steady, but chilies are much lower.

Garlic, per lb., new.....	5 @ 5½c
Green Peas, lb.....	2 @ 3c
String beans, lb.....	3 @ 6c
Lima Beans, lb.....	5 @ 6c
Cabbage, per ctl.....	50 @ 75c
Onions—	
New Red, sack.....	60 @ 65 c
New Yellow.....	70 @ 85c
Summer Squash, large box.....	50 @ 1.00
Tomatoes, box.....	60 @ 85c
Carrots, sack.....	75 @ —
Turnips, sack.....	50 @ 75c

Green Peppers, box.....	50 @ 65c
Cucumbers, box.....	60 @ 85c
Green corn, sack.....	1.00 @ 2.50
Egg Plant, box.....	75 @ 1.00
Cauliflower, doz.....	75 @ 85c
Okra, box.....	1.00 @ —
Asparagus, lb.....	6 @ 10c

## POULTRY.

The poultry market appears in somewhat better condition than for the last two weeks, as receipts have been more moderate than for some time past. Neither Eastern nor Californian stock is in excessive supply, and there is a possibility that a fair clearance will be made. The retailers are limiting their purchases, though they show a little more interest than previously, but there is very little likelihood of any advance in the general run of stock. Young and full-grown roosters are rather firmer, and large fat hens may bring an advance, but small hens still drag. The demand for turkeys is good, and fancy stocks will bring above quotations.

Broilers.....	\$3.00 @ 4.00
Small Broilers.....	2.50 @ 3.00
Fryers.....	4.50 @ 5.00
Hens, extra.....	6.50 @ 7.50
Hens, per doz.....	4.50 @ 5.50
Small Hens.....	3.50 @ 4.50
Old Roosters.....	3.50 @ 4.00
Young Roosters.....	5.00 @ 6.50
Young Roosters, full grown.....	6.50 @ 7.50
Pigeons.....	1.00 @ 1.25
Squabs.....	1.50 @ 2.00
Ducks.....	3.50 @ 6.00
Geese.....	1.50 @ 1.75
Goslings, per pair.....	2.00 @ —
Spring Turkey, lb.....	24 @ 26c
Gobblers, live.....	19 @ 20c
Hen Turkeys, live.....	20 @ 21c

## BUTTER.

Butter is considerably firmer than last week, with an advance of 1 cent on the higher grades. Extras were quoted at 24 cents on the Exchange a few days ago, but have since declined ½ cent. The trade is quite brisk, however, and the supply of fancy stock is not excessive. A further advance is accordingly predicted in some quarters. At the prices now ruling, the movement of extras into storage has stopped. The San Francisco Dairy Exchange quotes the following prices:

Cal. (extras) per lb.....	23½c
Firsts.....	22 c
Seconds.....	20½c
Thirds.....	20 c
Fresh Packing Stock, No. 1.....	19½c
Fresh Packing Stock, No. 2.....	18½c

## EGGS.

Eggs have advanced again, prices being from 2 to 3 cents higher on all grades. All grades of fresh California eggs are moving well. There is no longer any over-supply, arrivals from the producing sections having fallen off noticeably, and the local demand is sufficient to keep the market well cleaned up. The advance has brought in shipments of Eastern stock, but the demand for this is light.

California (extra) per doz.....	27½c
Firsts.....	25½c
Seconds.....	23 c
Thirds.....	19 c
Eastern firsts.....	22 c

## CHEESE.

All grades of cheese are firm, California flats having recovered from the recent decline. Local Y. A.'s, however, are lower. Oregon flats have also advanced. Arrivals of local stock are liberal, and there is some movement for storage.

Fancy California Flats, per lb.....	11 c
Firsts.....	10½c
New Young Americas, Fancy.....	13 c
Storage, do.....	—
Eastern, New.....	Nominal
Eastern, Storage.....	—
Cal. Storage, Fancy flats.....	—
Oregon Flats.....	12½c
Oregon Y. A.....	14½c

## POTATOES.

Oregon stock is no longer quoted, as there is very little of it on the market. Early Rose potatoes are slightly lower, and the lower grades of whites are also weak. The market is fairly active, and stocks are not unusually large, as the shipping business keeps up steadily.

New Whites, choice.....	1.00 @ 1.15
Ordinary.....	65 @ 90c
Early Rose.....	75 @ 85c

## FRESH FRUITS.

Fresh fruits in general are quite plentiful, with large arrivals from the growing districts, but the demand for all lines is good, and choice lots show very little reduction in price, a few varieties being

higher. Poor lots, however, are frequently sold below quotations. Choice apples are a little higher, but ordinary offerings do not bring over 50 cents. Pears are easy. Figs are quite firm, arrivals being still limited. Nectarines also bring good prices. Apricots, plums and peaches show little change for good lots, but the general offerings are sacrificed. Grapes are plentiful and weak, and berries show a general reduction. The over-supply of cheap river nutmegs brings down the price of crated cantaloupes, which are 25 cents lower.

Apples, fancy.....	75 @ \$1.10
Apples, common.....	25 @ 50c
Strawberries—	
Longworths, chest.....	\$5.00 @ 6.00
Large varieties, chest.....	3.00 @ 4.50
Blackberries, chest.....	1.50 @ 3.00
Raspberries.....	3.00 @ 5.50
Huckleberries, lb.....	15 @ 18c
Apricots, ton.....	10.00 @20.00
Plums, crate.....	30 @ 60c
Peaches, box.....	25 @ 50c
Figs, single layer, drawer.....	40 @ 75c
Cantaloupes, standard crate.....	1.35 @ 1.75
Watermelons, doz.....	1.25 @ 2.25
Grapes, crate.....	50 @ 75c
Pears, Bartlett, box.....	50 @ 90c

## CITRUS FRUITS.

Supplies of lemons are excessive, and while there is a good demand for them, prices are easy. Choice limes are also a little lower. Stocks of Valencia oranges and grape fruit are light, and the latter are quite firm.

Choice Lemons.....	\$2.25 @2.50
Fancy Lemons.....	3.00 @4.00
Standard.....	1.00 @1.25
Limes.....	4.50 @5.00
Oranges—	
Valencias.....	3.00 @3.50
Grape Fruit.....	4.00 @4.00

## DRIED FRUITS.

The Eastern buyers are still showing a lively interest in prunes, owing to the anticipated shortage, and considerable movement of this fruit is reported. Stocks of prunes are very light both here and in Europe. Other fruits, however, are neglected in the East, and there is very little movement in raisins. Packers' prices for new crop raisins are quoted below. A lot of new apricots for shipment has been bought in the Santa Clara valley. Apricots, peaches, pears and figs are being actively bought up by the packers at former prices, though considerable fruit is being held back by the growers. The outlook is for a lighter raisin crop than was at first counted on, as the grapes have been badly damaged by the hot weather.

Evaporated Apples.....	5 —
Figs, black.....	2½ —
Figs, white.....	2½ —
Apricots, new crop.....	5½ @ 6c
Peaches, new crop.....	5 —
Prunes, 4-size basis.....	3 @ 4c
Pears, new crop.....	5 @ 6½c

## RAISINS.

2 Crown.....	3½ —
3 Crown.....	3½ —
4 Crown.....	4 —
Seeded, per lb.....	5½ @ 5½c
Seedless Sultanias.....	4 @ 4½c
London Layers, per box.....	9 @ 1.00

## NEW CROP.

Loose Muscatels, 4 crown.....	4½ @4½c
3 Crown.....	4 @4½c
2 Crown.....	3½ @3½c
Thompson seedless.....	4½ @ —
Seedless.....	6 @6½c
Clusters—Imperial.....	\$2.25 @2.40
Dehesa.....	1.75 @1.90
Fancy.....	1.30 @1.40
London Layers.....	95 @1.05

## NUTS.

Quotations on almonds are unchanged, and the crop is gradually being bought up. The Sutter county pool has been sold to a San Francisco packer, and while the price has not been made public, it is said to be about 12 cents. Walnut growers are looking for a good crop, but little can be told about prices until more definite statistics are had as to the European crop.

Almonds, Nonpareils.....	11½ —
I X L.....	10½ —
Ne Plus Ultra.....	10 —
Drakes.....	9½ —
Languedoc.....	9 —
Hardshell.....	— @ —
Walnuts, Softshell No. 1.....	13 @ —
Softshell, No. 2.....	10 @ —
Italian Chestnuts.....	10 @ 12½c

## HONEY.

Spot prices quoted by packers on honey are unchanged. The crop is gradually being gathered, and considerable new honey has been marketed. White sage honey is



scarce this year. Stocks are light, and there is a good demand both here and in the East. In view of the shortage, little change in prices is anticipated.

Water White, Comb lb.....	16 @17 c
White.....	15 @
Water-white, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c
Dark Amber.....	5½ @ 5½c
Candied.....	5½ @ 5½c

## WOOL.

There is considerable shipping to the East on consignment, but most of the California wool has been sold. Some is being held in the Humboldt district. A large quantity of low-grade wool is offered, but finds little demand.

Humboldt, year's staple.....	15 @18 c
Northern Coast.....	11 @13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @12 c
Oregon.....	8 @15½c

## HOPS.

Hops are very dull, as both buying and selling interests are awaiting the results of the crops. The Sacramento valley crop is said to be rather light, and many growers will be out of the market this year. Prices as quoted by local dealers show no change.

1906 crop.....	1½ @ 2½c
1907 crop.....	4 @ 6 c
Contracts.....	9 @10 c

## MEAT.

Prices show little change, dressed steers being a little easier on liberal receipts. Arrivals of most kinds of live stock continue large, though little effect is noticed on the market. Hogs are rather scarce, but supplies are sufficient for local needs.

Beef: Steers, per lb.....	6 @ 6½c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7½c
Small.....	8 @ 9 c
Mutton: Wethers.....	8 @ 8½c
Ewes.....	7 @ 8 c
Spring lamb.....	9 @ 9½c
Hogs, dressed, light.....	9½ @ 1½c

## LIVESTOCK

Steers, No. 1.....	3½ @ 4c
No. 2.....	3½ @
No. 3.....	2½ @ 3 c
Cows and Heifers, No. 1.....	3 @ 3½c
No. 2.....	2½ @ 3½c
Bulls and Stags.....	1½ @ 1½c
Calves, Light.....	4½ @
Medium.....	4 @
Heavy.....	3½ @
Sheep, Wethers.....	4 @
Ewes.....	3½ @
Spring Lambs, lb.....	5½ @ 5½c
Hogs, 100 to 200 lbs.....	6½ @ 6½c
200 to 300 lbs.....	5½ @ 6 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SMALL HOP CROP EXPECTED THIS YEAR.

Early estimates of the hop crop in the United States show a decrease of about 40,000 bales from the 1907 yield, which amounted to approximately 300,000 bales. Although the season is scarcely far enough advanced for any definite forecast, a New York City trader has compiled statistics placing the output in the various producing States as follows: Oregon, 110,000 bales; California, 75,000 bales; Washington, 20,000 bales; New York, 55,000 bales, or a total of 260,000 bales. This estimate is based on the reduced acreage and neglected cultivation, and is contingent upon normal weather conditions. The percentage of acreage plowed up and poorly worked is shown in the following summary: Sonoma, 10 per cent plowed up, 10 per cent not worked, 5 per cent poorly worked; other California sections about unchanged; Oregon, 10 per cent plowed up, 10 per cent not worked, 10 per cent poorly worked; Washington, 50 per cent plowed up; New York, 5 to 10 per cent plowed up.

In addition to the yield it is estimated that of the 1907 crop there remains unsold in first hands about 8000 bales in Oregon, 20,000 in California, 5000 in Washington, and 2000 in New York, or a total of 35,000 bales. To this must be added about 18,000 bales of 1906 hops still unsold in first hands, comprising 5000 bales in Oregon, 9000 in California and 4000 in Washington. The consumption from September 1, 1907, to August 31, 1908, has been estimated at 240,000 bales, and this is generally regarded as very liberal.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., July 28, 1908.—The demand for deciduous fruits the past week has been very good. The market has advanced on peaches and plums, but declined a little on pears. The fruit shippers have been unable to supply the demand for peaches, and as a result prices have gone upward. Crawford's to-day are selling at 55 cents, and some orders as high as 60 cents. This is an advance of 15 cents per box over the price of a week ago.

It has been reported that Delaware has a large crop of peaches, but this will affect only the Atlantic seaboard markets, and not the Western markets. Consequently the present demand will continue.

Elbertas are now going forward and they are selling at an advance of about 5 cents over the Crawford's.

Some of the local shipping points report a scarcity of plums, owing to the hot weather causing them to drop off the trees. As a result there is a good demand for plums. The prices realized at the Chicago auction yesterday were as follows:

Tragedy, 90 cents to \$1.35; Wickson, 90 cents to \$1.45; Egg, 70 cents to \$1.95; Bradshaw, 55 cents to \$1.05; Burbank, 65 to 95 cents; Diamonds, 85 cents to \$1.30; Simoni, 80 to 95 cents. A few Gros pines are now being shipped.

Owing to the heavy shipments of a week ago the pear market has declined somewhat. Present quotations are 90 cents, although sales have been made under this figure. Just as soon as the bulk of the Sacramento river and Suisun Bartlett's, which are now arriving in the East, are sold, the market will undoubtedly react, and later pears will sell to advantage.

Shipments of Thompson Seedless are now going forward from the Fresno district at a rate of about ten cars daily. Auction sales yesterday averaged from \$1.30 to \$1.60.

Taking the deciduous situation as a whole, peaches will continue to sell at good values, and plums, also. The low price on pears will cause a demand, and as soon as the heavy shipments are cleaned up the market will react, and later varieties will do well. A large percentage of the present shipment of grapes will go to auction, and fair prices should be realized.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., July 28, 1908.—(Special Correspondence)—The orange market, though not exactly sick, has been indisposed for some time, and the end of July should see the crisis, but the doctors are disagreeing. While the optimist says that the market should at least hold its own and ought to better, the pessimist says prices must take a tumble. One argues that the markets are now bare and that the tremendous crop of peaches from Georgia and Texas is out of the way, thus making room for more oranges. The other points to the fact that we still have over 1000 cars to market; that shipments have more than doubled in the past few days and that they will have to keep heavy in order to get out the fruit that must be shipped. He states that the Exchange has been holding back fruit to steady the market, but that this cannot long continue, the fruit must go out soon, and that when it does, congestion will follow.

Only the future can tell which is right, but the present state of the market is surely encouraging. The auctions in particular are good, and they are supposed to be the barometer of the trade conditions. It is pretty safe to say that there will be no bad breaks and that if there is a decline it will not be a heavy one. The situation is in safe hands, the supply will be spread out to cover all of the available territory possible. All years show bad spots, and there never was one bridged over more carefully than this one has been.

Asking prices are from \$2.75 to \$3 f. o. b. for the best fruit, and while orders are not plentiful, they are more in evidence than at this time last week. There has been shipped to date 23,000 cars of oranges, against 23,736 last year and 22,000 in 1906.

Lemons continue strong and the best grades have advanced, though poor stock is still in very poor demand. The prices obtained at Eastern auction points show

how little off-grade, poor or rotten stock is wanted. In many cases these cars do not bring money enough to pay freight, and this goes to prove that it is very poor policy to go to the far East with anything but the best lemons, as the foreigners are bringing in an ample supply of the other kind.

Of Sicily lemons, there are now available, either at docks or en route, 155,000 boxes, while in 1907 there were 270,000 and in 1906, 130,000. There will be offered in New York City this week 55,000 boxes.

California shipments up to and including Sunday of this week, were 3900 cars against 2956 cars in 1907 and 3261 in 1906.

Olive growers of San Diego county are negotiating for the old winery near El Cajon, and will convert it into an olive curing oil plant.

A meeting of the agents for the California Fruit Growers' Exchange is to be held at Kansas City beginning September 29th.

The Cawston Ostrich Co. are to move their plant with 600 birds from Whittier to Winchester, Riverside county.

## BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

**CELERY CULTURE.**—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**TOMATO CULTURE.**—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**FARM CONVENIENCES.**—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00

**FEEDING FARM ANIMALS.**—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated. 5½ by 8 inches. Cloth.....\$2.00

**THE NURSERY BOOK.**—A complete handbook of propagation and pollination of plants. It tells, plainly and briefly, what everyone who sows a seed, makes a cutting, sets a graft, or crosses a flower wants to know. It is entirely new and original in method and matter. The cuts number almost 100 and are made especially for it, direct from nature. The book treats of all kinds of cultivated plants, fruits, vegetables, greenhouse plants, hardy herbs, ornamental trees, and shrubs and forest trees. By L. H. Bailey. Illustrated. 4½ by 7 inches. 365 pages. Cloth .....\$1.00

**THE BOOK OF ALFALFA.**—Its history, cultivation, merits, and uses as a forage and fertilizer. This little book on alfalfa, which appeared a few years since, has been a complete revelation to thousands of farmers throughout the country, and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is by far the most authoritative, complete and valuable book on this forage crop ever published. The book is printed on fine paper, with many full-page photographs that were taken with the special view of their relation to the text. It is unquestionably the handsomest agricultural reference book that has ever been issued. By F. D. Coburn, Secretary Kansas Department of Agriculture. Illustrated. 6½ by 9 inches. 336 pages. Cloth.....\$2.00

**BEAN CULTURE.**—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungus pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth .....\$0.50

## PUBLISHER'S DEPARTMENT.

F. E. BALDWIN, the white Leghorn chicken man of San Jose, has an advertisement in our poultry department. Mr. Baldwin has a fine flock of over 3000 Leghorns, and is offering young stock at bargain prices. If any of our readers want good chickens and will get into communication with Mr. Baldwin they will secure some worth while.

GEO. E. WINDELER, located at 144 Berry street, San Francisco, is advertising tanks in this issue of the RURAL PRESS. Any of our readers who are thinking of putting in these necessary adjuncts to the farm will make no mistake in dealing with Mr. Windeler.

The MINNEWAWA VINEYARD, of Fresno, is offering eucalyptus rudis seed. See ad. on another page.

H. G. BROWN, of Elmira, wishes to dispose of some fine merino bucks. See ad. in stock department.

A. M. ROBERTSON, of 1539 Van Ness avenue, this city, will issue about September 1st a very handsome book of about 200 pages on the "Scientific Aspects of Luther Burbank's Work," written by David Starr Jordan and Vernon L. Kellogg. The price of the book will be \$1.50.

The Fullerton News says that the Walnut Growers have secured the services of A. Pierotti, of Placentia, now in Europe, who will visit European walnut centers and report on the state of the crop there. Upon his report the scale of prices for walnuts in California this season will be fixed. The outlook is for a big yield of walnuts in the Fullerton district.

INDEX TO ADVERTISERS  
Pacific Rural Press

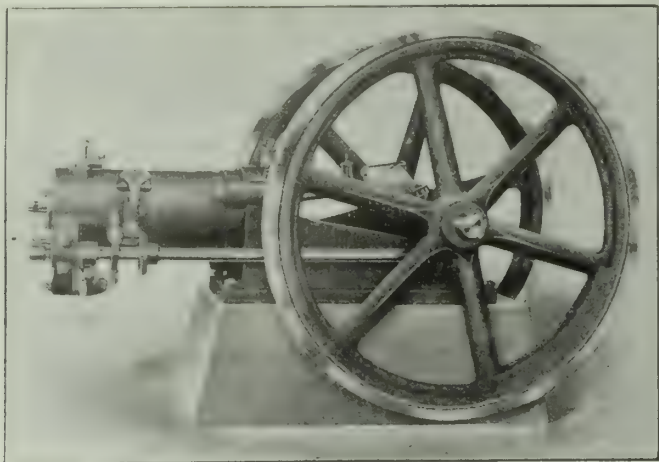
(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	—
Baldwin, Frank E.....	75
Beckman, Geo. V.....	73
Bird & Co., J. A. & W.....	77
Blake, Moffitt & Towne.....	80
Bray Brothers.....	80
Breeders' Directory.....	73, 75
Brown, H. G.....	73
Croley, George H.....	75
Clark Wise & Co.....	—
Cutter Laboratory, The.....	73
De Laval Dairy Supply Co.....	73
Deming Co., The.....	80
Dewey, Strong & Co.....	80
Dietz Company, R. E.....	80
Disbrow, F. H.....	77
Doak Gas Engine Co.....	80
Driver, Aber & Co.....	77
Driver, E. S.....	73
Fresno Agricultural Works.....	—
Galloway, A. J.....	77
German Kall Works.....	75
Hamlin, Miss Sarah D.....	77
Hart, Ed.....	75
Hopkins & Son, G. H.....	77
Howard Cattle Co.....	73
International Harvester Co.....	—
Jackson & Co., T. W.....	80
Kendall, Dr. B. J., Co.....	—
Lawrence-Williams Co.....	72
Lilly Co., Chas. H.....	72
Lister, Henry B.....	80
Lynch, John.....	73
Meacham, Frank A.....	—
Minnewawa Vineyard.....	77
Mountain Copper Co.....	80
Murphy, P. H.....	73
National Wood Pipe Co.....	80
Oakland Poultry Yards.....	75
Pacific Pipe Co.....	—
Pear Blight Remedy Co.....	80
Rix, O. A.....	80
Robinson, John R.....	76
Roeding, Geo. C.....	73
San Francisco Sulphur Co.....	75
Sharples Separator Co.....	73
Silva & Bergtholdt Co.....	80
Simmons Hardware Co.....	76
Smith, Francis.....	—
Southern Pacific Railway.....	80
Standard Oil Co.....	72, 73
Stowe, C. A.....	73
Sullivan, W.....	75
Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Vermont Farm Machine Co.....	73
Wagner, J. B.....	77
Waite, Thos.....	73
Western Gas & Power Co.....	77
Windeler, Geo.....	80



## THE DOAK GAS ENGINES STATIONARY, PORTABLE, HOISTING and MARINE.

All sizes from 3 to 50 H.P. carried in stock at all times.



If you want the best, the most reliable, the most economical and the simplest engine on the market, write for our latest catalogue before you buy.

Call on us and inspect our engines when you come to see the fleet. Take broad gauge local train and get off at Oak Street Station.

### DOAK GAS ENGINE CO.,

Business Office: Rooms 86-87-88 Bacon Building, Oakland.

Sales Office and Factory: 4th and Madison Streets, Oakland.

## Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

August 17, 18, 24 and 25.

Sept. 15 and 16.

Sept. 23, 24, 25 to Kansas City Only.

HERE ARE SOME OF THE RATES:

Omaha	. . .	\$ 60.00
Council Bluffs	. . .	60.00
Kansas City	. . .	60.00
Chicago	. . .	72.50
St. Louis	. . .	67.50
New Orleans	. . .	67.50
Washington	. . .	107.50
Philadelphia	. . .	108.50
New York	. . .	108.50

Tickets sold on July dates good for 90 days; those sold August and September good until October 31. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

## All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the lightest sand—all are alike where wood pipe is used. It resists them all. Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our book let, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
Sausalito, Cal.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**

150 PINE STREET, SAN FRANCISCO.



WINE TANK.

## Tanks

WINDELER'S PLANING MILL  
AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

144-154 Berry St.

## Tanks

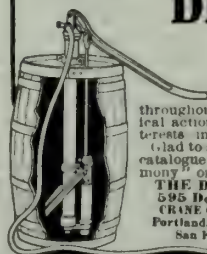


WATER TANK.

## Farmers! You Should Spray

Spraying is cheap but effective insurance against crop destruction—the best policy is a

## DEMING Sprayer



Eighteen styles, built for hard service with brass working parts throughout—not affected by chemical action. Consult your own interests investigate the "Deming." (Read to send our Nineteen Eight catalogue and "Expert Testimony" on request.)

THE DEMING COMPANY  
595 Depot St., Salem, Ohio.  
CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.

## Almond Hullers

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

"THE OLD RELIABLE"

## DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1880.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans. San Francisco, Cal.

Members Merchants Exchange.  
Established in 1855. Correspondence invited.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 6.

SAN FRANCISCO, SATURDAY, AUGUST 8, 1908.

Thirty-eighth Year.

## THE AMATEUR AND THE POULTRY SHOW.

By M. R. JAMES.

Preparation for the showroom must begin months before the show dates, even when one has the right stock to exhibit. The amateur cannot

go into his yards and select a likely bird or birds a day or two before the entries close and expect to compete have been preparing with the fanciers who and training their stock from the time it was hatched; not to mention the study and care which went before in the breeding and mating of the parent stock. His pure-bred chicks should be frequently and carefully gone over and the promising youngsters selected and placed by themselves in good quarters, these to be winnowed from time to time as defects develop. It will be a case where "many are called and few are chosen." Of a hundred pure-bred cockerels there are not likely to be more than ten that will pass muster the first time. Of these ten not more than one, or possibly two, will pass the final examination. A setting of eggs from a pair of prize-winners may not produce a single prize-winning bird; which fact is apt to make the amateur think he has been cheated. Often the chicks most promising at the outset will develop serious defects, the cockerels running to comb and wattles and coarseness, and the pullets becoming ill-shaped and ungraceful. The Amateur must take the Standard of Perfection and go over his

fowls, point by point, comparing them with the standard requirements for the breed in question. The experienced fancier spends hours and days in this manner, and in studying every part and point of his birds, in order to mate them for desired results. It requires work to win the Blue,

and also genius, which is said to be but another name for "infinite pains."

When the final selection is made and the Amateur feels that he has a bunch of birds good enough to appear in the showroom, his work has only begun. He must give them judicious care; keep them in houses and runs which are scrupu-

wattles and breasts. Each cock or cockerel must be kept by himself, to prevent risk of injury to comb or plumage in sparring and fighting. The bossy hens and pullets should likewise be kept to themselves. The caretaker should pet the fowls and train them to be handled; encourage them to sit on his knee and be stroked and talked to. Even

the flighty Leghorn will come to enjoy this under gentle and patient training.

A month or so before the show he should get clean boxes about the size of exhibition coops and keep his birds in them a portion of each day; in the meantime continue their training: teach them to step on the hand and to pose. The cockerels may be taught to crow for a tidbit, and many other smart tricks. All this counts in the showroom. It attracts attention and it shows off the good points of the bird, while a frightened fowl is always at a disadvantage and is the *bête noir* of the poultry judge.

Shortly before sending the birds to the show, they must be washed and groomed. Usually only the white and buff colored ones require washing; but some fanciers wash the darker birds, especially those with a mixture of white in their plumage. The proper washing of fowls is quite an art, and had better be left undone than to be ill-done. The shanks, feet and toenails should be as carefully manicured as my lady's hands and nails. Afterward polish with a mixture of alcohol and glycerine, wipe the comb, beak and wattles with the same. Be careful of them in transit; send in boxes high enough for the birds to

stand up straight, and lined with muslin.

The Amateur should be in the showroom as much as possible; compare his birds with others; strike up an acquaintance with the judges and fanciers; learn the whys and wherefores of poultry

(Continued on Page 88.)



TYPICAL SPECIMEN OF LIGHT BRAHMA—MALE. (See Page 88.)

lously clean and protected from harsh winds and hot suns, in order to preserve the delicate tints of feathers and feet and legs. Sticky foods, sloppy mud and the like must never come near them; their drinking vessels should be so arranged that the fowls cannot drizzle the water down their



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS  
E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

There will be held in Kansas City, beginning on September 29, a meeting in the interest of California, the like of which has never been held before, and to which we attach particular importance. It will be an assembly of the agents and association managers of the California Fruit Growers' Exchange, and will include over seventy paid salesmen who are working in the various large cities and market places from the sunrise side of the Sierra Nevada eastward to the Atlantic Ocean, to extend the profitable sale and distribution of California products. For three days this assembly will discuss methods and policies, to the end that all may be made wiser and more spirited in their work. Among the subjects which specially experienced men will discuss at this meeting will be the following: Picking, packing and shipping; distribution and sale at auction; the European market for citrus fruits; the grade, the pack and the package; inspections and rejections; assignment and shipments of special orders; advantages of splitting a car of lemons; development of new trade; auction methods; market information; advertising; correspondence and records; claims; economy in telegraphing and telephoning; discounts and allowances; deciduous fruits, etc. We name these topics because they indicate that the people who handle California fruits have no longer to deal with generalizations and exhortations alone. They have advanced from volley-firing to sharp-shooting. They are handling a business which is really the controlling factor in the safety and surety of our fruit industry, and they assemble to apply collective wisdom to the need of doing it better and doing vastly more of it. We do not mean to indicate at all that these people and the benign co-operative organization which employs them are the only agency which is winning money for California through the fruit trade. By no means: all honest and energetic fruit trading is also effective toward the same patriotic end, but there is a shaping and regulating influence exerted by the growers' actual participation, and a point of view and conception of policy which none but a broad-minded growing interest can attain and occupy—all of which are essential to the development of trade which the future of the industry demands.

Thirty-three years ago next December we attended our first meeting formally called for the purpose of extending the distant marketing of California fruits. We say our first because our participation does not extend to at least one such meeting held prior to that date. It was the first description we had heard of the opportunity of selling California fruits at the East, and the first declaration that the upbuilding of the fruit industry, which had already reached a product beyond the local demand, depended upon the pursuit of a policy which should be dictated by a producers' and not by a dealers' conception of advantage.

The speakers at that meeting, most of whom are now gathering the apples of paradise, insisted strongly upon a distributing and selling agency which would work to dispose of just as much fruit as possible at a profit, rather than to sell a minimum amount of fruit for a maximum return—which is a sort of commercial conception, if we mistake not. But how should a broad, producing policy be made to prevail? It would clearly multiply the acreage of California orchards and vineyards, but how could freight rates be made reasonable? How could dealers' profits and commissions be made something less than the receipts after paying freight rates and other costs of placing the fruit in the consumers' hands? The answer was as clear a third of a century ago as it is today: "By organization of growers and equipment to do their own business if need be." But the answer to the next question was not so readily reached. It was: "How shall such organization be effected and made effective?" No answer came in 1875.

Just after the meeting to which we have alluded the chance of trading more freely in California fruits excited a few enterprising merchants in Sacramento, many of whom are now, perhaps, selling the apples of paradise, some of them, possibly, with strong pre-cooling facilities, and these merchants did so well with their little-fruit-for-much-money notion that they created a sharp demand for shipping fruits, and in connection with the canning and drying industries, then also beginning, that there arose the fruit planting boom of 1880. Naturally, with such a demand for fruit, the idea of much-fruit-at-a-little-profit was forgotten. Of what use was it when the little fruit was nearly all money? But the trees of 1880 yielded a plenty in 1883. The merchants of 1880 began to realize what is sure to happen when one plays a faro bank against a national. A freight rate about thrice what now prevails, fruit handling which would almost have ruined potatoes, and shipping to markets which had never been taught that California fruit was anything more than ornamental—all these and other things—demonstrated that the traders' policy was inadequate to the general need, and too risky for private profit. Then arose again the problem of 1875, and the old key to its solution: "Organization." The first promising effort to answer the other question, "how to effect it," was made under the leadership of Mr. H. P. Livermore, and the "California Fruit Union" was born. We remember the pilgrimage which Mr. Livermore and others made to Los Angeles in 1885 to win support at the South for co-operative fruit marketing. But the meeting for final organization in San Francisco fell under dealers' control, and to the main question, "How shall a growers' organization be made effective?" no answer came in 1885.

Time fails us to tell the Gideons of the raisin industry and the Baraks of the prune industry, how they failed though fighting valiantly. The details of the organizations which they led and an analysis of the plans which they cherished are to be found in a book of agricultural economics entitled "The Modern Farmer," by Mr. Edward F. Adams of San Francisco, which appeared in 1899 to soon to contain their epitaphs, so we shall apply a very trite one: "They did what they could." So long as members will not agree, so long shall organizations perish. And yet while they have agreed the members of all co-operative organizations have accomplished something for their own enlightenment and for the advancement of their industries. Every effort for wider distribution has accomplished something. Every grow-

er's effort has lifted the dealers, the transportation companies and the California public generally to broader views and higher industrial patriotism. To borrow from Tiny Tim, we say: God bless them everyone!

We are not undertaking a history of these efforts. Like a true impressionist, we scorn details: we want effects. We have not called down blessings on them all by name, nor have we damned those who could not see general good writ larger than private gain. The circumstance which we choose for emphasis is the approaching meeting of Eastern agents of the greatest organization which we have still with us, and in whose success now lies the hope of effective organization of all growers' organizations, whether they handle products in rinds, shells, or feathers—The California Fruit Growers' Exchange. For this association of California orange growers, with its present disposition to handle deciduous fruits also, is really the warrant for all lesser efforts at organization. It seems to answer fully the questions which decades have left unanswered, and it shows by its history and its daily course how growers can be effectively brought together. It has had troubles, of course, but it has outlived them. It has had men who could not forsake private interests, but it has displaced them. It is now managed by a man of notable skill and force, who, we understand, disposed at once of all producing citrus property of his own, lest he be led into temptation to serve private interest. Such a man is apparently broad enough to handle the products of a State in the world as a market.

But while writing of a very comprehensive organization, we do not forget the indispensable services of local organizations. They are the units which comprise the general force and efficiency of the central organization. Many there are of them in various parts of the State: there should be many more, and their problems will be many and diverse. Their field lies both in country and town. A catalogue of them would itself fill a page. Let us mention merely two situations:

On a ranch at Gardena, in Los Angeles county, last spring there was an acre of Burbank's Winter Rhubarb, in splendid shape, ready for the market. The grower expected to sell at a good price to commission houses at Los Angeles, but was unable to get them to handle the crop at a price that would have paid more than the cost of cutting and express to market. At the same time Los Angeles housewives were complaining of the high price of rhubarb and the scarcity of it even at the prevailing price of 15 cents per pound retail. It was suggested that the grower get other rhubarb growers together and put men to work on the streets of Los Angeles and sell it at a moderate price and he would create a market, and the users would have the product at a fair price. But he was a busy man and like other farmers let his crop go by rather than take the time to work up an organization to supply the demand. There seems no doubt but that such a loss could be avoided by the right sort of organization for such a purpose.

Take a large trouble. The report is that the growers of 1800 carloads of cantaloupes which they shipped this year from the Colorado River region received less than \$1 per car after expenses of packing, icing, freight, and selling. It seems incredible that such should be the fact. If so, however, it is very clear that organization which will prevent the product piling up at a few Eastern points is the only safeguard for this product.

But it is useless to multiply instances. The suc-



cess of the walnut growers, the egg producers, the California Fruit Distributors, the California Fruit Exchange and all the others which we have not named and which are working to clear obstructions from the path of trade, should be an inspiration to proceed with this general movement until the producer's returns be made secure and his proper share is guaranteed from whatever any legitimate traffic will bear. It will certainly help toward that end to disseminate information of what will be undertaken at the Kansas City meeting, with announcement of which this string of comments began.

## Queries and Replies.

### Burnet and Dry Land Grazing.

To the Editor: In a talk I had with you last summer I learned your opinion that no plant had been found suitable to our hill slopes for summer growth. Our ranges, which once had a luxuriant growth of wild oats and other native forage plants, have practically ceased to produce a reasonable growth. What is to be done? Is there no hardy plant of winter growth to take the place of wild oats, as cattle take the place of deer? Fox-tail seems to be about our most valuable asset. Do you know anything more about the plant called "Burnet," of which you had a good account in the RURAL PRESS some months ago?—Farmer, Sonoma.

Burnet is one of the most promising plants for the coast hills we know of. As for winter growth on the slopes, wild oats and other native forage plants will reappear if the lands are not overstocked, and especially if the stock is taken off so that the plants can make some seed during the latter part of the rainy season. The reason why they were so good before is because these plants had a chance to make seed, which has been denied them during recent years, and the foxtail, which looks out for itself in seeding, under all conditions, has gained right-of-way. This is one of the most interesting questions in our California agriculture, and we are sorry it is not easy to accomplish the improvement which is so desirable.

### The Lovell Peach.

To the Editor: I contemplate planting Lovell peaches this fall, and would appreciate information on that variety, as I have heard a good deal in favor and against this special peach. Our soil is a sandy loam, about 14 miles from Los Angeles, well adapted to any peach except the Muir, which bears heavily but grows dwarfy and is too short of life. The points in favor of the Lovell I have heard were that it is a heavy bearer, yellow meat, small pit, and liked by canners. Against it, I hear of growth too much to the north, late coming out in leaf, easily surburned, too short of life, but six or seven crops are to be expected; its usefulness about played out at ten years old. It is in regard to these last points that I should like to get your ideas and information.

The good points of the Lovell peach have been well described to you. It stands next to the Muir in popularity as a yellow freestone, and is gaining acreage rapidly. It is a better grower than the Muir, but the Muir does in some parts of the State much better than your letter indicates, and the Lovell certainly does not show all the bad points you mention. It is more than likely that you have some conditions rather trying to peaches which are more at home in other parts of the State. We would like very much to have from our readers some accounts of their experience with both varieties.

### Pronunciation of Hydrangea.

To the Editor: Will you kindly give the correct pronunciation of hydrangea? Some say "hydrangea," with the "gea" as in "fear"; others

"hydranga," with the "a" as in "au" and the "ga" as in "far." Which is right?—Reader, Mill Valley.

The pronunciation of hydrangea depends upon whether you use the English or Continental method of pronouncing Greek. As the latter is now almost universally approved, the "a" in hydrangea should have the sound of "a" in "far"; the "g" has the sound of "j," and both vowels following it are separately sounded. The accent is on the "an."

### Washington Apricots.

To the Editor: I am sending, under separate cover by mail, four of the Moorpark apricots from Wenatchee, Washington. These were the ones I spoke of when in California, and I just received them from Wenatchee today. I trust that they will arrive in good condition.—F. W. P., Salem, Oregon.

The apricots arrived in first-class condition and are exceedingly handsome and good. They are, however, not the Moorpark which we grow in California, but a great deal more like the St. Ambroise. They are quite flat, while the Moorpark is notably globular. Whether they are the St. Ambroise or of some other variety similar to it in shape which we are growing to a small extent in California, we are unable to state. They certainly do credit to the district in which they were grown.

### A Twig Borer.

To the Editor: I made a discovery of an apple tree borer yesterday and am mailing it to you under another cover, confined in the twig where I found him at work. I found them on several trees, all boring in the same manner in the forks of the limbs where the young shoots come out. As you will see, they bore down the center of the small limbs. I would like to know if you are acquainted with him, what he amounts to, and what to do to get rid of him if liable to do much harm.—JAMES CASS, Cayucos.

Yes; he is an old acquaintance of ours, and his name is *Polycan confertus*. Sometimes they call him the "olive twig borer" because he was first noticed on the olive, but more recently he has shown an appetite for nearly all kinds of fruit trees, and grape vines also. The insect, however, does not breed in fruit trees, although it does breed in old vine stumps sometimes. It is native to our forest growth, and breeds in old manzanita wood, etc., and is worst in orchards which are near wild land. It never becomes abundant enough to do much harm except on young trees which have been pruned to just the right number of small branches and you do not want to lose one of them. Otherwise the insect is negligible.

### Almond Growing.

To the Editor: I would like to know something more about almond growing than is given in the article in your issue of June 27. On land that has grown wheat for several years would plowing and harrowing once be sufficient preparation for planting? When would you do the plowing and planting in a dry country where the first rain comes in November and the next in January. Must you plant bitter hard shell, or will any hard shells do?—Investigator, Los Angeles.

Plowing and harrowing will do until you have to dig the holes. With such a rainy season as you describe, we would plow for almonds on February 29 and plant on April 1. Ordinary hardshells ought to fit the case; the experience will be bitter enough afterwards. Although the almond root is splendidly adapted to a deep, light soil and will get the water if there is any this side of China, it does not follow that you will get any nuts to speak of. The almond is not a desert plant. There have been many disappointments in such investments as you apparently have in mind.

### Too Much Riotous Living.

To the Editor: Will you do me the favor to advise me on the following: I have a lot of very thrifty looking tomato plants in my back garden in Berkeley now in blossom. In appearance the plants are all that can be desired, but after the flower dies the flower stem drops off; sometimes very small tomatoes form and then after a short time the stem breaks and drops off. I fertilized the plants with nitrate of soda, then used a small quantity of complete fertilizer. The soil is adobe, but mixed with stable manure and is fairly friable. As it looks now, I have succeeded in raising fine looking plants but shall have no tomatoes at all. I have not given them any water lately on the advice of neighbors. Kindly state whether the plants require an abundance of water and whether anything can be done to prevent the old blossoms dropping off and to aid in the developing of the tomatoes. The plants have a southern exposure and are protected from the west wind. I shall appreciate very much indeed your advice on this subject.—Tomatoes, Berkeley.

Your plants are growing too fast. You have fertilized too much and the plants have had too much water earlier in the season. Tomatoes cannot stand prosperity as the squash family does. They may behave better later in the season if they feel the pinch of poverty a little.

### Summer Pruning Young Trees.

To the Editor: A variety of fruit trees set in alfalfa are making rapid growth by reason of too much water when irrigating the alfalfa. Is it not best to cut back—say in July or August—to prevent being broken by the wind? I see nothing about summer pruning the first year after being set.—Subscriber, Sacramento county.

It is of course better to cut back than to let the trees break to pieces. It is not usual to summer prune the first summer, because it makes a stronger stem and root system to allow all the first summer's growth to mature. If, however, the trees are actually in danger of being broken, we should cut back part of the growth, leaving plenty of laterals to maintain the activity of the tree, and wait until winter to do the farther cutting-back which may be desirable to secure low-branching of the main limbs. In some cases this reduction of the top growth may be avoided by tying the branches across with bale rope to prevent too much swaying in the wind.

### They Probably Have Water Enough.

To the Editor: In shutting off irrigation to keep my walnuts from over-growing, I presume I starved my peach trees. I have no fruit, but the trees are bright green and have plenty of new growth now. I expect to give a good watering in a day or two. Spraying with Bordeaux, as you advised, cut out curl leaf all right.—Amateur, Los Angeles.

As your peaches are looking well and making new wood, it is not likely that non-bearing is due to drought. When the tree looks well it has water enough generally, still irrigation now to continue the thrift may have much to do with fruiting another year.

### Red Spider on Prunes.

To the Editor: I enclose some leaves off our French prune trees. I notice a web, egg and spider, I think. Can you tell me what it is and what, if anything, can be done? The crop is gone so that can't be damaged by an after treatment.—W. J. H., Shasta county.

It is the red spider, a minute mite which is well known. It can be most cheaply handled by thorough sulphuring of the trees with a suitable belows or blower, using finely powdered sulphur just like that for vine mildew. It ought to have been done earlier in the season when the pest first appeared.



## Horticulture.

### HOW TO GROW FRUIT IN A DRY YEAR.

To the Editor: Apricots are the first fruit we handle. The present year of 1908 has been a test for the fruit growers: whether they shall have small or large fruit to sell now or in the future. The buyers do not want any small fruit this year; the canners, shippers and the dried fruit men give it the go-by and look further.

**Dry Culture.**—There are two methods of obtaining good sized fruit in a dry year: deep plowing in the spring and good cultivation up to the time of thinning. If the trees are young, but of the bearing age, they will hold the fruit longer and greener on the tree than trees of the age of 10 to 14 years old; the young tree ripens more slowly than older trees.

If the spring rains do not come before March 21, it is about time for you to look to deep plowing and good cultivation. Between May 1 and 10 thin your fruit on all your trees. On your young trees do not let one apricot touch another on the branch; thin out the bunches and clusters in a dry year to half a crop.

Old trees must be more severely thinned. They are more inclined to grow in bunches and clusters, from 4 to 20 on a fruit stem. Thin them to one finger apart and to a half a crop.

This advice is for the grower who has no system of irrigation for his orchard at the proper time. If you will follow the above rule in a dry year you will be able to sell your crop—and the sizes will come up to the buyer's idea of good clean fruit, and the same will not be found under the trees on the ground, as one sees this year in every direction.

**Irrigation.**—The other way, if you wish to succeed every year, rain or no rain, is by irrigation. Place in your orchard a good pumping plant, suitable to the number of acres in fruit. If a neighbor will supply the water you are fortunate; you can save on that item. But don't be mean; the water will well pay for the fruit. It will surely pay the owner of every five-acre tract in orchard to have water on it when needed. It will pay every owner of a bearing orchard in the State to control the water for its use. And to be up to date in the fruit business, eternal vigilance today is the price and cost of fruit in California, and especially in the early fruit district of the Winters region, mostly on the south side of Putah creek.

**Other Requirements.**—Let me here say, once and for all, there are so many things connected with successful fruit growing, that it is a real science. One must know at sight the condition and health of the trees of his orchard; the growth and what they need.

Apricots need good heavy pruning every year. If it is a year of no crop there will be plenty of inside growth and lots of wood to cut out. The year of a good crop there will be but little inside growth of wood. This is the year of fruit. Look sharp to the health of your tree for next year's buds by thinning out all inside growth and shortening all straggling limbs. Spray in the last week of November with bluestone and lime, or Bordeaux mixture. In February, or just before the trees come into bloom, spray with lime, sulphur and salt, or repeat with Bordeaux mixture. It is more effective against blight and it makes the bark nice and clean.

Thin carefully during the first days of May—before the pit is solid. There are four growths in fruit trees every year: The bud growth and bloom; the leaf growth; the wood and fruit growth; and the last growth in September, to strengthen the buds for the coming year; then the tree becomes dormant.

After the thinning, prepare your land for the water. Run your furrows as the land drops away; plow three feet away from the trees, on each side of the row, throwing the furrow toward the tree. When the land has been plowed in furrows one way, then cross-plow furrows, if the land is nearly level, every 50 feet; if steeper, every 25 feet. These cross-checks hold back the water from running faster than you want it. In that way the whole space, including the furrows, will be covered with water.

The slower you put on the water, the deeper it sinks. On the first irrigation the land is so thirsty for that long first drink, you wonder where it is all going, but in a little time it comes along with a strong force until the whole row has been watered.

If your main ditch is large you can irrigate three or four rows at a time. Let the water slowly seep into the ground throughout every row in the orchard. When you have finished the last row, go right back to the first row and commence it all over again. The second watering will be done much faster than the first, and will be very effective.

Some parts of all orchards will dry out sooner than other parts. Start the cultivation on that part that is ready. You can lose the moisture in a day if you don't watch it. In three or four days start the cultivation up and down the rows; do good work; do not skip any part of the ground that was watered. After the cultivator, follow with the disk harrow. Then follow with the clod-smasher and smooth the land to prevent evaporation. In that way one will be able to raise good fruit in a dry year, and in no other way.

**Details of an Apricot Orchard.**—My apricots are Royals and Blenheims. The soil is a deep sandy sediment 28 feet deep; water gravel 22 feet; 12 feet of hard sand pan; where we reached second water. The total depth of wells is 65 feet. We have two wells in one pit.

We have a fine 18-horsepower crude oil gas engine. It is started with gasoline and distillate and afterward run on crude oil. We have a No. 5 centrifugal pump, throwing a powerful stream. It is belted from the engine fly-wheel horizontally, and has connecting upright belt from the pump, with tightening jacks and levers.

The engine works easily. The pump throws 50,000 gallons an hour, or 500,000 gallons on a ten-hour run. The water is two feet below the pump, and after stopping the engine after a day's run the water is at the same level instantly, showing a powerful flow from beneath.

The trees are planted in squares, 25 by 25 feet apart, and are 13 years old. I consider a good crop six green tons to the acre, or one ton dried.

I never irrigate less than twice, and three times if needed. My personal judgment and how the trees respond to the water, is my guide, but I always err on the side of 'more water' for deep sediment soil such as I have. The bottom and top moisture should always meet beneath in any year to insure a full crop.

In ordinary years when the rains are plentiful during or at the time of blooming only the healthy blooms will stick, which does not insure so large a crop, but larger fruit and not so many on the trees. This season is just the opposite. There were no rains during the blooming period, no north winds, the weather was clear and warm, and every old bloom held on, good and bad, and developed into a fruit.

In many orchards not only first blooms, but second and even third blooms, hung on, and hence the small fruit on the trees. It may not occur again in years. Of course this has cheapened the price per ton of apricots, leaving out the scarcity of fruit during the last three years. The law of supply and demand is surely hitting the growers hard this year, and the prices are away down. They range from \$12.50 per ton to \$15, \$17.50, and \$20—the highest figure paid here.

Even then the canners refused to purchase the smallest size, and such fruit could not be made into dried fruit. It is so small that the orchardists had to pay 20 cents a box for cutting. It does not pay when good dried apricots are selling in the orchard for 6, 6½ and 6¾ cents.

**Management of Drying Yard.**—In former years during the drying season there have been more or less circular gusts of wind coming up in the afternoon, mostly from the south, caused by the heat, many times overturning the trays and scattering the fruit. A cloud of dust comes also, making it very bad for the drying fruit. Never attempt to place the soft scattered fruit on the trays; if you do you will make a mess of it. Let it dry where it is; you can hardly save it all.

Just at this point we determined to plant alfalfa in the drying yard. We lowered the car tracks to the level of the ground and set them permanently. In the fall, after the fruit-drying was over, we flooded the space, which is a little over half an acre (125 by 225 feet). It was disked both ways

and leveled and harrowed. The water runs east. We raised a small inclined furrow, on the line of the trees, north and south, acting as a check, and planted the alfalfa before the rains. The land was moist at the time and the seed came up. The winter rains came and kept it growing all through the winter. In April we cut the first crop.

Just before we need the space for a drying yard, we make another cutting, about June 20, cutting it down close and raking it clean. Now we are ready to use the yard for the trays and fruit. When the drying season is over the yard is cleared, and the space then is as clean as a clay floor, from being used so much. It is then flooded with water all over twice. In three weeks the top of the ground is green all over, and before the rains come we have another cutting crop: three crops a year, a ton at each cutting. So we make something from the space that was before occupied by trees, and have solved the dust problem, which means clean fruit and better prices.

Although this article is written as a guide to the care of apricots, I may say that the peach requires the same treatment in every case, but more so in pruning, spraying, plowing, cultivation and irrigation and thinning. The care one gives to his trees, the source of his living and income, I am sure makes it a success, if they are planted on the right soil.

I hope this will bring to the notice of men who are new to the fruit business the value of careful attention, and suggest to older orchardists to do a little thinking. The love of fruit growing from its practical and commercial points prompts me to write, and I hope I have been able to answer truthfully your request, how to grow fruit in a dry year.

PETER F. GANNON.

Winters, California.

### A BATTLE WITH PEAR BLIGHT.

To the Editor: They have been very free from pear blight in Lake county until lately—now it has become an enemy to be reckoned with. I was fortunate enough to have the opportunity of talking with one of the most intelligent and progressive ranchers in the vicinity of Kelseyville, Mr. F. Stokes, on the subject of pear blight. He said that in his young orchard from three to five years old, there had appeared no blight until this year. It is probably spread by birds and bees at the time of blossoming. In about two weeks thereafter the blight begins to show. The leaves shrivel after the blight begins to show. The leaves shrivel as if burnt, and turn black. You find the bark shriveling also and turning dark. Removing the bark you find instead of the clear pink color of the wood beneath an exudation of a gummy substance much like honey. As the blight becomes worse this assumes more the appearance of molasses. Wherever the infection appears the parts affected must be cut out and burned.

Spraying which is used for red spider and scale avails nothing against blight. The bulletins of the experiment stations advise the greatest watchfulness, unsparing use of the knife and the burning of every infected particle of wood.

Two weeks after the time of blossoming Mr. Stokes went over his orchard, carefully removing every infected part from six inches to a foot below any trace of the disease. After every cut the shears were disinfected with crude carbolic or sulphuric acid, the cuttings carried away and burned. "We'll get rid of blight all right," he remarked cheerily. Behold, in ten days, more blight. In places that had been cut before the disease appeared again running down the limb. Shears and saw to the rescue, cut again and the team needed again to carry away the cuttings to the fire.

When I was there in June the work was still going on and I had plenty of chances to make acquaintance with blight.

After the busy work of the day is over, attired for the fray, with belt which held bottle of disinfectant, shears and saw, the orchardist sallies forth. He dreads to look at his finest young trees, but the surgeon's work must be done. He cuts now much deeper with less thought of saving the tree than earlier in the season. Quick to his practiced eye show a few shriveled and blackened



leaves; quickly to the touch the bark yields loosely, revealing the honey-like poison beneath, into which the life-sap of the tree is being transmuted. Out come the shears, cut six inches to a foot below as at the first of the season? No, two feet, three feet, take the whole limb to its junction with the trunk. There is a drop of honey-like gum on a leaf, the poisonous dropping from the cracking bark. Cut the whole cluster; take no chances; follow up the slightest traces of the dread disease. It is like the plague, the black death, for the human race, rapid, relentless, unsparing.

While the brush is being carefully carried away I ask the owner how long this attention must be kept up. "All summer," is the unhesitating response. "We have to go over the whole orchard once or twice a week. I do not cultivate my land as thoroughly as I did last year. We find that under very thorough cultivation the sap flows faster and growth goes on with greater rapidity. Under such conditions the disease carried by the circulation of the fast-flowing sap gains so rapidly that it is scarcely possible to keep up with it."

On the road to Kelseyville several orchards were pointed out to me in which cultivation had been brought to a standstill in the desperate hope of checking the progress of the disease. Some had been plowed but once, others had not been touched this year, the ground entirely grown over with grass in the midst of which the young trees were struggling for a bare existence.

Too soon yet to tell whether these heroic measures are going to check the progress of the disease sufficiently to save the orchard. The worst of it is that however carefully an orchardist may look after his own trees, yet some neglected orchard miles away may again spread the infection.

What the mysterious disease is, through what undiscovered bacteria it is propagated, and how to strangle it in its inception—these are problems worthy of the attention of the best of scientists.

G. S. HURWOOD.

Geyserville.

#### A NEW WALNUT BLEACH.

The Anaheim Gazette says that J. B. Neff and S. Hayden were in Los Angeles recently inspecting the new electric bleach for walnuts under demonstration by Professor Stabler at the University of Southern California. The Gazette continues as follows: Professor Stabler is under contract with the Walnut Growers' Association of Southern California for five years to discover a walnut bleach which will supersede the chlorine bleach. The new bleach is composed of a solution of four pounds of salt and 100 pounds of water, which is run through an electrical apparatus and the nuts subsequently immersed therein. It is known as the four per cent solution, and is said to be a better bleach than the old process. The bleaching solution has, moreover, none of the objectionable features of the chlorine dip. A number of walnut growers were present from different portions of southern California, and all pronounced the new solution superior to chlorine. It is probable the local associations here and at others points in southern California will immediately install the new electric bleach. The chlorine bleach will be entirely abandoned. It is patented and large sums have been sued for against the different walnut associations of the State.

Secretary Phelps of the Anaheim Walnut Growers' Association says so many growers are asking for membership that the association will have to look for larger quarters and additional machinery in order to handle the season's crop. Four hundred tons of walnuts will be handled by the association, which is twice the quantity shipped last season. Outside growers are constantly asking for membership, and one of the matters now confronting the organization is how to adequately care for all the outside growers seeking admittance to the association.

Samples of last year's nuts bleached by the new process are on exhibition at the American Savings Bank, Anaheim. They are perfectly bleached. The nuts were among the hardest to bleach of last season's output, but were perfectly bleached by the new process. They are attracting much attention from local growers.

## Floriculture.

### NOTES ON PLANTS AND PROGRESS.

Mr. Eugene Germain, the well-known Los Angeles seed and plant lover and expert, recently gave the Los Angeles Herald a few very pertinent and patriotic notes of his own experience and observation for which we are glad to furnish wider circulation:

**California Plants Abroad.**—Few people realize it, nevertheless it is a fact that the horticultural world is indebted to California for many of its most valuable plants. First and foremost may be mentioned the ever popular California poppy (*Eschscholtzia Californica*), or *Copa de Oro*, "Cup of Gold," as it was termed in early days by the Spanish. This flower is almost as eagerly sought after and prized by ourselves as by the tourists who visit our city. In cultivation there are as many as eight distinct varieties of it, including the yellow, orange, orange and yellow, white, pink, a semi-double form of the white and yellow, and last of all, the variety introduced by Mr. Burbank, which is a deep rose color.

Then there is the Matilija poppy (*Romneya Coulteri*) with its immense blooms, often seven inches across, of purest white with yellow centers. It often has been termed the "Queen of California" flowers, and surely is deserving of this title, for it has no rival. This plant has been largely cultivated in England and other countries, and is in great favor.

The Spanish Dagger (*Yucca Whipplei*) is truly a majestic flower, raising its immense stem eight to twelve feet in the air, with flower spikes four and six feet long, composed of hundreds of large, creamy-white flowers. There is something grand about these plants when in flower in early summer, as they stand like so many white sentinels stationed on our hillsides.

Another flower which must be mentioned is the scarlet larkspur (*Delphinium cardinale*), with its long spikes of vivid scarlet flowers.

*Bartonia ourea* (blazing star) is a flower also much cultivated in Europe, but a native of our State. It has large, rich, golden-yellow flowers, almost as large as a poppy.

Two lillies of which we may be justly proud are *Lilium Humboldti*, the native tiger lily, a stately plant growing to a height of four or five feet, with large orange-colored flowers spotted with maroon, and *Lilium Parryi*, which has lemon-yellow fragrant blossoms.

The baby blue eyes (*Nemophila insignis*) must not be forgotten, with its delicate sky blue flowers.

The lupins, godetias, clarkias, gilias, collinsias and a great many more are all members of our flora, but space will not permit of their mention in detail.

**Progress.**—In looking backward upon the floriculture of early days in California it is very interesting to note the many changes and developments from the then extremely limited varieties of garden plants. No doubt a full account of this development would be interesting to many, but for lack of space I will simply mention some of the introductions of most importance.

Carnation growing was then in its infancy; it has since developed to such proportions that it has become a distinct industry, a fact of which southern California may be justly proud.

In roses the advent of the pink and white Maman Cochet marks an era of great importance. These two varieties are perhaps the most popular of the day. Kaiserin Augusta Victoria white; Madame Abel Chatenay, salmon pink; Clara Watson, bluish pink; Grass an Teplitz, deep crimson; Marie Van Houtte, yellow; Ulrich Brunner, cherry red, and Paul Neyron, deep rose color, are the roses most grown today, while of the very latest introductions may be mentioned Frau Karl Druschki, which is a beautiful clear white; Etoile de France, deep glowing crimson; Killarney, bright carmine pink marbled with white, and Franz Deegan, a deep orange yellow.

The cannas of early times, with their small, insignificant flowers, cannot be compared with those of today with their immense trusses. Of these new varieties one, at least, is of home production, the Mrs. Kate Gray, which has magnificent flowers

of rich orange scarlet overlaid with gold and large handsome foliage.

Of the ever popular geranium there are many varieties, one of the most important introductions being Charles Turner, the ivy-leaved pink variety which is now seen almost everywhere in southern California. In scarlet geraniums John Forbes is a later introduction and has certainly come to stay.

The sweet pea is, of course, a flower which has been greatly improved, the new large flowered types taking the place of the old small ones.

In bulbous plants the *Watsonia* is remarkable with its large spikes of flowers of purest white. The yellow calla, the *gladiolus*, *America*, which is a beautiful shade of pink, and many varieties of *amaryllis* are of no less importance.

One flower which must not be forgotten, and one of the most striking of all, is the *Gerbera Jamesoni* (Transvaal daisy), with flower in shape like a marguerite but of a vivid fiery scarlet color. And, last of all, the beautiful new decorative palm, *Phoenix Roebeleni*, which is a very small species of date palm from Siam, with finely cut, graceful leaves. It is much harder than the *Cocos Weddelliana*, and no doubt will take the place of this species as a house plant.

**The Future.**—These remarks on ornamental horticulture might be continued indefinitely, but space forbids at this time. Suffice it to say that in my judgement our agricultural development is only in its infancy; its expansion is only just beginning.

Allowing for the fact that all our leading staples of orchard and field, ranch and garden are exotic to our soil; and allowing that their production in the main is only possible by the artificial application of water, often secured at great effort and expense; and allowing that under these somewhat anomalous circumstances the horticultural production of the State has grown to the enormous sum of nearly \$20,000,000, the rural economies of California can be regarded only in the light of the most marvelous exploitation in soil products of this or any other time. For nearly half a century it has been my good fortune not only to see this development, but, in a small way, I have been part and parcel of it, contributing something toward its fruition from a packer's and shipper's point of view, rather than from that of a grower.

Obviously, horticulturally, California has made history rapidly; indeed, so much so that all of us, in the strenuous experience of our own affairs, have quite lost sight of the many important things that have happened in the past forty years; and correspondingly I am of the conviction that but few of us realize what the future will unfold. I know it is so in my case. Why, it seems but yesterday that the shipment of a few carloads of citrus fruits to Eastern markets was heralded as an event; yet today we are less surprised at the statement that 25,000 carloads go forth, valued at something like \$19,000,000. In 1877 I was in a small way, as things go now, shipping fruit and mid-winter vegetables north per steamer to San Francisco, the only market available. We used to hear then of Fresno only as a spot on the map; now that town "turns" \$28,000,000 worth of soil products a year. Riverside in those days was unknown; our oranges and lemons came from a few groves in the San Gabriel valley and from what is now a portion of Los Angeles. The walnut, the olive, the fig and many other products were only cultivated spasmodically, where now they are as much a feature of the landscape and the market place as wheat or corn is in the Mississippi valley. Indeed, horticulture has crowded all other activities to the wall in this State, and by reason of values has for fully twenty years been recognized as our basic industry, affording not only a living to thousands of our citizens, but also a competence.

And while the enterprise of our people has been the cause, nevertheless it would not have been possible but for superior natural advantages. Given a soil and climate which are inferior to none, it only remained to create our marvelous system of irrigation to make possible a horticulture the like of which the world has never seen; an industry already stupendous in its ramifications, with the geographical area of the State scarcely scratched. Prior to the advent of the Anglo-Saxon the country was practically a wilder-



ness; now it is the seat of the most profitable soil production known to man. It's benefits, not only in a pecuniary sense, but in the light of a higher civilization and a patriotic citizenship, are incalculable. I doubt if there is anywhere a community of soil tillers that possesses the intelligence and moral fiber which so thoroughly individualizes the man behind the plow in southern California.

### HOW TO MAKE HYDRANGEAS BLUE.

It is a little late for this year, but it is good to remember. The monthly circular of the Women's Agricultural and Horticultural Union gives the following about hydrangeas:

At present there is a craze for the blue-tinted flowers; and for commercial purposes these are artificially colored, since there is no variety which can be depended on for blue flowers, which is also suitable for market use. Plants growing in the open ground will occasionally produce blue flowers, and revert to pink the following year. Iron in the soil tends to give the blue tinge, so iron filings are sometimes mixed with the potting soil for this purpose, though water containing a solution of alum is more generally used. In one district of France, where the blue tint appears without extraneous aid, the properties of the soil are found to be silicious, with rich humus, phosphates and iron. Lime is almost absent, so should be avoided in the culture of hydrangeas, if the blue is aimed at. It is said also that where blue flowers occur naturally it is on plants that bloom late, when the wood is well ripened.

Some sandy soils, and others where fragments of slate predominate, have the effect of turning pink hydrangeas to blue. These are not available everywhere, so we must seek a good receipt for bringing about the transformation.

The following, which appeared some few years ago in the *Revue Horticole*, can be depended upon. This, in agreement with what has already been noted as to ripened wood, lays down the law that to experiment on young cuttings is useless; plants must be at least two years old, and healthy before being taken in hand. Turn them out of the old pots and wash the roots perfectly clean; then pot up in either of the composts:

(1) Sandy peat with 10 per cent. iron-slag, 3 per cent. sulphate of iron and 5 per cent. dried and crushed animal manure.

(2) Sandy peat with 10 per cent. powdered slate, 3 per cent. sulphate of iron and 1 per cent. ammonia.

In either case the plants are to be watered twice a week with water in which 36 grains to the gallon of sulphate of iron has been dissolved. It will be seen that the comparatively high price of blue hydrangeas is to be accounted for in two ways; first, that they will be three seasons old before fit for sale; secondly, that the process is somewhat tiresome, and involves the stocking of ingredients not usually required in the potting-shed.

This all applies directly to the English pot culture. In California a single plant grows as large as a small greenhouse in the open ground. The coloring prescription will, however, work under our superior conditions and produce a deeper blue than we now get from the iron which is naturally abundant in most California soils.

## Etomological.

### FIGHTING DIABROTICAS AND SNAILS THROUGH THEIR SENSE OF SMELL.

We are pleased to receive a copy of the proceedings of the Biological Society of Washington containing a paper upon "Smell the Dominant Sense in *Diabrotica 12-Punctata* and *Limax Maximus*," by Mr. Robert E. C. Stearns of Los Angeles, who thirty years ago was secretary of the board of regents of the University of California. His observations suggest a new way of fighting two serious garden pests:

The extraordinary acuteness of the sense of

smell exhibited in many of the lower animals has been known so long that it is unnecessary to more than mention it. I recall numerous examples illustrating the extreme development of this sense as recorded in the literature, among the insects, the *Lepidoptera* especially, and in the *Mollusca* in both marine and terrestrial species.

The following instances observed by me are not without interest, and worthy of notice, being of practical value.

The first occurred half a century ago, being one of various experiments of an agricultural character on my homestead acres, known as Claybrook in Norfolk county, Massachusetts; in 1857-8.

In the spring of these years cucumber seed was planted on about half an acre, divided into two plots of nearly equal area by a roadway about ten feet wide. When the seed in the easterly plot had germinated and the first leaves began to peep above the ground the plants were protected by wooden frames twelve inches by twelve inches in size made of ordinary inch-thick boards. These frames were simply a box without a bottom, six inches in depth, the top covered with common mosquito netting. On the opposite or westerly side of the driveway early peas were planted in rows, the rows being four feet apart. When the peas were four or five inches high the cucumber seed was planted in the space between every second row, so as to make the cucumber stands, or hills, eight feet apart each way, or 680 to the acre.

By the time the peas had made a growth of from eight to ten inches and the cucumber plants were showing their second or third pair of leaves, the spotted cucumber beetle *Diabrotica 12-punctata* made its appearance and commenced foraging. On the plot protected by frames, the beetles, to use a common expression, soon "struck the lead," and in many instances having worked their way under the edges of the frames, attacked the plants, doing considerable harm.

On the other plot the beetles were rarely seen, though as before stated, these plots were only ten feet apart. Here the pea odor not only neutralized the odor of the cucumber vines, but practically overwhelmed it. In volume of foliage, that of the pea vines or bushes compared with the leafage of the cucumber plants, was more than a thousand to one. The cucumber vines among the peas were not obscured from sight, while those under the frames were materially obscured by the mosquito netting. It is during the early period of growth that the beetle is often exceedingly destructive. After the vines have become vigorously established the crisis as a general experience has passed, and the plants having attained a size so that their growth is restricted by the frames the latter have to be removed. The plants raised under frames may not be quite so hardy as those otherwise grown, but whether raised among the peas or under frames, in both cases considerable protection is given by these devices against unseasonable cold blasts such as not infrequently occur in backward or late springs.

Many years afterward when in Shawnee on the Delaware river in Pennsylvania, I noticed in a small vegetable garden that the owner protected his cucumber plants against the spotted beetle by dousing them with cow-manure diluted with water to the consistency of gruel or thin soup; this required repeating, as an ordinary rain storm would wash it off. It will be noticed that the odor of the manure overcame that of the cucumber vines, and is in the same line as the pea-cucumber experiment.

This method, however, is only practical on a small scale. Where large areas of many acres are devoted to the cultivation of cucumbers, both the frame and Shawnee methods are unsatisfactory. The latter because of the time and labor required, the frames because of the first cost and subsequent the frames for repairs and the cartage to and from the field and storage when not in use, while the cultivation among peas has no limitation and two crops are produced on the same land to the pecuniary advantage of the grower. Aside from the value of the peas whether picked green or dried, the haulm is excellent food for cattle and sheep; nothing is wasted, lost or without value.

In these latter days spraying with some insecticide is often resorted to. This is objectionable because of its poisonous character; it requires considerable labor and involves expense, while the pea-vine plan is scientific, natural and has no

limitations; it is comparatively inexpensive, and ordinarily one season with another fairly profitable, not only in dollars and cents, but also from the point of view that, like all leguminous crops, peas extract nitrogen from the atmosphere, and the soil from which a crop of peas has been harvested is richer in this fertilizing element than before the peas were sowed upon it.

It is not unreasonable to assume that other pestiferous insects may be thwarted by careful experiment in the same line as pursued above with *Diabrotica*.

**About Snails.**—Regarding the sense of smell in the *Mollusca*, the testimony of many observers as recorded in the literature, so far as it goes, indicates that this sense is highly developed in the *Gasteropoda*, in both marine and land species. The well-known slug *Limax maximus*, a European form common in many localities on the Atlantic and Pacific coasts of the United States, is the only species that has particularly attracted my attention, though other related European species occur here and there in California. While none of our native slugs or snails, so far as I am aware, are regarded as pests, these exotic slugs and the common *Helix aspersa* are under the ban as undesirable residents because of their destructive habits. They multiply rapidly, a small colony soon becoming a numerous community. Wherever they occur in considerable numbers it is hardly worth while to attempt making a lawn. The favorite mixture for seeding lawns in Los Angeles and elsewhere in the general region thereabout, is Kentucky bluegrass and the white clover. With the earliest tinge of green upon the ground the slugs and snails make short work of the tender growth.

**No Accounting for Tastes.**—The *Limax* is usually found in the rear of the house or back yard in crevices about the brick foundation, presumably attracted by the cooking odors of the kitchen. It is nocturnal in its habits. It makes its home under boards or piles of old bricks, in nooks and corners, preferring such places as are dark, damp and cool. At night it goes forth seeking what it may devour, and apparently always has a good appetite, and knows no such word as fail. In its foraging expeditions it makes a direct line, a short cut to the garbage can, if there is one, or whatever contains the refuse of the scullery; a greasy soup bone, even, does not escape attention. However distant these may be, or however dark the night, the sense of smell is the compass that guides, and it never loses the trail when on the home tack, returning to its hiding place about or soon after sunrise. Their slimy tracks when dry glisten like silver, and may be seen radiating like the spokes of a wheel where the hub or center has been on old bone or piece of stale meat. Occasionally the slugs invade the kitchen and not infrequently their nightly excursions extend to the pantry.

Though a night traveler its eyes are apparently of little use, the exceeding development of the sense of smell compensating for lack or dimness of vision. With this in mind *Limax* can be diverted from its haunts when these are too near the house by keeping the garbage receptacle as far as possible away from the kitchen, and by furnishing cover near by in the shape of pieces of board, a pile of brick-bats or cobblestones in some dark, damp corner or cool spot, and further by baiting with a greasy bone or stale fish, for the *Limax* is a scavenger and to a limited extent beneficial when seen in that light.

A slug-hunt should be in order once in a while, the oftener the better. The captives are easily killed by dropping them into any vessel containing strong brine. With these simple precautions they can soon be nearly if not quite cleaned out. When the kitchen or pantry is frequented fine salt liberally strewn on the floor near the thresholds may be used to advantage.

As to the seat of the sense of smell in the insects and mollusks, which have been discussed for many years, there is still a wide diversity of opinion. However, that is another story and need not be considered here.

[We have unconsciously applied very successfully Mr. Stearns' prescription by dusting plants invaded by the cucumber beetle with carbolated and kerosenated slaked lime powder. It is perhaps a repellent, but it also may act by disguising or destroying the cucumber odor.—EDITOR.]



## Citrus Fruits.

### A REPORT ON GUM DISEASE.

We have had much on "gum diseases" both from the point of view of the plant pathologist and of the grower and we shall have much more. In this connection we give a report made to the San Dimas Lemon Association and regret we have not the name of the party who stands for it:

The gum disease is one of the most destructive diseases that threatens the industry and must certainly continue to spread and destroy trees as they become older unless stringent measures are taken to check it, as has already been done in some sections where it has threatened entire groves. There are many quacks in the field selling patent dopes to cure this disease, and they should be given a scant hearing by growers who are seeking permanent results. Exhaustive tests are being completed in the State Pathology Laboratory, and these show that the trouble is not due to any spore, germ or organism, but in every case to physical and mechanical conditions which are nearly always in the soil. Any disinfectant or other dope applied to the wounds is of no value then as a curative measure. What is important in this respect is to remove diseased tissues before they are entirely dried out and while the sap wood beneath the diseased cambium is still capable of healing over the diseased portions. Now put on a heavy coating of any material you choose that will hold the natural moisture of the trunk and thus facilitate healing. It is desirable that it should contain sufficient disinfectant to prevent saprophytic rots from entering the wounds, but not enough to burn and kill the sap wood beneath, which must be depended upon for healing out the portions removed. I have found groves where this healing was going on beneath a coating of beeswax, and others where a heavy coating of coal tar was answering the same purpose. Many object to the oils of tar and will probably prefer the beeswax preparation which is made as follows: Three parts of beeswax, one of rosin, a little linseed oil. This combination is quite cheap and is nearly transparent. It must, of course, be applied while warm. A heavy plaster of fresh cow manure bound about the trunks is also very satisfactory, if a sufficient amount can be obtained.

The gum disease situation in some of the worst affected districts is very hopeful and it is largely due to drainage, exposures of bud unions and a thorough spading of the soil about the trees directly after the rainy season, and as often as it is necessary to prevent it from baking and becoming hard, at the same time allowing air to penetrate to the feeding roots and prevent the soil in which they are embedded from souring. This is probably the most important factor of all. While conditions producing the disease here are not entirely analogous to those in other sections, especially in the matter of under drainage, yet there is much to be learned from their work. No other cause is at once so vital and difficult to overcome as lack of drainage, and I believe that the difficulties here can even be more easily and effectually surmounted than where this is the chief cause. Much work has already been done here and much of it promises to be very satisfactory. It should be extended to every grove where this disease occurs and every possible effort should be made to remove the cause of it before spring, for it is usually then that the new cases appear and the old ones spread about the trunks. Where it is necessary to dig down to expose the bud unions, the basins thus made should be filled before they collect rain water. White sand or other sand free from clay is best for this purpose. If desired it can gradually be worked into the soil and thus make it much lighter and less susceptible to the disease.

As usual preventive is better than cure, and it must become a part of field practice to remove and prevent causes before the disease appears, for a diseased tree is not easily reclaimed to its full bearing capacity. I say "prevent" causes from occurring because I know of cases in this very association where gum disease has been induced, especially in border rows, on light soils by basin irrigation.

## The Vineyard.

### WASTE IN SULPHURING VINES.

By F. T. BIOLETTI.

A great deal of sulphur and labor have been and are being wasted in treating vines for mildew this year, especially in the interior.

A year like this, with a long, hot, dry spring and early summer is so unfavorable to the growth and spread of mildew that in many districts there would be none of this disease even if sulphuring were neglected completely.

Throughout the great central valley, except where summer irrigation is practiced or where the vines are growing along irrigating ditches or in the shade of trees or buildings, one sulphuring should be sufficient to control the mildew perfectly this season, and in many vineyards it would be quite safe to omit sulphuring this year.

Much sulphuring is being done owing to a mistaken idea of what mildew is. Vines with curled, yellowish leaves or poor growth may be suffering from drouth, sunburn, wind, vine hoppers, little leaf, and sulphuring will be quite thrown away on them. Go into the lowest, shadiest part of your vineyard, where the vines are growing vigorously and examine the lower parts of the new canes. If any mildew is present now it will be there. If none is there, the rest of your vineyard is safe so long as this hot, dry weather continues.

Another way in which sulphur is being wasted is by the use of cans and sacks for applying the sulphur. This will be made clear by the record of two vineyards which I have:

Vineyard A was sulphured by shaking the sulphur out of cloth bags. One sack of sulphur (100 lbs.) was used to 7½ acres. The cost for sulphur was \$26 for 100 acres and the work was badly done.

Vineyard B was sulphured with a good machine, and only one-quarter sack was used to 7½ acres, costing \$6.50 for 100 acres. No mildew so far has appeared in either of these vineyards.

If you are not quite sure you know what mildew is, it may save you money and trouble to send to the Agricultural Experiment Station at Berkeley for their bulletin on Vine Mildew and study it up.

El Gavilan Vineyard, Hollister, Cal.

### PRICES FOR RAISIN MAKING.

To the Editor: One of your subscribers at Selma asks me to state in the PACIFIC RURAL PRESS what we are going to pay for curing raisins this year.

In reply to the request, I would say that while the prices are not as yet set for raisin making, the general trend of opinion is that the price will be about \$13 a ton in the sweat box. The Japs and Chinese are freely offering to do the work at \$13.50, but so far I know of no one signing for that amount.

The raisin crop is said to be short and the tendency is for every one to hold back in selling contracts, as the opening prices are regarded by those well informed to be below the actual market worth of the goods. M. E. SHERMAN.

Minnewawa Vineyard.

### THE HORTICULTURAL LAWS.

The committee appointed by State Horticultural Commissioner Jeffrey to revise the horticultural laws of California met in the office of Judge Peter J. Shields in Sacramento the other day and went over the laws in question and made numerous changes. The following paragraph we find in an exchange:

On the committee besides Judge Shields are Arthur R. Briggs, president of the State Board of Trade; A. G. Kendall of Los Angeles; James Mills of Riverside; J. C. Overall of Visalia.

A bill containing a new set of horticultural and viticultural laws was drawn up and will be submitted to various big fruit growing interests for approval and then presented to the legislature for passage. As soon as the views of California fruit men regarding the proposed bill are obtained another meeting of the committee will be held and the bill put in shape for formal presentation to the legislature.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crys-tallizing and Drying.               |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**

PUBLISHER

667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The citrus trees in and around Redlands are to be fumigated, under the direction of the County Horticultural Commission.

California's annual yield of prunes is estimated at 200,000,000 pounds, but that amount has shrunk this year to forty or fifty millions.

The usual yield of prunes in the Chico vicinity is said to be in the neighborhood of 2,500 tons and it is estimated that the output this year is but 500 tons.

Thompson Seedless grapes are ripening near Yuba City. The season is about a month earlier than usual and is attributed to an experiment with irrigation during the spring.

The Santa Clara county annual output of prunes will average 110,000,000 pounds and reports indicate that the figures this year will be 25,000,000. There is but a half crop at Gilroy and Hollister.

Sutter City and vicinity is going to have a short melon crop this season; probably the shortest ever known. Both watermelons and cantaloupes are inferior in size as well as scarce in number. The cause is thought to be the unusually dry spring.

Although the prune crop in the vicinity is pronounced to be small in comparison with that of other years, yet Chico is not alone in the shortage, for from all of the other prune centers in the State come reports that there will be a shrinkage in the yearly output.

John Heaton of Gridley this spring set out a number of grape cuttings. These cuttings not only took root and grew rapidly, but a number of them put forth bloom which set and are now developing grapes. They are as well developed as though they grew on old, well rooted vines.

Owing to the low prices being offered for green peaches a numbers of growers of Gridley have made preparations to dry their entire crop. This will make the dried fruit crop product of that section of an average better grade than heretofore, when only the culls were put on the drying boards.

The recent hot spell at Vacaville has done considerable damage to prunes, and the crop, which was light in the first place, will show a still further decrease as a result. One estimate places the total crop in that vicinity at about 1,000 tons. The last two years the yield has been about 4,000 tons annually.

Campbell presents a lively appearance with the Ainsley cannery running at full capacity on apricots and the Campbell Fruitgrowers' Union caring for the dried apricot business. Complaint is being made that sufficient pitters are not available, and the present workers are asked to work long hours. Much of the fruit this year is small and inferior, caused by not enough thinning at the proper time and the unusual hot spell a few days ago, which ripened it too rapidly.

Oakdale Leader: A. T. Wood of Oakdale has a small spot of highly fertilized land, containing one quarter of an acre, planted to cantaloupes of the Rockyford variety. From this small patch he gathered 333 dozen melons, the bulk of which have been shipped to outside markets and disposed of at 25 cents per dozen net, bringing the handsome sum of \$83.75. Mr. Wood estimates that the late crop will increase this sum to more than \$100. This is a big showing from a quarter of an acre of land.

Hanford people who have pear trees that have been saved from the ravages of the blight are rejoicing that this year

the blight has not made its appearance to any great extent, and the trees that have been saved will produce an abundant crop. It is possible that the blight has run its course and now may be a good time to plant out pear trees. Certainly a more productive and profitable crop could not be raised than was gathered from the pear orchards of the county before the blight made its appearance here, says the Journal.

Horticultural Commissioner McLean of Salinas says that the fruit prospects in his district were never better than they are this year. The orchardists have all sprayed their trees at least once and some of them twice. They have learned the value of spraying and attend closely to the needs of the orchard in this respect. As far south as Soledad and in the Carmel valley apple trees are well loaded and the fruit is clean and fine. In many cases the fruit was thinned so as to get the best results. The spray used in this district differs somewhat from that recommended by County Entomologist Volck, being two pounds (not gallons) of arsenate of lead to fifty gallons of water.

### AGRICULTURE.

Miss Forbes got 350 sacks of black oats from eight acres near Napa.

Heavy shipments of this season's barley are being made from Arbuckle.

Harvesting of the beet crop of Butte and Glenn counties has begun and the sugar mill at Hamilton City will consume about 800 tons of the beets daily.

The United States Department of Agriculture is making a complete and comprehensive soil survey of Yolo county, showing what the different sections of the county will best produce.

The Chino beet sugar factory began its annual sugar campaign last week, with excellent prospects of making a record production. The product of 10,000 acres of beets will be handled.

Barley sown after the last spring rain at Grimes, Colusa county, produced 35 sacks to the acre. One small piece that got some rain yielded 50 sacks to the acre. One alfalfa patch produced 65 sacks of seed to the acre.

Farmers of Kern county are rejoicing in the pleasant combination of good prices and a ready market for their hay and, in spite of a rather backward spring, a prospect for a full crop, taking the season as a whole.

Balfour, Guthrie & Co. are making big shipments of barley from Arbuckle. Barley is now selling at \$1.20, but most of the farmers are holding their grain for a higher price. Some expect it to reach \$1.40 before December.

The beet sugar factory at Corcoran has begun operations. This is the newest plant in the State, and while not the largest, is no doubt the most up-to-date and has the latest equipment of machinery and plans for rapid and easy handling of the product.

The Lathrop Hay Co. of Hollister received and stored 377 tons of hay in one day recently, the record at this big establishment. When it is taken into consideration that 275 tons is a good ordinary day's work, it can be imagined how fast the hay rolled in. It is expected that all the hay will be stored within sixty days.

W. M. Muncy, who now resides near Escalon, Stanislaus county, harvested 456 sacks of wheat in about nine hours, starting in at 8:30 a. m. and quitting at 6:30 p. m., laying off an hour at noon. Mr. Muncy says he has been running a harvester for fifteen years and this is the most wheat he ever put through in that number of hours.

Beet harvesting has started in the vicinity of Chico and Hamilton City as well

as in other sections of the Sacramento valley. It is estimated 800 tons will be handled daily at the huge factory, but the season's tonnage cannot be computed for the reason that the beets have made a large top growth in some instances while the beet is not large, and in other instances the top growth is small and the beet large.

E. R. Long, a Kern county hay buyer, says that the farmers are getting \$6 per ton for their alfalfa delivered at the baler. This means that they are not required to stack it, but merely cure it and haul it to the press, which is located in the hay field. The buyer pays the charges for bailing and hauling to the railroad. Last year the price was \$5 per ton under the same conditions, and in recent years it has been as low as \$3.

The first cutting of alfalfa in the Klamath basin was a little short, and the wild hay is not up to the average, but owing to the shortage the prices will be better than usual and the farmers have practically the same income as if there had been a better crop. The expense of putting up the crop will be less than last year. Hay hands are plentiful at \$1.50 and board, whereas last year it was impossible to get men at \$2 and \$2.50.

De Witt Bros., of Sutter City, who have been operating a hay press in Sutter and Butte counties, have completed their run for the season. They report that the hay crop this year is light in almost every locality, but the prices have been good. They bailed over 1,800 tons and a greater portion of it has been stored by the growers for future sales. Some hay was sold on the car at Biggs for \$12 and \$13, according to the quality. The price of baled hay will probably run up to about \$14 and \$15 and some may possibly go as high as \$16.

Owing to the shortage in the hay crop, it is very probable that the number of beef cattle to be shipped from the Klamath country, Oregon, this season will be some less than last year. Hay will be too high to permit of its being fed extensively, and some of the stockmen think that they will hold over many of the feeders. Haying is now in progress in all parts of the Klamath basin, and reports from the various sections are to the effect that the yield is better than was expected. There is every indication that the second cutting of alfalfa will be better than average, and if this should be the case, there will be no shortage in the hay harvest.

### LIVE STOCK.

Ten cars of fat hogs were shipped from one station in Imperial county last week.

A large amount of alfalfa in Kern county is being purchased in the field by sheepmen at even better prices than the hay buyers pay, so altogether the alfalfa growers are doing well this year.

H. G. Parish of Cottonwood intends setting out fig trees on 80 acres and raising hogs. He says that figs make the best hog feed it is possible to raise in California. Several other farmers of this community who have tried them say that figs and hogs go well together.

It is stated that a Red Bluff woman purchased a dozen store eggs and placed them in her refrigerator. The next day when she opened her refrigerator she was greeted by a staggering little chicken that had been hatched on ice. It was figured that the warm weather had made the chicken come to life and that the change from the heat to the ice box had roused the chicken to efforts to break its shell. At last account the chicken was thriving.

At the August meeting of the Marysville city council an ordinance will be introduced amending the present ordinance governing dairies and the sale of milk. A

license fee in a nominal sum will be imposed, in order that the board of health may issue a permit to a dealer and have the power of cancelling the license for any infraction of the law on the part of the dairyman. It is proposed to have a veterinary occasionally visit the dairies and make an inspection for tuberculous cows, unclean help and filth in any form apt to encourage disease germs.

### MISCELLANEOUS.

Emerson Bros., of Orange county, will have about 60 tons of honey to ship this season.

An ordinance has been passed to prohibit the importation of Johnson grass into Imperial county.

A big pre-cooling plant is to be built at San Bernardino by the Santa Fe railroad this fall, to cool orange cars before starting on the long journey over the desert.

Several plant experts will be at Chico during the next few months to conduct and witness experiments with various plants at the National Plant Introduction Gardens.

It is stated that grasshoppers have destroyed gardens in the Willow Creek section near Susanville. The hoppers, so far, have not invaded the grain fields, but seem to have a decided preference for vegetable growth.

A Stanislaus onion grower harvested 400 sacks of fine onions from one acre. The prevailing price being 80 cents per sack, this would make \$320 for the acre. Modesto merchants are receiving large quantities of fine, large onions.

With the apple season close at hand the cider vinegar companies in the Pajaro valley are busily preparing for business. R. H. Cornell of New York is installing a big hydraulic cider press. He has had years of experience in cider and vinegar making and stated that the press was one of the best and most modern on the market.

A large amount of land around the border of Tulare lake has been rented for a crop next season, some of the leases covering land that is now a mile out in the lake. The lake is receding rapidly and the land that was covered a few weeks ago by the waters is now dry, and so dry that it could not be successfully farmed.

J. M. Hastings of Sacramento has been conducting experiments to show what can be done with water on the lands adjacent to Biggs when properly used. He has a five-acre field of alfalfa sixteen months old from the seed, from which this year so far has been cut two crops of hay, and the third crop is nearly ready for the cutting. He expects to cut at least five crops during the season.

Arbuckle vineyardists are resorting to various methods of protecting young grape vines from the grasshoppers. A small paper bag is placed over each vine and tied at the bottom; vents are then punched in the top of the bag. Turkeys and a contrivance arranged on a sled containing crude oil and backed by a large screen have also been tried. The sled affair is drawn by horses through the vineyard, scaring up the hoppers, which fly against the screen and fall into the oil.

Scarcely a day passes without some new features being suggested to Secretary Filcher of the State Fair that will add to the interest in the exhibit. To date twenty counties have signified their intention of sending exhibits, and more are to be heard from. This has put the managers of the fair in a quandary how to handle all these, and it has been decided to use the tennis courts for part of the exhibit hall, and it may be that other locations adjoining the pavilion will be taken.



**Live Stock and Dairy.****THE RELATION OF NUTRIMENT TO PRODUCT.**

By E. W. MAJOR of the University of California.

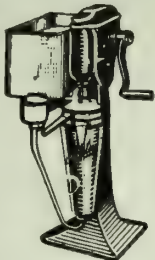
A recent bulletin by Prof. T. L. Haecker of the Minnesota Agricultural Experiment Station gives much valuable information in regard to the relation of nutriment to product. Professor Haecker took the work of the dairy cows in the competitive tests in milk production at the St. Louis as a basis for his work. In these tests four breeds competed. There were five Brown Swiss, fifteen Holstein-Friesian, twenty-five Jerseys and twenty-five Shorthorn cows. The different breeds were represented by animals selected by men who were interested in them and who knew the conditions of the test. Explaining the reasons for figuring on the relation of nutriment to product, Prof. Haecker says: "Since the money or market value of feed stuffs is constantly changing, because of variation in supply and demand, and since there are differences of opinion as to the feed values, it was thought that by reducing all the feed stuffs consumed by each cow to dry matter and digestible nutrients and calculating the amount of nutriment consumed to a unit of product returned, data would be obtained which would be a valuable contribution to our feeding literature, and which could be used in making comparison in future feeding experiments and public competitive tests. The cost of producing a unit of product at the St. Louis cow demonstration may have little or no significance for making comparison with tests made five or ten years later, but by reducing the results to a basis of nutriment we have a definite and unvarying standard for comparison." It was found in these investigations that cows consumed an enormous amount of food, nearly twice the amount given in ordinary feeding, at the same time the productive power of some of the cows in the test was remarkable, as the seventy cows in the test, during the 120 days, produced milk solids equivalent to the food value of seventy fat steers of 1,405 pounds each.

The writer of the bulletin makes some statements in regard to feeding that, in view of his standing as an investigator, must be given considerable attention. He says that the cows in the test "received nearly twice as much protein as was needed, and all but the Jerseys received

## EXCLUSIVE Tubular ADVANTAGES No. 6

**NO EXPOSED GEARS**

**Exclusive Advantage No. 6** is another point in favor of the Tubular. **No Exposed Gears**—every moving part is enclosed except the handle. No danger to fingers—no chance of clothing to catch—no accidents to mischievous children. **Absolute safety and freedom from dust and dirt** is another evidence of what our 28 years building experience means to you.



The Tubular is a particular favorite with the women, simply because it has so many features that **save work**, and make it easier to run and to clean.

Write a postal and let us send you, prepaid, our Catalog No. 131; it will interest you in many ways.

**The SHARPLES SEPARATOR CO.,**  
West Chester, Penna.

London, Can., San Francisco, Calif., Chicago, Ill.

about double the amount of ether extract that seemed necessary; but the excess in this nutrient did no harm, which is more than can be said for the excess of protein fed, which is a fruitful source of barrenness, shy breeding, rheumatism, gout and other disorders. Excess of carbonaceous nutrients may temporarily produce barrenness and shy breeding, but when thus produced, it is easily remedied by bringing the cows to physical spareness, but this is not the case when it is caused by excess of protein. Heavy feeding of highly nitrogenous feeds has injured many, and it may be safe to say most of our cows and their progeny. An abnormal stimulation and development of the digestive and mammary organs brings to them an abnormal flow of blood, and the organs of reproduction suffer proportionally, and barrenness, shy breeding or weak progeny often follows. Because of the injurious effects of heavy feeding of highly nitrogenous concentrates, purchasers of cows with large records have, as a rule, been grievously disappointed in both the cow and their subsequent offspring. To so feed that a cow will gradually increase her yield from year to year until she reaches the meridian of life, tends toward the improvement of her progeny—is constructive. To force a cow beyond her normal limit of performance is destructive.

In the summary of results, the author states that "with reference to economy of production, the Jerseys returned a pound of butter fat to 12.051 pounds of nutriment consumed; the Holsteins used 14.839 pounds; the Shorthorns 15.52, and the Swiss 16.919 pounds to a pound of butter fat. There are physiological reasons for the difference in nutriment required by these breeds for the production of a unit of butter fat. Primarily the discrepancy is caused by the fact that the relation between fat and solids not fat differs in the various grades of milk. As a general proposition milks carrying a low per cent of butter fat carry relatively more solids not fat than is the case with milk containing a higher per cent of fat. Taking, for example, the daily average yield of butter fat and solids not fat by the four groups of cows under review—the Swiss cows yielded daily 1.6 pounds of butter fat and 3.92 pounds of solids

not fat; that is, to 1 pound of butter fat they yielded 2.45 pounds of solids not fat; the Shorthorns yielded 2.33 pounds, the Holsteins 2.31 pounds, and the Jerseys 1.78. It stands to reason that cows cannot produce 1 pound of butter fat and 2.45 pounds of solids not fat with as little nutriment as 1 pound of butter fat and 1.87 of solids not fat can be produced."

**STATE FAIR NOTES.**

The directors of the California State Fair have provided some new classes this year for draft horses. In addition to the regular classes, which of course are open to all, they provide farmers' classes, and from these importers, members of professional firms and their employees are barred. This provision will enable many owners of registered stallions to make exhibits and ought to add considerable interest to all horse classes.

While there are a large number of excellent stallions owned throughout the State, they have not been in evidence at the State Fair. This particularly applies to draft and carriage types. The reason for this is that owners have not felt able to fit their horses, after a hard season's work in the stud, so that they could compete with the large importing firms. Under the present arrangement, owners can bring their horses with the knowledge that they will have to compete only with horses kept under practically similar conditions.

In addition to the stallion class, the directors have provided classes for mares and a class for get of sire. In this latter class the stallion and four of his get must be shown. The stallion must be registered, but the dams of the get are to be grade mares. The get need not be owned by the exhibitor. In many sections, where two or three stallions are owned, there is keen rivalry in regard to the quality of the sires and also of their get. A section of this kind enables the owners of stallions to get together four of the choicest of the get of his stallion, take them to the fair and there have the judge decide on their merits.

In the cattle classes, a five-day milking test, open to all milking breeds, has been provided. On the morning of the show all cows are to be milked in the ring in the presence of the judge, who shall also see each animal's milk weighed and tested for butter fat content by the Babcock test; and this shall be done for five consecutive days, morning and evening, at hours to be fixed by the superintendent.

In order to provide against the awarding of premiums to cows of inferior pro-

**"THE WORLD'S STANDARD"**  
**DE LAVAL**  
**CREAM**  
**SEPARATORS**  
**THE DE LAVAL SEPARATOR CO**  
165-167 BROADWAY, NEW YORK. 42 E. MADISON ST. CHICAGO.

ductive capacity, a minimum standard of production has been provided. Cows three years old and over, that have calved within three calendar months of the first day of the show must produce not less than 1½ pounds of butter fat per day. If they have been fresh for more than three months, the amount is reduced to one pound of butter fat per day. For cows

**Every Medicine Shelf**  
Should have the famous  
**Kendall's Spavin Cure**  
The great emergency remedy. Cures Spavin, Ringbone, Curb, Splint, Sprains, Lameness. All druggists sell it at \$1 a Bottle; 6 for \$5.  
Book, "Treatment of the Horse," free.  
**DR. B. J. KENDALL CO.,**  
Enosburg Falls, Vt.

**LIVE OAK STOCK FARM**

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**  
Importer and Breeder of

**Red Polled Cattle**

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.



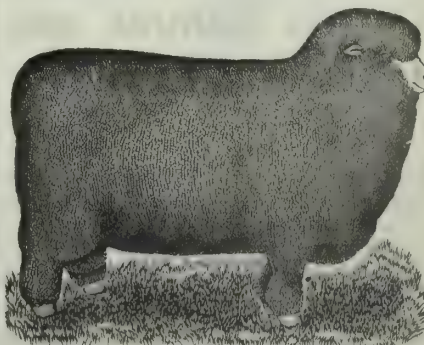
**FRANK A. MEHCAM**

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a largesheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MEHCAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam

**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

**MORE MILK—MORE MEAT**

**IF YOU USE  
LILLY'S  
BEST  
FLY  
KILLER**

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.  
A. F. CHAPMAN, Monahan, Wash.  
**For Sale by Dealers**



under three years of age the amounts to be produced are one pound of butter fat per day for those that have been fresh more than three calendar months before the first day of the show, and three-fourth pound for those that have freshened less than three months before. Competitions of this kind ought to bring out great interest.

E. W. MAJOR.

### STOCK SHOW AT SEATTLE EXPOSITION.

To the Editor: The Live Stock Department of the Alaska-Yukon-Pacific Exposition has completed the "preliminary prize list" for the exhibition of the various breeds of live stock at the Exposition during September, 1909, a copy of which will be forwarded to your readers who apply for it. The classification is very complete, and especially so for the breeds of live stock recognized in the commercial world. An expenditure of more than \$100,000 will be distributed among the successful exhibitors and for the promotion of live stock interests in connection with the exposition. We hope the announcement will attract the attention of California breeders and stock lovers.

F. A. WELCH.

Secretary Live Stock Dept., Salem, Ore.

A meeting of the Southern California Dairy Association was held last week, and was largely attended. This association is a new milk marketing institution for the dairymen of the southern counties. The territory now covered by the association extends from Anaheim to Gardena, and is to be divided into districts, with a director for each division. Forty retail delivery wagons have been ordered to handle the trade in Los Angeles and other towns.

The San Pasqual creamery, at Escondido, will pay out nearly \$50,000 to its patrons this year. This creamery is operated on the co-operative plan and its patronage is growing.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

BERKSHIRE AND POLAND-CHINA HOGS.  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes.

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

### FOR SALE.

1-2-Year-Old High-Grade Merino Bucks, \$10 per Head. H. G. BROWN, Elmira, Cal.

## Apiculture.

### THE RIPENING OF HONEY.

By RALPH BENTON of the University of California.

In what does the ripening of honey consist? is a fair question to ask. The Pure Food and Drugs Act of June 30, 1906, has set down just the ingredients in their respective proportions acceptable in what is designated as pure honey. Just where this law came from and upon what authority it acts we do not know. We surmise that it goes to the only infallible law, the common law; that is, the acceptable average of many samples of honey has been taken as the standard. This action will necessarily exclude some honeys, just as any law in its operation overrules the dissenting minority to acquiescence. Just where the censuring law is to apply in these cases or how the little offending bee is to be brought to time and be made to realize that he is to yield up honey in accordance with Uncle Sam's pure food law, is at once an interesting and highly speculative matter. It might puzzle more than one committeeman in the framing of such a law and more than one court in the administering of the law when deftly framed. We presume that the bee might argue in her humming way that the law was not made to catch the gatherer or maker of the honey, but the one who sells it, and so add one more sin to her own record and one more burden to her bee master.

The allusion to the honey bee as a "gatherer" or "maker" of honey opens up an interesting discussion that may contribute something to our general subject—the ripening of honey. Back in the centuries when science was dim, Linnaeus, the great Swedish botanist and naturalist generally, named the honey bee *Apis mellifera*. Translated from the Latin this signifies "honey bearer." A few years later Linnaeus, noticing a marked dissimilarity between flower nectar and the finished honey, changed the name of the bee to *Apis mellifica*, or the honey-making bee. By another one of those laws by which we have to compromise; matters of conduct, in this case known among scientists as the law of priority in the matter of Latin names, the name of the honey bee should stand in its original form, *Apis mellifera*, and this is the accepted name now as agreed upon by the American Association of Economic Entomologists. Perhaps it is just as well, for it is questionable just how much of a maker of honey the bee is. She certainly modifies honey, but the preponderance of her efforts, we believe, go to the gathering or bearing of honey. The practical beekeeper may say amen to this discussion for he knows that if there are no flowers

### SHORT-HORN SALE

At Woodland, Cal., Saturday, September 12

We will offer the entire Enterprise Herd, including the herd bulls and the show cattle of last season. We do not hesitate to say that this is the best bred and best individual collection ever consigned to public sale on this Coast.

#### 36—BULLS—36

These bulls are the kind and type the farmers and rangemen are looking for. They are Eastern bulls, thoroughly acclimated, of serviceable age, large, strong, and thrifty. This lot was personally selected by Mr. Dunlap from prominent breeders in the East, this being his 18th shipment. They have been fed no grain since reaching this Coast, simply good pasture and alfalfa hay, and will be presented in the best possible condition for future use. This is undoubtedly the best lot of range bulls ever offered on the Coast.

Sale to be held on the Enterprise Stock Farm, 4 miles south of Woodland. Busses will meet all trains at Woodland, and lunch will be served on the Farm.

Sale to begin at 12:30 p. m.  
All are cordially invited to attend. Write for catalogue, mentioning this paper. Catalogues ready August 20.

GEO. P. BELLOWES,  
Marysville, Mo., Auctioneer.  
R. P. EAKLE, Jr.  
R. M. DUNLAP.

the bee does little "making" of honey.

We have said that the bee modifies honey and this may be called the first step in the ripening of honey, for there are changes taking place between the flower and the bee, the bee and the hive, more changes in the hive and not infrequently changes after leaving the hive: some of them rightful, some of them censurable, and here is where we have to look out or the pure-food people will catch us.

Flower nectar contains a very high percentage of water and of cane sugar or sacchrose, together with countless grains of pollen. While the bee is homeward-bound the pollen is strained out and passed on from the honey sac to the chyle stomach for digestion and use as food; and further large quantities of the cane sugar are converted into grape sugar, a change comparable to the action of the saliva in the first stage of digestion. This change progresses slowly in the hive and the excess of water is evaporated. With these processes comes the aroma of well ripened honey which is increased even after the sealing up of the honey. This aroma, often lacking in the honey in the market, is a valuable adjunct to the flavor which, of course, remains in accordance with the flowers from which the honey is gathered.

There are two dangers to be avoided in the removal and handling of extracted honey. First, the danger of removing honey before the required amount of water is driven off. The safe rule is to wait until the honey is thoroughly capped. This is not always done, as it involves, on the one hand more labor in the uncapping of honey and on the other, additional stories for tiering up in order to keep the bees at work, an operation involving added labor. One simple answer is, it is work that pays. It is an unfortunate fact that the bulk of honey is largely sold on looks and not on quality. It is within the power of the bee-keeper to regulate this market requirement and give to the consumer a better article and in the end the salability of honey would be greatly enhanced.

The attempt to ripen honey in open tanks when once removed in a green condition is coming more and more to be proved unsatisfactory. One chief objection is that honey is deliquescent, and unless in an exceptionally dry atmosphere it is liable to take up more moisture on being exposed than it gives up. This may be partially remedied by having cone-top tanks, thus exposing a minimum of surface to the air, but even this plan fails, as all tank ripening of green honey must fail, in that the aroma and well rounded flavor of honey ripened in the hive is lacking and cannot, as far as we know, be artificially supplied.

Secondly, we have the danger of injuring honey in the operation of heating it subsequent to its candying. The granulation of honeys varies in accordance with the preponderance of dextrose over levulose. Since it is the dextrose that granulates, candied honey should be thoroughly melted and reunited by agitation before any portion is drawn off in order to maintain the balance of levulose and dextrose. Further, honey should not be overheated, as this not only impairs the color, but volatilizes some of the minor constituents, impairing the flavor and aroma.

M. H. Mendelson, the Ventura county bee man, is moving his bees to the bean fields. In this way he will overcome the shortage in sage bloom.

Fruit canneries at Sacramento, Marysville, Yuba City, Gridley, Chico, Winters and Stockton are in operation and are employing hundreds of men, women and children each. The fruit pack will be one of the largest in the history of the industry.

## The Poultry Yard.

### THE AMATEUR AND THE POULTRY SHOW.

(Continued From Page 81.)

decisions, etc. It will be a liberal education in the fancy and stimulate his interest and ambition. He need not be discouraged if the prizes fail to come his way. If his stock is pure-bred, healthy and in good condition, their exhibition will be of advantage to him even if they win no ribbons. Said an old and successful breeder who was long connected with the poultry show management: "The only way to build up an important trade in breeding stock and hatching eggs is by always entering your fowls at the shows. No matter if you don't get next to the prizes; if your stock is handsome, strong and healthy they will secure you orders. The fowls which fail to bring down the prizes often please the onlookers more than those in the coops decorated with the Blue. Be there every time, and make the biggest and best showing possible. It pays."

### THE LIGHT BRAHMA.

The Light Brahma is the leading breed and variety of its breed in the Asiatic class of fowls. It is interesting as being the one which first drew the attention of the civilized world to the possibilities in chickens on commercial lines and for fancy breeding. The Brahma is the "Gray Shanghai" which reached our shores some sixty years ago. A few years later the interest in this big bird had grown into a furor in the New England States, and a good horse or a couple of cows were often traded for a pair of these fowls; and they inspired many of the popular ditties of the day, as:

"Shanghai rooster grows so tall,  
In a few days," etc.

The original Brahmas are described as a "grizzly gray" fowl, with none of the distinct and regular markings of the beautiful Light and Dark Brahmas of today. The standard bred Light Brahma is mostly white in color, with hackle feathers striped with black and tail feathers black; it has a small pea comb and bright red face, wattles and ear-lobes; shanks and feet yellow and feathered. The standard weight is 12 pounds for the cock and 9½ for the hen. They are the largest of domestic fowls and much used for capons and soft roasters. The Light Brahma is a good winter layer of large brown eggs; hardy and easily raised but of slower maturity than any breed of the American class.—M. J. R.

### THE PHEASANT INDUSTRY.

Dr. E. C. Wainwright, D.V., writes in detail concerning this bird, supplying helpful instructions to those who are attracted by this form of gaiety:

A plan of a pheasant aviary building is simply a matter of taste. They can be constructed as elaborate or as plain as you may desire, but there are always some few details essential to insure success. One detail is a dryness of ground; the second, elbow room for the inhabitants. A goodly place to build is on a sandy plot facing south or southeast, although east will also do, upon a slope to carry off the rain. Should the ground be damp, it must be drained before erecting an aviary, as dampness is so injurious to the health of these birds that it will destroy the beauty of their handsome feathers. Heavy soil is good for these birds, it keeps them clean, and supplies green stuff so greatly enjoyed by them,



and which adds considerably to their plumage.

When you have decided on a suitable place, build the aviary so as to make it as pleasant a home for the birds as you can. Our views are as follows: Enclose 14 feet square, 6 feet high, with a shed 6 feet wide and 14 feet long, boarded up at each end and back, with a door at each end of the front of the shed and the rest boarded down in front, 4 feet for protection of the roosts from wind, the entire enclosure to be boarded up 2 feet at the bottom; remainder to be covered with 2-inch mesh wire netting; a door to be placed at some convenient place, sufficiently large to go in and out.

Plenty of perches to equip it and in each of the sheds also a box of road dust and sifted ashes to be placed in it for pheasants to enjoy a dust bath. All doors to be made to swing outwards so as to not scare the birds.

All woodwork of the aviary to receive either a coat of whitewash or paint as may be desired once every year; plenty of whitewash inside of the shed will keep it clean and healthy and free from all vermin.

Make it convenient for the birds to enjoy the shade part of the time. An orchard would prove a splendid location. Once a season to destroy all filth, sprinkle the interior freely with lime and dig up, and the fresh soil will make it again fit for use. Should an aviary be wet, fill it with gravel to absorb all moisture.

**HATCHING.**—The egg is the life of the coming brood and must be handled most carefully. Pheasant eggs are usually very fertile. Almost every egg will hatch. The period of incubation is from twenty-one to twenty-six days, according to variety used, and also the condition of the weather. The smaller varieties hatch in less time, and in extremely warm weather all eggs will hatch in from one to two days sooner than in cold weather. Large hens have been used successfully in the hatching and rearing of pheasants, but I would strongly advise the use of small ones or bantams. They are lighter and not so liable to break the eggs or kill the young by treading on them. Pekin bantams have generally proved to be the most successful foster-mother for pheasants. They are light in weight, have an abundance of fluffy feathers, of gentle disposition and are very motherly, although I must here say that my greatest success has always been with game bantams.

Make a yard four feet square and two feet high of plastering laths, cover the top with some similar laths, make a door on the top and have a hole in one side about a foot square bottom of the yard; then make a box about a foot wide and two feet long and one foot high, board up two of the sides and one end, leaving the other end open, and so the box will not spread; use no bottom board and leave a loose board for top, so that it can be moved at will. Bore at least a dozen one-inch holes in each side and end for ventilation; place the open end of this opening in the yard and have everything ready for your nest. Cut a sod, a foot or fifteen inches square, and put it in the back of the nest box to build on so that the water will not settle in it. Do not use fine straw or coarse chaff for the nest. Put in four or five artificial eggs. As soon as you have a broody hen that has been sitting on her nest for three or four nights, dust her with insect powder and remove her at night to the nest prepared; close the front of the box so that she cannot get out. Let her set till the next evening, and then remove the board so that she can come off to eat; place plenty of food and water in the yard. Notice her, that she goes back after eating. If not, place her back and fasten her in the box. As soon as she

will come off and eat and return to her eggs, remove the artificial eggs and place in the nest pheasant eggs. Feed some corn or wheat, wheat preferred, and supply her with clean, fresh water every day, and do not disturb her for ten days. Then give her another dusting with insect powder. Dust again about three days before the eggs are due to hatch. Notice the eggs while she is feeding. If you should find any cracked or broken remove them, and if soiled in any way clean the nest and wash the eggs with lukewarm water.

As soon as the pheasants' eggs are due to hatch, close the front of the nest box, or the young birds will stray away. Let them remain with the hen for twenty or twenty-four hours without feed. Always set pheasant eggs on the ground, if possible. If you are compelled to set up off the ground, use a heavy grass sod in the bottom of the nest with very little chaff or broken straw. Shape the sod to suit the nest.

**REARING OF PHEASANTS.**—Rearing is the beginning of pheasant breeding, and it is the feeding and care of the young that decides the weal or woe of the flock. The desire for success when filled with love for pets enables any one to meet all difficulties. The young birds carefully attended to with patience until they come to maturity will highly repay for all trouble taken. Timely preparations are an advance to success. Everything should be prepared in the early spring for the forthcoming season. Ground should be selected to rear the birds upon; coops and yards, materials to prepare food and everything you need must be provided for. The lawn surrounding your home should be kept short, and it is a most delightful place for little pheasants to run upon; and can also be used for the coops. An orchard is also a good place for them. They like fresh short grass and shade, catch many insects in an orchard and their catching of these is most beneficial to fruit trees.

Prevent damp ground as much as possible, but should it be damp cover it with gravel to absorb all dampness. Place all coops facing east, so that all young can be liberated easily. If possible have the ground sloping, to carry off the rain. Do not place the coops too near each other, as hens do not bear strange birds coming near them. Some coops may be placed on the garden walks which will provide excellent forage for the birds; but all coops must be moved every other day so as to give clean, fresh earth. Many pheasant breeders advise rearing young pheasants near the house, but I prefer a spot away from any buildings, which also prevents rats, as they are after pheasants at all times.

Provide a dust bath for the young stock composed of road dust and sifted ashes, in which they will frequently wallow.

Don't use ground that has previously been used for chickens that have any diseases. If it is to be occupied by pheasants give a deep spading and sprinkle it with lime and let it stand idle awhile; and even then it is not an ideal spot, so avoid it if possible. When the ground is fully prepared do not forget the old adage, "Procure the cage before you catch your bird." So, therefore, have all coops and runs ready before the young pheasants are hatched. Any kind of coop will answer, even a common store box will do for the purpose, but see that they do not leak. In erecting coops, there are a few things to be observed: First, have a roof that does not leak and have it large enough to allow the mother hen to move about, and arrange it in a manner that it can be kept clean. If all coops can be had at a uniform size, arrange so that everything can be attended to without alarming the hen or her clucks; therefore, movable coops are to be preferred.

Care must be taken to make the top so that they can be securely fastened to prevent danger of their being blown off by the wind. By using a movable top it will allow you full access to your coop, and allow you to reach into it to catch the hen or young pheasants much easier than in any other way.

In a damp time a great advantage is often experienced by removing the top and placing a wire over the coop so that the sun can shine in to dry and warm it. After a heavy shower it will oftentimes be found that the water has run under it or blown in and on removing the top and using the wire cover if the sun shines it will dry and warm it up in a few minutes. In spring and summer the air is often cool when the sun is warm, and by opening the coop at such times and letting the sun shine in, the hen and young birds can be kept warm, which could not be accomplished in any other way.

Many pheasant breeders advise the use of bottom boarded coops, but I much prefer having them set on the ground, without boards at the bottom, and should you use them, do not fasten them to the coop. Make them equally moveable, so that they can be kept clean. Make an extra bottom board the same as used in the coop. Then when you wish to clean a place at the rear or side of the coop, and when young are in the yard, slide it out to this, clean the bottom board and slide it up to the coop.

Be careful to place the bottom board so that the young pheasants will run direct into the coop, not allowing them to get under it to be chilled or caught by a stray rat.

## POULTRY NOTES.

To the Editor: There is a peculiar fascination exerted by the young brood of chickens, whether hatched by hen or on the more pretentious scale of the incubator, that is felt not only by our rural population but by many a residents of town and city. We naturally expect to find flocks of varying size in the country, and in towns not a few persons keep fowls for the simple pleasure they find in their raising, not to mention the financial side of the matter.

Seldom do we look at the moral bearings this business has upon those who engage in it. The boy, as he grows up on the farm, naturally becomes interested in his pets—something that has life and motion and more or less intelligence. Some one has well said that, in the present crusade against evil attractions, it is well for the lads, as they grow, to become interested in the beautiful birds of the poultry flocks, rather than to be led astray by evil attractions, or to get into habits of pernicious idleness. Something alive, that has motion, beauty and possibilities of development.

Even with adults poultry raising has a telling effect upon the character. How much more may we expect this to be the case upon the young of both sexes.

We place an urgent plea for the boy and the girl of the ranch, as well as for those who live in urban communities. Let them have some well-bred fowls to commence with and see that all encouragement is given them. Many a well-to-do poultryman of today had his training and encouragement when a boy on the farm. What has been done may be repeated, and the autobiography of these veterans in the business will always prove stimulating reading to young and old.

The lad will become versed in the laws of breeding. He will learn how best to manage the little flock. Lessons in economy will be learned, as food is purchased for the fowls, or as other provision is made for their comfort. Then comes the experience of buying and selling, which will prove of great value to the growing

lad or lassie in years to come. Fathers, encourage your sons and daughters and "give them a show" in this as well as in other directions.

Owing to the high price of grain many persons are thinning out their flocks or are selling off their fowls altogether. No one wants to continue in a business that brings in returns on the wrong side of the ledger, but there are times in each season when expenses of the poultry yard quite equal, if they do not exceed, the income. It is not well to become easily discouraged. There is good money still in the business and present conditions may not last continuously.

One good result of this present stringency, as regards poultry raising on this coast, will undoubtedly be the disposal of the poorer birds—whole flocks in some instances—and more time and attention given to those which are retained. Too often does the rural poultry keeper have on hand unprofitable fowls. There is always too little culling, and this season may see much that is desirable in this direction. Better keep a few fowls upon which careful and considerate attention may be bestowed than to have a much larger number many of which will be dead-heads, summer boarders, drones or common soldiers.

Quality, not quantity, should be the motto of every poultry keeper in this State; in others as well.

A. WARREN ROBINSON.

Twin Lakes, Santa Cruz, Cal.

## "FRESH" EGGS.

A dispatch from Arbuckle says that excitement prevailed at Patton's store recently when the silence was broken by a tiny "cheep, cheep," coming forth from an egg case packed for shipment. The case was forthwith opened and every layer of the palatable "hen fruit" carefully examined in an industrious search for the little "chirper." The search did not prove fruitless, however, for well near the middle of the case was a thrifty little chick which had fought its way to life and liberty in a space hardly large enough to breathe. All of the suspicious looking "ovals" were laid aside, and from present indications the increase will reach the dozen mark within the next 24 hours.

## POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buff's excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## BALDWIN'S WHITE LEGHORNS



They Lay  
They Pay  
At every Pop.

They Show  
They Go  
To the very top.

3000 birds on free range and in yard.

**1st Prize Hen San Jose and Petaluma**  
Bargains in Breeders to make room. Write for prices and free booklet.

## FRANK E. BALDWIN,

The White Leghorn Specialist  
49 Washington Avenue, San Jose, Cal.



## The Home Circle.

### The Old Farm.

When the busy day is over its anxious hopes and fears,  
And the telephone stops ringing and the last clerk disappears,  
With a sigh I lean back to childhood and the old farm that is there.

I can see the dear old homestead, broad and low beneath the trees,  
And the rows of shining milk pans sunning in the fresh sweet breeze;  
I can see the barn and horses, and the orchard on the hill  
Where we gathered golden pippins for the old straw cider-mill.

I can see the upland pastures dotted o'er with grazing sheep,  
And the wheat field waving golden, ready for the men to reap.  
I can see the old stone fences where the chipmunks used to play,  
And the cornfield and the meadow with its piles of fragrant hay.

I can see the cattle standing 'neath the willows by the brook,  
Where I used to fish for minnows with a bent pin for a hook;  
And the pond where grew the lilies that my mother used to prize,  
Ah, the light of heaven's shining now within those dear old eyes.

And I sigh while fancy lingers o'er each well known pleasant scene  
Of the happy days of boyhood thrown by memory on the screen;  
And I'd give all that I have gained since, all my wealth and treasures rare,  
To go back again to childhood and the old farm that is there.

—From Maxwell's Talisman.

### The Real Cowboy.

It is quite true that the cowboy of today is not a college man, nor one at all familiar with the manners and customs of polite society. Neither does he go about his daily task with a brace of six-shooters slung at his hips and a repeating rifle held in the crook of his arm.

Barbed wire fences, steam railroads, police courts and penitentiaries have rendered such appurtenances superfluous. And immediately after pay day he does not swoop down upon the nearest town, shoot out the lights and take part in a gun fight or two.

For the \$30 or \$40 a month which he receives a strict attention to the duties of strenuous competition a job is a precious thing. The life of the modern cowboy is as full of hard and monotonous work as that of an Eastern farmhand; and there is very little difference in the intellectual and social standing of the two.

Though thousands of cattle are grazed on the plains of the southwest, very few are shipped direct from the range to the market. The places of individual cattle kings have been taken by great stock companies which own numerous tracts of range land in various parts of the West.

A few years ago a dry season in southern Arizona meant the death of many cattle and very frequently the financial ruin of their owners. The oldtimers still tell stories of having walked for incredible distances on the carcasses of dead steers.

But all that is past; they do things different now. Let a dry year come upon the southwestern range and the cattle are hustled on board a train and transported to the cattle companies' ranges in Colorado or Montana or Dakota, where the season is good and feed abundant.

No long drives of hundreds of miles in search of new range, as in the old days. Simply a day or two rounding up, then a few hours' drive to the nearest shipping point on the

railroad. Then perhaps a day in town for the cowboys and back again to the home ranch and the regular grind.

Though the cowboy is not a college graduate he is by no means an ignoramus. Usually he is American born and fairly well read, taking the same active interest in current topics and politics that other American citizens do. As a general rule he has been reared in the section in which he is employed and is of youthful appearance. He differs very little from the average American working youth, Western dialect stories to the contrary notwithstanding.

In all cowboy bunkhouses there is a pile of current magazines, the contents of which are devoured with avidity. And one is not infrequently treated to the amusing spectacle of a youthful cowboy becoming so enamoured of the kind of punchers pictured in modern fiction that he purchases a pair of utterly useless six-shooters, commences to walk with a swagger and to imitate the dialect of Red Saunders.

But if marksmanship is no longer a qualification of the cowpuncher, horsemanship is. The modern cattleman is as proud of his ability to ride anything on four legs as was ever the bronco buster of bygone days, and this is the fact first impressed upon a tenderfoot.

### Poverty vs. Wealth.

"Comrades, I was born in poverty," says Andrew Carnegie, "and would not exchange its sacred memories with the richest millionaire's son who ever breathed. What does he know about mother or father? These are mere names to him. Give me the life of the boy whose mother is nurse, seamstress, washerwoman, cook, teacher, angel and saint, all in one, and whose father is guide, exemplar and friend. No servants to come between. These are the boys who are born to the best fortune. Some men think that poverty is a dreadful burden, and that wealth leads to happiness. What do they know about it? They only know one side; they imagine the other. I have lived both, and I know there is very little in wealth that can add to human happiness beyond the small comforts of life. Millionaires who laugh are rare. My experience is that wealth is apt to take smiles away."

### A Meal of Locusts.

In the West Indies the negroes eat freely of the big grub found in palm trees. The fat, white morsel, which they call "grugru," is not cooked or salted. The aborigines of Australia live almost entirely on a butterfly known as the bugong. The flies appear in batches on the rocks, and the natives smother them with smoke from fires built below. It is said that a Hotentot, with an appetite made sharp by the simple life, can devour 300 fat locusts at a sitting and feel better satisfied than if he had paid \$8 for a ten course dinner. The Arabs dry the locusts and pulverize them into flour for breadmaking purposes. The Moors make a stew of them, and after boiling in water for a few minutes they are eaten with salt, pepper and vinegar. The locusts found in Central Africa are enormous, and the native negroes cut them in two and fry them in fat and find them not only appetizing, but nourishing. A flight of these big locusts is a matter of tribal thanksgiving.



**GOOD TREES AND BIG PROFITS**

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

**The San Dimas Citrus Nurseries**  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

### Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.

### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now for season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock—500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.

### FOR SALE

Freshly gathered Eucalyptus Rudis seed—by the pound or ounce.  
**MINNEWAWA VINEYARD, FRESNO, CALIFORNIA.**

### HENRY B. LISTER,

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts. San Francisco.

### Blake, Moffitt & Towne

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico. That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

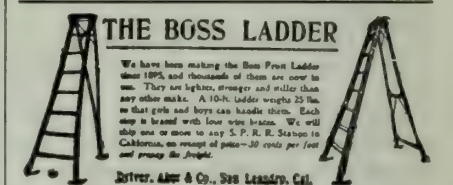
The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the typography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company



**THE BOSS LADDER**

We have been making the Boss Ladder since 1895, and thousands of them are now in use. They are lighter, stronger and safer than any other make. A 10ft. ladder weighs 25 lbs. we that fold and carry as handy as a saw. Each step is braced with one wire brace. We will ship one or more to any S. P. R. Station in California, on receipt of order—30 cents per foot and freight for freight.

Dorner, Adler & Co., San Leandro, Cal.

### Almond Hullers

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

## DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mfrs., Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

### What Burbank Hasn't Done.

Of course Luther Burbank has done a good many things, but I don't see much reason for rubbing one's vocal chords with resin so as to be able to shout his praises louder. Maybe I am a knocker, or jealous, or something. I wasn't aiming to ask for any credit for the idea, anyway.

To be sure, Luther has crossed the potato bug with the hen, to make the egg market brisker; has mixed the buckwheat stem with the sugar maple to produce self-syruped cakes; has grafted the sorghum cane with the cornstalk to bring about cornbread and molasses with little labor; has budded the apple upon the jack oak to make applejack from the cider or tree drip without waiting for fermentation; has crossed the pepper and box elder to bring an annual crop of ready-made pepper boxes; added a little torch of the quaking asp to his already marvelous hybrid, and thus provided a self-shaking pepper box right off the tree; has learned from the bloom of the hawthorn tree how to tell he-haws from she-haws; has combined the slippery elm and the ice plant until he has produced an ideal wood for making toboggans and bobsleds; has crossed the ironwood with the birch and never caused a bit of rust; has crossed the dogwood with the pussy willow without any disturbances beyond a mere bark; has hybridized the tumbleweed with forest trees, so that the first strong autumn wind brings the lazy forester's winter wood home to him without the stroke of an ax or even hitching up the team; has mingled the ragweed with thyme until the wind sings ragtime through the branches of the mixture; has mingled the pollen of the honey locust, common locust and the wire grass until he will soon be able to supply the market with barb wire fences fresh from the fields — has even crossed a mountain range with a burro, and has great expectations of the results.

All these things, I understand, he has done. We are told in addition, of late, he has triumphantly announced the achievement of the thornless (or spineless) cactus.

But look at the things he hasn't done and should do before he is credited with having performed any large proportion of the labor that should be performed by a man to whom has been vouchsafed the power of alchemist and wizard.

He has not produced a hurtless pain, a pangless insult, a privationless poverty, a maliceless hate, a hungerless starvation, fatigueless weariness, a toilless work, a nightmareless mince pie, a left-overless holiday turkey, a chestnutless minstrel show, a fightless boy, a colicless baby, a harmless gossip, a stingless hornet, a venomless rattlesnake, an innocuous poisonous oak, a scentless onion, a burless chestnut, branless flour, chaffless wheat, a discordless peacock or a pianoless flat!—Chicago News.

Mother — Why, Bobbie, how clean your hands are!

Bobbie—Aren't they! But you ought to have seen 'em before I helped Bridget make the bread.—Life.

**Stickney Gasoline Engines**  
ARE THE BEST  
The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine Stationary and Portable  
SEND FOR FREE CATALOG 1 1/2 to 18 H. P.  
We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.  
**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

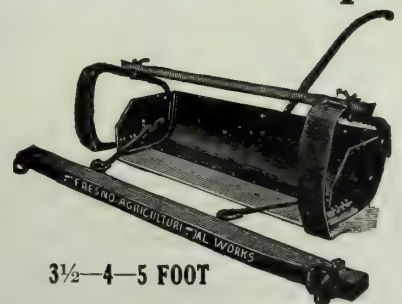
"THE OLD RELIABLE"  
**DIETZ LANTERNS**  
THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

**PIPE**  
500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
3/4 inch	.84 lb.	\$2.50
1 " "	1.12 "	3.85
1 1/4 " "	1.67 "	4.50
1 1/2 " "	2.24 "	6.25
2 " "	2.68 "	7.25
2 1/2 " "	3.61 "	10.00
3 " "	5.74 "	16.00
4 " "	7.54 "	19.75
5 " "	10.66 "	30.00
6 " "	14.50 "	42.50
8 " "	18.76 "	50.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.

## The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1865. Correspondence invited.

# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

**August 17, 18, 24 and 25.**

**Sept. 15 and 16.**

**Sept. 23, 24, 25 to Kansas City Only.**

HERE ARE SOME OF THE RATES:

Omaha	.	.	\$ 60.00
Council Bluffs	.	.	60.00
Kansas City	.	.	60.00
Chicago	.	.	72.50
St. Louis	.	.	67.50
New Orleans	.	.	67.50
Washington	.	.	107.50
Philadelphia	.	.	108.50
New York	.	.	108.50

Tickets sold on July dates good for 90 days; those sold August and September good until October 31. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.

**SUPERPHOSPHATES**  
(PHOSPHORIC ACID.)  
FERTILIZERS NITRATE OF SODA. SULPHATE OF POTASH.  
**MIXED FERTILIZERS,**  
SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY  
**The Mountain Copper Company, Ltd.**  
150 PINE STREET, SAN FRANCISCO.

**TANKS**  
Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.  
**R. F. WILSON,**  
General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

**FRANCIS SMITH & CO.,** Manufacturers of  
**SHEET IRON & STEEL PIPE**  
**FOR TOWN WATER WORKS**  
Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

**NATIONAL WOOD PIPE CO.**  
Patent Machine Banded **WOOD PIPE** Made from California Redwood or Selected Puget Sound Yellow Fir.  
404 Equitable Savings Bnk. Bdg. 318 Market St., San Francisco  
Los Angeles  
Olympia, Washington  
Dooly Block, Salt Lake City, Utah  
A Booklet: "The Whole Story About Wood Pipe," mailed free upon request.

**GREENBANK**  
Powdered Caustic Soda and Pure Potash. Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address, 42 Market St., San Francisco

**CELERY CULTURE.**—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**BEAN CULTURE.**—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth .....\$0.50



## THE MARKETS.

San Francisco, Aug. 5, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

For several days past the wheat market, both spot and future, has been marked by extraordinary firmness, and a general advance has taken place both here and in the East. Locally, there is considerable more inquiry for the spot grain, and business shows considerable activity. The advance on most lines is about 2½ cents, but California white Australian is 5 cents higher, and some northern grades show a material advance. The rise is due to reports of damage to the Northwestern crops.

California White Australian	\$1.75 @ 1.80
California Club	1.67½ @ 1.70
California Milling	1.70 @ 1.72½
California lower grades	1.45 @ 1.60
Northern Club	1.67½ @ 1.70
Northern Bluestem	1.75 @ 1.77½
Northern Red	1.65 —
Turkey Red	1.75 @ 1.80

## BARLEY.

The first entire cargo of barley for the season left for London last week. The demand for shipping grades in the country still continues, with the price well sustained, but brewing does not receive much attention in this market. Receipts have been quite liberal. The market for feed is quiet, with an easier feeling than last week. Prices for feed grades are a little lower.

Brewing and shipping	\$1.40 @ 1.42½
Chevalier	Nominal
Good to Choice Feed, per ctl.	1.38 @ 1.38½
Common feed	1.32½ @ 1.35

## OATS.

The crop of oats in general is said to be below expectations. This market remains very firm, with higher prices quoted on most varieties. Offerings of black are now liberal, and a wide range of prices is shown. Red for seed purposes continue to move well, and all grades are higher. White and gray are still inactive.

Choice white, per ctl.	\$1.47½ @ 1.55
No. 1, white	1.42½ @ 1.45
Gray	1.40 @ 1.50
Red, choice	1.55 @ 1.65
Red, feed	1.40 @ 1.50
Black, new	1.75 @ 2.25

## CORN.

Prices quoted are practically nominal, as there has been no business worth mentioning, though there is still a little spot grain offered here. Sacked yellow is higher, but other grades are easier here. Eastern markets are very firm and high, with an outlook for a small crop.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	Nominal
White	Nominal
Western State Yellow	\$1.90 @ 1.95
White, in bulk	1.89
Mixed, in bulk	1.84
Brown Egyptian	Nominal
White Egyptian	Nominal

## RYE.

There has been no business in this grain for some time, and no definite prices are established.

California new, to arrive	Nominal
---------------------------	---------

## BEANS.

The stock on hand August 1 showed a decrease of about 10,000 sacks since the first of last month. Arrivals during the month were 15,000 sacks, showing a movement into consumption of 25,000 sacks from San Francisco. The good demand for small white beans has caused an advance in this variety, and stocks are closely held. There are some inquiries for other white beans. Business in mixed cars is light at the moment, but will probably revive before long, as no colored beans will come in for two months. There is little activity in pinks and bayos, and only a fair demand for limas, but all stocks are light and will probably be needed before new beans come in.

Bayos, per ctl.	\$3.20 @ 3.25
Blackeyes	3.25 @ 3.50
Butter	4.50 —
Cranberry Beans	2.75 @ 3.10
Garvanzos	2.50 @ 3.50
Horse Beans	2.00 @ 2.50
Small White	4.60 @ 4.75
Large White	4.40 @ 4.50
Limas	4.90 @ 5.00

Pea	4.40 @ 4.50
Pink	3.25 @ 3.35
Red	3.25 @ 3.75
Red Kidneys	2.75 @ 3.00

## SEEDS.

There is a little demand for various kinds of seeds, but the market on the whole is quite dull, and prices remain as last quoted. The harvest of sweet pea seeds is being gathered in the Lompoc country.

Alfalfa per lb	17½ @ 20 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb	3½ @ 3½c
Canary	4½ —
Flaxseed	3 —
Hemp	4½ @ 4½c
Millet	2½ @ 3½c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

Business in flour is rather dull, with no shipments of large proportions. The shipping movement from the north shows some decline, and if the rate to the Orient is raised, as is expected, there will be a further decrease.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

## HAY.

There has been a decrease in the arrivals of hay this week, the total for the week being only 3740 tons, as compared with 4510 tons for the week preceding. The falling off seems to be largely due to the failure of the railroad company to get cars to the shipping points promptly, though it also seems probable that some of the growing districts are getting pretty well cleaned up. Dealers are still bearish and claim that in spite of the dropping off in arrivals, the market is weak. As a matter of fact, not much business has been done, but on the other hand, the fact that prices are still kept up, and the further fact that very few of the larger consumers have as yet stored their winter's supplies, are elements of strength in the situation. If, as some reports have it, the shipping points in the interior are in some cases getting cleaned up, the outlook is certainly not bad from the holder's standpoint. The general idea here is that the market will probably remain fairly steady without any notable advances or declines.

Choice Wheat, per ton	\$17.00 @ 18.00
Other Grades Wheat	12.00 @ 16.00
Wheat and Oat	12.00 @ 16.00
Tame Oat	11.00 @ 16.00
Wild Oat	10.00 @ 14.00
Alfalfa	11.00 @ 13.50
Stock	8.00 @ 10.00
Straw, per bale	60 @ 75c

## MILLSTUFFS.

Buyers are acting conservatively in regard to bran. Another large shipment has arrived from Japan, and this has a weakening effect on the market, though quotations are unchanged. Other lines are moderately active at former prices.

Alfalfa Meal (carload lots) per ton	\$22.00 @ —
Jobbing	23.00 @ —
Bran, ton—	
White	29.50 @ 31.00
Red	28.00 @ 29.50
Broom Corn Feed, per ctl.	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00 —
Jobbing	26.00 —
Corn Meal	39.00 @ 40.00
Cracked Corn	40.00 @ 41.00
Mealalfa	22.00 —
Jobbing	23.00 —
Middlings	32.50 @ 35.00
Mixed Feeds	25.00 @ 28.00
Oil Cake Meal, per ton	36.75 @ 38.25
Rolled Barley	30.00 @ 31.00
Shorts	31.00 @ 32.00

## VEGETABLES.

The overstock of good tomatoes has been disposed of, and as good stock meets with a ready demand, prices have declined no further. Cucumbers, summer squash, okra and egg plant, however, are lower, with heavy supplies. Green corn is weak, the best lots not bringing over \$2 a sack. Beans and peas are in good demand and show little change. Onions are in good supply, but the demand keeps up well, both for shipping and the local trade, and stocks are not excessive. Garlic shows another slight advance, and asparagus is quite firm.

Garlic, per lb., new	5½ @ 6c
Green Peas, lb.	2 @ 3c
String beans, lb.	4 @ 5c

Lima Beans, lb.	5 @ 6c
Cabbage, per ctl.	50 @ 75
Onions—	
New Red, sack	60 @ 65 c
New Yellow	70 @ 85c
Summer Squash, large box	35 @ 50c
Tomatoes, box	60 @ 85c
Turnips, sack	50 @ 75c
Green Peppers, box	50 @ 65c
Cucumbers, box	40 @ 60c
Green corn, sack	\$1.00 @ 2.00
Egg Plant, box	60 @ 75c
Cauliflower, doz.	75 @ 85c
Okra, box	75 @ 85c
Asparagus, lb.	8 @ 12½c

## POULTRY.

This week's market opened with very little offering, all former arrivals having been cleaned up well at the close. Receipts of both Eastern and native chickens continue lighter than usual, and while quotations show no radical change, several descriptions are a little stronger. Conditions generally are thought to favor better prices, and dealers believe that sales will be made at an advance on most lines, especially large hens and fancy stock. Small stock is now steady at appearing quotations. Turkeys are firm, and the demand continues very good.

Broilers	\$3.00 @ 3.50
Small Broilers	2.50 @ 3.00
Fryers	4.50 @ 5.50
Hens, extra	6.50 @ 7.50
Hens, per doz.	5.00 @ 6.00
Small Hens	4.00 @ 4.50
Old Roosters	3.50 @ 4.00
Young Roosters	5.50 @ 6.50
Young Roosters, full grown	6.50 @ 7.50
Pigeons	1.25 @ 1.50
Squabs	1.75 @ 2.00
Ducks	3.50 @ 6.00
Geese	1.50 @ 1.75
Goslings, per pair	1.75 @ 2.00
Spring Turkey, lb.	24 @ 26c
Gobblers, live	19 @ 20c
Hen Turkeys, live	20 @ 21c

## BUTTER.

Butter is dull this week, with a moderate demand on the street, and very little business on the exchange. Extras are again fairly plentiful, showing a decline of ½ cent, but firsts are firm at a slight advance. There is no change in the lower grades, which are moving about as usual.

Cal. (extras) per lb.	23 c
Firsts	27 c
Seconds	20½c
Thirds	20 c
Fresh Packing Stock, No. 1	19½c
Fresh Packing Stock, No. 2	18½c

## EGGS.

Eggs are steadily advancing, and prices have been quite firm all week. With a further decline in arrivals, there is a scarcity of first class fresh stock in this market, and it is said that some dealers have already begun to draw on storage supplies. Offerings of Eastern stock are fairly liberal, and move off more rapidly than last week. Extras, however, are in good demand and scarce, standing now at 31½ cents.

California (extra) per doz.	31½c
Firsts	22½c
Seconds	23½c
Thirds	20 c
Eastern Selected	24 c
Eastern firsts	22 c
Eastern seconds	20 c

## CHEESE.

Cheese is inactive and shows very little feature. There is an advance of ½ cent in both local and Oregon fancy flats, but neither variety shows any firmness, the rise being caused by a small buying movement. Young Americas, however, are fairly firm.

Fancy California Flats, per lb.	11½c
Firsts	10½c
Seconds	10 c
Thirds	20 c
Eastern Selected	24 c
Eastern firsts	22 c
Eastern seconds	20 c

## POTATOES.

Merced sweet potatoes are now being shipped here and to the northern markets, and are bringing about 4 to 4½ cents. Shipments of potatoes for the Middle West are going on steadily from Stockton, and the local market is in good condition. Some Salinas stock has been offered at \$1.50 a cental. The local dealers are making strong efforts to get the Panama trade.

New Whites, choice	1.00 @ 1.15
Ordinary	65 @ 90c
Early Rose	75 @ 85c
Sweet Potatoes, lb.	4 @ 4½c

## FRESH FRUITS.

The majority of fruits are quite plentiful, and prices are very weak on many

lines. The best apples do not bring over \$1, and very few are moving for that price. The supply of Bartlett pears is excessive, and while the best lots are steady, large lines are going to the canners at low prices. Nectarines and figs receive little attention. Most descriptions of berries are in good demand at rather better prices than last week. Everything in the melon line is weak and dull. A few muscat grapes now in the market bring good prices, but other grapes are easy.

Apples, fancy	75 @ \$ 1.00
Apples, common	25 @ 50c
Strawberries—	
Longworths, chest	\$4.00 @ 6.00
Large varieties, chest	4.00 @ 5.00
Blackberries, chest	2.00 @ 2.50
Raspberries	4.00 @ 6.00
Huckleberries, lb.	10 @ 12½c
Apricots, ton	10.00 @ 20.00
Plums, crate	30 @ 60c
Peaches, box	25 @ 50c
Figs, single layer, drawer	40 @ 75c
Nutmeg Melons, box	50c @ 1.00
Cantaloupes, standard crate	1.35 @ 1.75
Watermelons, doz	1.25 @ 2.50
Grapes, crate, Seedless	50 @ 70c
Muscats	1.00 @ 1.25
Rose of Peru	60 @ 75c
Fontainbleau	40 @ 60c
Pears, Bartlett, box	30 @ 90c

## CITRUS FRUITS.

Prices on citrus fruits show considerable change. Lemons are higher, as prices at shipping points have been advanced. Valencia oranges are also higher. Limes and grape fruit have declined a little, but the latter is moving off well.

Choice Lemons	\$2.50 @ 3.50
Fancy Lemons	3.50 @ 4.25
Standard	1.25 @ 2.00
Limes	4.00 @ 5.00
Oranges—	
Valencias	3.50 @ 4.00
Grape Fruit	3.50 @ 3.75

## DRIED FRUITS.

Dried fruits are in rather better demand than last week. The Eastern market is still described as quiet on most lines, as the buyers there are unwilling to order under the terms of the California contract, but are showing greater interest, and stocks appear to be light. Apricots are in better demand, and Eastern prices are showing considerable strength. Peaches are not moving to any great extent. The firm feature is prunes, for which higher prices are offered, and several packers are said to be withdrawing from the market. Spot raisins are a little stronger, and prices offered for the new crop show a general advance, owing to the anticipated shortage. The present condition of the crop indicates a heavy decrease in production.

Evaporated Apples	5 —
Figs, black	2½ —
Figs, white	2½ —
Apricots, new crop	5½ @ 6c
Peaches, new crop	5 —
Prunes, 4-size basis	3½ @ 4½c
Pears, new crop	5 @ 6½c

## RAISINS.

2 Crown	3½c —
3 Crown	4c —
4 Crown	4½c —
Seeded, per lb.	6½ @ —
Seedless Sultanias	5 @ —
London Layers, per box	9 @ 1.00

## NEW CROP.

Loose Muscatels, 4 crown	5½ @ —
3 Crown	4½ @ —
2 Crown	4½ @ —
Thompson seedless	4½ @ —
Seedless	6 @ 6½c
Custers—Imperial	\$2.25 @ 2.40
Dehesa	1.75 @ 1.90
Fancy	1.30 @ 1.40
London Layers	1.05 @ 1.15

## NUTS.

The almond crop is gradually moving out of the hands of the growers, who are in general receiving the prices quoted below. The outlook for walnuts is very good, though the prices are still in uncertainty. The Anaheim association expects to handle about 400 tons.

Almonds, Nonpareils	11½ —
I X L	10½ —
Ne Plus Ultra	10 —
Drakes	9 —
Languedoc	9 —
Hardshell	—
Walnuts, Softshell No. 1	13 —
Softshell, No. 2	10 —
Italian Chestnuts	10 @ 12½c

## HONEY.

Varying reports are received as to the size of the honey crop, but the crop as a whole is light, and former prices are likely to be well sustained. Local han-



dlers are still getting the prices quoted below, and all the stock so far received has met with a good demand. There is also a considerable movement to the East from the producing sections.

Water White, Comb lb.....	16 @ 17 c
White.....	15
Water-white, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c
Dark Amber.....	5½ @ 5½c
Candied.....	5½ @ 5½c

#### WOOL.

Wool is quiet in this market, most of the clips being cleaned up. The low prices formerly quoted still prevail, and no advance is looked for in the near future, as there is little activity in the East.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15½c

#### HOPS.

The market shows little movement at present, and prices are unchanged. In spite of the reduced acreage in some sections of the Coast, dealers look for continued low prices, as the outlook is for a large crop in Europe.

1906 crop.....	1½ @ 2½c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

#### MEAT.

Dressed steers are slightly higher, and there is a reduction in the inside price of large veal. Spring lambs are also lower. Hogs are a little stronger, but otherwise there is no change.

Beef: Steers, per lb.....	6 @ 7½c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	5½ @ 7½c
Small.....	8 @ 9 c
Mutton: Wethers.....	8 @ 8½c
Ewes.....	7 @ 8 c
Spring lamb.....	9 @ 9½c
Hogs, dressed, light.....	9½ @ 10c

#### LIVESTOCK

Steers, No. 1.....	3½ @ 4c
No. 2.....	3½c
No. 3.....	2½ @ 3 c
Cows and Heifers, No. 1.....	3 @ 3½c
No. 2.....	2½ @ 3½c
Bulls and Stags.....	1½ @ 1½c
Calves, Light.....	4½ @ 4½c
Medium.....	4
Heavy.....	3½
Sheep, Wethers.....	4
Ewes.....	3½
Spring Lambs, lb.....	4½ @ 4½c
Hogs, 100 to 150 lbs.....	6 @
150 to 250 lbs.....	6½c
250 to 325 lb.....	6c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

### SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Aug. 4.—The demand for all varieties of fruit the past week has been very good. Peaches have sold well, and present quotations are 55 to 60 cents for Crawfords and 60 to 65 cents for Elbertas. Sales were made the fore part of the week as high as 70 cents for Elbertas, but owing to the increased shipments the price is at present 60 cents; however, the market should remain steady at this quotation. Heavy shipments of Elbertas are expected to go forward next week. The cash buying price last week was 30 cents for Crawfords and 35 cents for Elbertas, but on Monday the price on Elbertas was raised to 40 cents; consequently it is expected that the market will remain firm.

Auction sales in Chicago today averaged Elbertas \$1.30 to \$1.50, Crawfords \$1.10 to \$1.25, which nets about \$1 f.o.b. for Elbertas and 80 cents for Crawfords.

Owing to the scarcity of plums the market has been high and demand good. Auction sales in Chicago today averaged: Tragedys, \$1.60 to \$1.65; Sugars, \$1.30 to \$1.55; Wicksons, \$1.20 to \$1.70; Kelseys, \$1.15 to \$1.25; Diamonds, \$1.55 to \$1.80; Satsuma, 95 cents to \$1.10; Bradshaw, 90 cents to \$1.15.

There has been an increased demand for pears the past week, and consequently prices have advanced from 90 cents to \$1, and sales are now being made as high as \$1.15. It is expected that market will continue to do better, as the supply now en route is disposed of. Holders of late pears should strike a fine market.

The Thompson Seedless grapes have not done very well, owing to the poor carrying

quality of some of the fruit shipped. Some sales have been made f.o.b. at a price of \$1. This variety, however, is rapidly cleaning up, and in its place Malagas and Muscats will be shipped. The first car of Malagas was shipped on August 1 from Los Palmas, but shipments will not commence in earnest until the first of next week. Muscats will also be coming in at that time. Good prices are expected on these varieties.

Taking the deciduous situation as a whole, the present demand should continue on all varieties of fruit, and good prices are expected.

Comparative shipments to July 29 for the seasons 1907 and 1908 are as follows: 1907, 1888; 1908, 3107.

### SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Aug. 4.—(Special Correspondence).—It now looks as though the optimist who predicted better conditions in the orange market was a winner, for the trend appears to be upward, not that prices are as yet any higher, but that the demand is better. This may be only temporary, for shipments are heavy for the time of year. The Exchange has 250 cars of oranges rolling or at market points unsold, and other factors probably nearly as many more. As it takes from one to three weeks for a car of fruit to reach its destination, according to whether it is going a long or short distance, it is therefore fair to assume that the stock now out is expected to go into consumption in two weeks time. This means 50 cars a day for the ten selling days, and this is too many oranges to put against the heavy supply of deciduous fruits and melons. It is true that the great Georgia peach crop of 5000 cars is now nearly out of the way, but California peaches and other fruits are in, and we read that there is a watermelon glut in the Far East. All this affects the orange demand, and it can be said that, with all things considered, the inquiry for oranges is very good, and this is what makes business.

Lemons are very strong and the market is advancing right along. Not only are the good markets going up, but the weak spots are strengthening. Said a dealer: "We are now demanding and receiving from \$4.25 to \$4.65 f.o.b. for our best lemons. From this the price runs down to \$3.75 for the best brands from the poorer producing sections. We are finding it difficult to fill orders, and we may yet see a genuine lemon boom if the hot weather continues. The large quantity of poor keeping fruit available is the only thing that has prevented the high prices of two years ago, and present indications are pointing to boom prices, for the demand is great. Just watch lemons."

Shipments to date have been 23,193 oranges against 23,236 last year, and 21,243 in 1906. Lemon shipments are 4,000, against 3,000 in 1907 and 3,300 in 1906.

Of foreign lemons there are now available for sale within the next thirty days, in store, on docks and afloat, 137,000 boxes of Sicily lemons as against 265,000 in 1907 and 102,000 in 1906. Sixty thousand boxes will be offered this week in New York city alone, smaller lots selling at Philadelphia and New Orleans.

The Fullerton Vegetable Association will control about the entire sweet potato crop of that section, which embraces about 300 acres planted out. The first shipments of the season have just been made, and the price is expected to be about 4 cents. Last year this association had out 200 acres and marketed 12,000 sacks, which will be largely exceeded this year, as the acreage is larger and the yield good.

It is stated that the State Fish Commission will stock the streams of southern California the coming fall, with 700,000 rainbow trout.

THE BOOK OF ALFALFA.—Its history, cultivation, merits, and uses as a forage and fertilizer. This little book on alfalfa, which appeared a few years since, has been a complete revelation to thousands of farmers throughout the country, and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is by far the most authoritative, complete and valuable book on this forage crop ever published. The book is printed on fine paper, with many full-page photographs that were taken with the especial view of their relation to the text. It is unquestionably the handsomest agricultural reference book that has ever been issued. By F. D. Coburn, Secretary Kansas Department of Agriculture. Illustrated. 6½ by 9 inches. 336 pages. Cloth...\$2.00

### PUBLISHER'S DEPARTMENT.

The full-page announcement of the Pear-Blight Remedy Co. in this issue calls attention to the fact that the pear blight is still prevalent. The Pear-Blight Remedy Co. of Vacaville is composed of some of the strongest fruit men of the State. Their names give weight to their announcements, and when they ask for full investigation before adopting their remedy, they are putting their claims upon a perfectly business-like basis. In a recent issue of the Vacaville Reporter this company had the following to say:

"We find in orchards treated with the Pear-Blight Remedy Co.'s preparation, as compared with adjacent orchards untreated, everything in favor of the treated orchards. It is true that on the treated trees there is a little twig blight, but this stops a very few inches from where it begins and does practically no damage to the tree or crop. On the other hand, in most of the untreated orchards, the blight does not stop with the infected twig and the orchardists are again using the saws and pruning shears and making cordwood out of valuable trees.

"We can positively show, in one of our experimental orchards, treated two successive seasons with our remedy, absolutely no indication of blight whatever.

"We cannot understand why the people will continue to use the old-fashioned method of carving their trees to pieces when it has been demonstrated positively that this method is anything but a cure."

In his letter ordering a copy of "California Fruits" which will soon be issued, W. W. Mackie says: "We have always had the latest edition of your books on our library shelves ever since I was a boy. I feel this will be the best edition of all." Such words from a man like Mr. Mackie, who has had charge of the Soil Survey work of the U. S. Department of Agriculture in California for several years, means much. If you want the latest and best in California fruit raising, send us your order for the new book, which will be issued about September 1st.

A new and authoritative work on Floral Horticulture and Landscape Gardening has just been written by John McLaren, superintendent of Golden Gate Park. The book will be published by A. M. Robertson, 1539 Van Ness avenue, San Francisco, who expects to issue it about December 1st. It will contain about 500 pages sumptuously illustrated, and will be along practical lines. The price will be \$5 the copy.

Attention is called to the advertisement of the Enterprise Herd, owned by R. P. Eakle, Jr., and R. M. Dunlap, in this paper. To those who are looking for good stock to add to their herds this auction sale of high-class stock will appeal to. Make a note of the day and place and be there on time.

The DeLaval people are now agents for the Stickney engine. This firm has branches at Los Angeles, Portland, Seattle, and with their house here, they are readily accessible to our readers who may want such an engine as they advertise. Mention seeing the ad in the RURAL PRESS.

R. F. Wilson, the tank man of Stockton, is asking for your patronage. He has been at the business for years and makes good tanks.

G. W. Hume & Co. of this city are advertising in this issue an Almond Huller at a low price.

## BOOKS FOR THE FARM

### For Sale by PACIFIC RURAL PRESS

FARM CONVENIENCES.—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00

FEEDING FARM ANIMALS.—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated. 5½ by 8 inches. Cloth...\$2.00

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	93
Baldwin, Frank E.....	91
Beckman, Geo. V.....	90
Bird & Co., J. A. & W.....	77
Blake, Moffitt & Towne.....	92
Bray Brothers.....	93
Breeders' Directory.....	90, 91
Brown, H. G.....	90
Croley, George H.....	91
Clark Wise & Co.....	90
Cutter Laboratory, The.....	90
De Laval Dairy Supply Co.....	89, 93
Deming Co., The.....	93
Dewey, Strong & Co.....	93
Dietz Company, R. E.....	93
Disbrow, F. H.....	92
Driver, Aber & Co.....	92
Driver, E. S.....	90
Fresno Agricultural Works.....	93
Galloway, A. J.....	92
German Kall Works.....	—
Hamlin, Miss Sarah D.....	93
Hart, Ed.....	91
Hopkins & Son, G. H.....	92
Howard Cattle Co.....	90
Hume Co., Geo. W.....	95
International Harvester Co.....	—
Jackson & Co., T. W.....	93
Kendall, Dr. B. J., Co.....	89
Lawrence-Williams Co.....	89
Lilly Co., Chas. H.....	89
Lister, Henry B.....	92
Lynch, John.....	90
Meacham, Frank A.....	89
Minnewawa Vineyard.....	92
Mountain Copper Co.....	93
Murphy, P. H.....	90
National Wood Pipe Co.....	93
Oakland Poultry Yards.....	91
Pear Blight Remedy Co.....	96
Rix, O. A.....	92
Robinson, John R.....	92
Roeding, Geo. C.....	90
Sharples Separator Co.....	89
Silva & Bergholdt Co.....	92
Simmons Hardware Co.....	93
Smith, Francis.....	93
Southern Pacific Railway.....	93
Standard Oil Co.....	90
Stowe, C. A.....	91
Sullivan, W.....	91
Teague, R. M.....	92
Temple Pump Co.....	92
Tower Co., A. J.....	—
Tuttle's Elxir Co.....	—
Vermont Farm Machine Co.....	—
Wagner, J. B.....	92
Waite, Thos.....	90
Western Gas & Power Co.....	—
Wilson, R. F.....	93
Windeler, Geo.....	—

TOMATO CULTURE.—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth.....\$0.50

THE NURSERY BOOK.—A complete handbook of propagation and pollination of plants. It tells, plainly and briefly, what everyone who sows a seed, makes a cutting, sets a graft, or crosses a flower wants to know. It is entirely new and original in method and matter. The cuts number almost 100, and are made especially for it, direct from nature. The book treats of all kinds of cultivated plants, fruits, vegetables, greenhouse plants, hardy herbs, ornamental trees, and shrubs and forest trees. By L. H. Bailey. Illustrated. 4½ by 7 inches. 365 pages. Cloth.....\$1.00

THE NEW RHUBARB CULTURE.—A complete guide to dark forcing and field culture. Part I.—By J. E. Morse, the wellknown Michigan trucker and originator of the now famous and extremely profitable new method of dark forcing and field culture. Part II.—Other methods practiced by the most experienced market gardeners, greenhouse men and experimenters in all parts of America. Compiled by G. B. Fiske. Illustrated. 130 pages. 5 by 7 inches. Cloth.....\$0.50

ASPARAGUS.—By F. M. Hexamer. This is the first book published in America which is exclusively devoted to the raising of asparagus for home use as well as for market. It is a practical and reliable treatise on the saving of the seed, raising of the plants selection and preparation of the soil, planting, cultivating, manuring, cutting, bunching, packing, marketing, canning and drying, insect enemies, fungous diseases and every requirement to successful asparagus culture, special emphasis being given to the importance of asparagus as a farm and money crop. Illustrated. 174 pages. 5 by 7 inches. Cloth.....\$0.50

### FOR SALE.

One large W. G. Read Almond Huller, used one season, A1 condition. Price \$260.00, F. O. B., Biggs, Butte County. Cost \$500.00. Address G. W. HUME COMPANY, 288 Market St., San Francisco, Cal.



# ATTENTION!

## *PEAR and APPLE GROWERS*

You are aware that recently

## PEAR AND APPLE BLIGHT

Has developed to an alarming extent, notwithstanding that it did not develop as early as in previous seasons.

*We Have Positively Demonstrated that*  
**WE CAN CURE THIS DISEASE.**

We invite your personal investigation of orchards treated with our  
Remedy.

We will furnish testimonials on application.

We are the pioneers in treating Pear and Apple Blight through the roots of a tree with a solution. As this is a bacterial disease this is the only method of

### **CORRECT TREATMENT:**

The solution flowing with the sap reaches every part of the tree.

### **We Positively Guarantee**

That our Remedy does not in any way injure the tree nor fruit.

### **Save your Orchards**

As well as the expense you have been to in the past by cutting  
**WITHOUT RESULTS.**

Use Our Remedy.

Write us for Particulars.

# Pear-Blight Remedy Co.,

Vacaville, California.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 7.

SAN FRANCISCO, SATURDAY, AUGUST 15, 1908.

Thirty-eighth Year.

## California Cured Fruits.

It is the custom of the California sunshine, not only to bring vigorous growth to the tree and vine and carry the fruit of both to fullness of size, beauty and quality, but to continue its beneficent action until the fruit which is not required by the trade in fresh ripeness is given imperishable form, in which its beauty, flavors, aromas and nutritive qualities remain available to delight and nourish mankind until the following year's sunshine wins from the earth another supply of fresh ripeness. There are many parts of the earth where good fruit is grown: there are few where conditions producing such fruit continue to accomplish its preservation, as they do in California, and this climatic endowment of the State yields an annual income of something like twenty millions of dollars, as the years run.

In connection with this notable factor of our horticultural endowment, certain facts of its utilization and its significance should be clearly understood not only by those who actually employ it in their business but by those also who desire to properly appreciate the industrial resources of the State:

First, cured fruits in California are a primary and not a secondary or by-product.

It is true, of course, that curing fruit does, to a limited extent, save from loss fruit which shippers and canners are not at the time paying profitable prices for, and it is true also that the recourse to curing frees growers from helpless dependence upon fresh fruit buyers. But this does not mean that curing is a way of getting something from refuse fruit, not suited for other purposes. It should be taken as evidence that, for the most part, grades of fruit which are cured are the same which are also available for higher uses when prices are right. It is very important in many ways to have it clearly understood that, except to an insignificant extent, California fruit drying is not undertaken to save wastes or to get something from fruit which is not suited to higher uses.

Second. As our cured fruits are a primary and not a by-product, it becomes intelligible why such free investment is made in acres of well-made trays; in tramways and turntables for their movement from the shelter of convenient cutting or dipping and spreading houses; in capacious apart-

ments and mechanical devices for giving the cut fruit its immunity bath in sulphur fumes to preserve natural colors and to prevent fermentation and insect invasion; in the carefully prepared drying floors; in well-fitted packing houses. Such investment has reached millions of dollars in the aggregate, and the standing of cured fruits as primary products is the justification of such outlay.

Third. The provision of much equipment is not alone evidence of the standing of the industry; it constitutes an obligation upon producers to put out a product which shall be true to its opportunity as a primary product, and not merely a makeshift to prevent loss or waste. Thirty years ago California dried fruit was a makeshift, and a dis-

tend to the whole process of growing and curing. The fruit must be well grown, and fruit for curing should have size and quality which make it first class for other purposes, with the added excellence of being somewhat more mature, because it is not required to stand hauling and shipment. It should, however, be carefully handled to escape bruising, because discolorations are blemishes. It must be cleanly cut for removal of pit or core, because trimness, neatness and shapeliness are all essential to beauty. Before it reaches exposure to the protecting fumes of sulphur, it must be often saved from darkening by handling in water, when the nature of the fruit is such as to require it. It must be carefully and evenly spread upon

the trays, especially if it be a cut fruit, so that no interference can prevent each piece from reaching its best estate. Sulphuring must be adequate, and yet not excessive, for sulphuring is a protecting and not a resurrecting process; it is not to improve bad fruit, but to keep good fruit from becoming bad. The fruit must be sufficiently dried and yet not over-dried, and during the process must be protected from dust by the situation and character of the ground used, even if such protection costs trouble and outlay.

Of course not all fruit is sun-cured in this careful way, but that which gets most money and brings the State most credit, is not only handled in these careful ways, but much more is done which cannot be enumerated in this brief sketch. Sun-

curing is a very elaborate process, if done to the limit of its possibilities, although it is, in a way, very simple. It requires constant exercise of judgment and, when practiced on a large scale, calls for constant and expert supervision of the fruit, the laborers and the methods which they employ. Because judgment is always in demand and handling has to be modified according to the kind of fruit, its degree of ripeness and the prevailing atmospheric conditions, it is impossible to make everyone wise by a printed statement. The best way to learn how to sun-cure fruit is to take general hints from printed accounts; to study samples of the fruit which brings the highest prices in whatever places you see it exposed for exhibition or for sale; to commence curing on a small scale, if you are beginning in the fruit industries, and to go soon to localities where the best fruit, of the kind you have, is handled on a large scale, so you may see all the arrangements and devices by which labor is saved.

(Continued on Page 100.)



CALIFORNIA SUNSHINE EVAPORATOR WITH ACCESSORY BUILDINGS.

gracefully poor one. As enterprise and investment proceeded it was soon seen that style and quality alone could requite them. Next it was discerned that fruit for curing, to command profitable prices, must be as good as fruit for any other high purpose, as has been suggested. It was then believed that to secure handsome cured fruit which should only be relieved of its excess of water and still retain color, flavor and winning beauty, could only be produced in machine-evaporators with artificial heat, and a few years were given to invention, purchase and rejection of all such devices except as occasional refuges when the California climate forgets itself. When the demonstration came that with proper pre-treatment California sunshine and dry air would produce notably fine evaporated fruits without houses and furnaces, cured fruits entered upon their career as primary products, and planting to produce them began.

Fourth. The obligations upon producers, to make their output worthy of such standing, ex-



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor  
FRANK HONEYWELL - - - Business Manager

## The Week.

Several readers have advised us that they enjoyed last week's preachment on the subject of organization for promoting profitable sales of California produce, and ask us to "preach again in the evening from the same text." Such a call usually pleases a preacher, for he generally has a seventeenthly left in stock after he has given the congregation all he thinks they will stand on any subject. This is certainly the case with all who take up the theme of co-operative organization, and although we do not propose to weary our readers with it just because they are kind, we do propose to keep up the agitation whenever some particularly suggestive facts come to light. It is too late to say much upon the theory of it, because that is conceded to be delightful by everybody. The only way to produce much impression is to show facts of need and facts of accomplishment, and by a sort of cross-pollination process produce greater facts which the welfare of producers demands. There is, however, one approach on the theoretical side which is great enough to note because of its source, at least. President Roosevelt recently appointed a commission consisting of Professor L. H. Bailey of Cornell University, Henry Wallace of Des Moines, Iowa, an agricultural publisher; President K. L. Butterfield of the Massachusetts Agricultural College, Walter H. Page, a New York editor of magazines, and Gifford Pinchot, head of the Forestry Service. As a contemporary puts it, "this commission is to consider 'country life' and tell him all about it, so that he can tell Congress, which he engages to do in a special message some time next winter. What the President wishes to be informed about is whatever affects the economic or social interests of the American farmer and which may also be a proper subject for national legislation. He does not ask the commission to make extended original investigation, but to prepare for him a summary of 'what is now known' of conditions which affect life in the rural districts."

It seems to us a foregone conclusion, from what we know of these men and their life work, that they will urge improvements in rural education, for they have faith in it as the great avenue to all forms of rural improvement. It is interesting to note that this is not new. Nearly all the nations have made such national inquiries during the last score of years, and the reports of their inquiring experts have been singularly alike, that the farmers did not need laws so much as they needed special education to fit them to their environment and to have more success and delight in it. It is to be expected that such a fundamental proposition will again arise in the report of this new commission, and it will also indicate ways in which it may be advanced. Whether the

commission will make its second point the need of organization or not, we do not know, but it seems to us that education and organization are the two things which are needed to advance the economic and social interests of agriculture, and we believe that if the education is attained the organization will surely follow. The few who now urge organization do not make more headway because the masses do not appreciate its beneficial influences, nor can they until they are fitted to resolutely bear the burdens of organization and remain loyal to the effort until its ends begin to be attained. There may be many ways in which Congress can promote rural education and can protect the agricultural interests against encroachments by other interests which are organized, and are therefore perhaps too forceful, but the final fairness of agricultural relations must be attained by education which will win farmers from distrust of each other, enable them to detect blandishment and make them strong, through joint action, to secure what is theirs by right. Next time we shall try to write more concretely.

The Citrus Protective Union has shocked some people by declaring a personal preference for a candidate to be elected to the Senatorship from California by the next Legislature, and bases its action upon services for the protective policy already rendered and anticipated in the future. This is going into politics to defend protected industries in this State, and if politics are not to protect industries, we fail to see what they are for that is worth anything. With something like four-score products on the protected list, it would seem that any other action in California would be, in a way, suicidal. Perhaps there are just as good protectionists as the one endorsed by the Citrus Protective Union, but they seem to be sure of the one they endorsed, and probably defend their action, if they care to defend it, on that ground. That there is absolute necessity of being sure this time about the effective support of the protective policy can be judged from what Judge Alton B. Parker, Democratic candidate for the presidency four years ago, is reported to have said in an interview in this city on Monday of this week:

"About the most important of the national issues is the tariff. Simply because the Republicans have declared in favor of tariff reform does not take the question out of the fight, in my estimation. And I have not heard any pledges that would bind the party to a general reduction. It may be that they intend to revise some of the schedules down a little and some up a good deal."

This means, we take it, that if the Republican candidates are beaten, there will be a President who believes in revising it down a good deal. That is just what we expected, and it is just that that California cannot take any chances on.

We had a growl recently about the kind of fruit which is set before guests at California hotels—even those in the very districts where our best fruits and nuts are grown. A correspondent of a contemporary writes in this way:

"An injustice is done the hotel man to a considerable extent in intimating or presuming that he serves inferior fruits on his table by preference. In most every case it is because he cannot find the high-grade fruit in the markets of California. It is a well known fact that all of the best fruits of California are shipped East in earload lots by the fruit associations of this State, who go into the orchards and buy all the choice varieties, leaving the grower with nothing but the inferior fruits to put upon the California markets; this is

true with both deciduous and citrus fruits. It is utterly impossible to buy a late yellow Crawford peach in this State in the market, except when a few boxes may come in from a grower who has an orchard too small to be handled by the association. We all know it is only the Easterner who enjoys the luxury of California's choicest fruits, while the native must live upon the culls."

This is a fairy story of the highest degree of tenuity. Everybody who knows anything about fruit growing knows that the buyer is not as easy as that. The idea that the fruit buyers go into the orchards and absolutely take the fruit away from the grower by the high prices they pay is the product of a highly imaginative mind. If there were any such demand as that for fruit we would keep still and let the traveler choke on the gnarly stuff if he does not know enough to let it alone. The fact is that any hotel keeper can get just as good fruit as he is willing to pay for, and his limit is usually culls. There are hundreds of small growers who would be delighted to furnish specially fine fruit in assortment all through the season, if the hotel buyer would treat him as well as he does his butter, egg and game factors. There is no use trying to defend the present state of affairs. The only reasonable thing to do is to try to remove it.

In this connection a report from Stockton is of interest. The report is that a concerted effort is being made by the farmers and other interested parties to induce all of the restaurants of Stockton and San Joaquin county to serve vegetables and fruits of all kinds with meals at a reasonable figure, and thus consume a lot of the large crop of these edibles. For instance, from 10 to 15 cents for a dish of tomatoes has been the charge, when a whole box can be purchased in the market for 20 cents. The same holds good for peaches, yet the restaurants want fancy prices. The producers and quite a number of Stocktonians have made the proposition, and they hope to make a change that will result most favorably to the gardeners and orchardists. That is another phase of the hotel fruit question. If the growers and hotel patrons of Stockton can get together on this line, there will be a lesson in organization which will be worth learning in other connections.

It is interesting that the Interstate Commerce Commission has consented to permit the transcontinental companies to introduce a rate of 80 cents a hundred on through shipments of apricot pits from California to Europe. The regular rate has been \$1. This new rate is called a preferential rate on European shipments, and can be introduced on three days' notice. Many earloads of apricot pits are shipped to Europe from California, and just now is the height of the season. Several local firms are engaged in the assembling and shipping of this unusual crop. The pits are taken to Germany and the meat taken out and roasted, the result being a nut something like the blanched almond. If this is true, it is apricot vs. almond. Is it possible that the fruits themselves foresaw this issue and therefore refused to be successfully grafted one upon the other?

## Queries and Replies.

### Irrigating Alfalfa.

To the Editor: I am desirous of getting some information in regard to irrigating alfalfa. I am located in the Tule Island district, and have an unlimited supply of water to irrigate with, and my land is level, principally peat, with sediment about ten inches thick on top. Whether to keep the water-level up to a certain height in the land



continually, or to irrigate by flooding the land, is difficult for me to determine. Also what level to keep the water to in the ground to get the best results, and should this level be the same the year round, or should it vary with the seasons and conditions.—Farmer, Sacramento County.

You will have to be careful about keeping the water-level at any particular point, as you suggest, because you will stop root growth at that point. Alfalfa is not an aquatic plant and cannot grow in standing water. One reason why alfalfa is short-lived on overflowed lands and, unfortunately, elsewhere also, is because the water-level is kept too near the surface. Your success in irrigation will depend upon keeping the soil moist and yet not saturated with water so that the air is excluded, and to have just as great a depth of this moist and not saturated soil as is possible. The rise of the water-level too near the surface in the winter time is not objectionable, because during the dormant season of the alfalfa it can stand a considerable period of submergence, but during the growing season it should have a plenty of free, moist, but not saturated soil. Where you have a great abundance of water, and soil not of such a nature that the surplus is readily disposed of by under-drainage, you have to be exceedingly careful in your handling of irrigation.

#### Canaigre.

To the Editor: We are suffering from a continuous lack of rains which make our agriculture a most hazardous and discouraging venture. We have therefore turned our eyes to some extraordinary crop that may meet our irregular rainfall. It seems to me the canaigre crop might be good, from some reports received, but as it is a new thing here and knowing that you have conducted interesting experiments on its culture, I beg to ask some valuable information about it.—Hacienda, Mexico.

There is, so far as we know, no commercial product of canaigre, although such enterprises were very confidently projected a few years ago. All the canaigre now shipped from this State is gathered from the wild plant, which is pretty well scattered through the arid regions of southern California. We understand that the enterprises with the same plant undertaken in the Pecos valley, New Mexico, were also disappointing. They may have met with unsurmountable objections, or they simply may have been ahead of the times. We know of no recent publications on the subject.

#### Growing Phenomenals.

To the Editor: I have four dozen of the Phenomenal berry plants that were put out in the winter, and are growing nicely, spreading out over the ground in all directions. Will you kindly give in detail, but briefly, the most approved method of staking or trellising this berry?—Subscriber, Santa Cruz.

You can grow to a high stake, gathering up the canes this fall, tying to the stake and topping off at about six feet. It is generally preferred, though, to grow them on a post and wire or post and rail trellis. In that case the best canes can be left somewhat longer and the smaller growth tied up for fruiting or removed if there are too many. Another way is to plant on a ridge and train the canes along on top of the ridge, without stakes or wires, and irrigate between the ridges as desirable. On the whole, the wire and post trellis is most used, and probably best under all circumstances. Next year you will have to cut out wood which has fruited, and save the newer canes.

#### Eucalyptus and Alkali.

To the Editor: Will the blue gum grow where the soil is impregnated with alkali to the extent that the alkali is crusted on top of the ground?

The soil is sandy and full of sediment.—Planter, Stanislaus county.

Eucalyptus will endure a certain amount of alkali. It depends entirely upon the amount present. Simply guessing at it, we would say that the chances are that if you have a sandy soil without hardpan too near the surface, eucalyptus might succeed even if there were efflorescence of alkali on the top. The red gum, *E. rostrata*, will endure a great deal more than the blue gum. If your land is alkalinized badly throughout and not simply on the surface, nothing but a local trial will show you how the eucalyptus will behave.

#### When Is an Old Hole Safe?

To the Editor: A ten-year-old walnut tree in my orchard died last May. It was removed, leaving a hole about five feet square and three feet deep. This lapse of time and opening is supposed to let all gases from decaying rootlets escape, and to allow sun, rain and frost to aerate and renew the vitality of the soil for next spring's replanting. That soil has been depleted by the original tree. Can I safely assist the renewal of plant life and energy by putting in the hole three inches of well rotted stable manure before the rain falls, and also mix some of the same fertilizer with the upturned soil which must be replaced when the new tree is planted?—Grower, Alameda County.

Your treatment will make the hole safe for next spring's planting, and the leaching out of manure in the hole is all right also, but we should use in immediate contact with the roots at planting neither soil soaked with manure water nor manure itself. Fill around the outer edges of the hole with such reinforced soil if you like, and let the tree get to it gradually, but do not bring close to the transplanted tree either over-rich nor fermenting material.

#### Dwarf Trees Not Drouth-Proof.

To the Editor: Will you give me some information about dwarfed Japan apple trees: if they would grow in southern California as they are said to grow in Utah. I would like to plant some on stony land here in this climate.—Enquirer, Los Angeles.

The matter concerning which you speak has not yet been developed in California, and we know of no experience upon which to base an answer to your question. There is no reason to expect success with fruit trees, dwarf or otherwise, on any land which does not contain enough moisture for their growth. We have heard several times of the Utah publication, but have not actually seen it, and cannot judge of its accuracy, but judging by the comments which correspondents are making upon it, it seems to us like something of a horticultural fairy story. This opinion may have to be revised on receipt of fuller information.

#### Hydrated Lime and Gypsum.

To the Editor: I have marsh lands on Suisun bay. Some of the lower spots contain much common salt, some magnesia and some sulphates of soda, also traces of carbonate of soda. Barley, alfalfa, corn and rye grass grow about these spots. I thought gypsum would neutralize the carbonate. How does hydrated lime act? What amount of hydrated lime would it be advisable to use per acre to get the proper results from this soil for growing barley, alfalfa, corn, rye, etc.?—Farmer, Solano County.

Neither gypsum nor hydrated lime would help your excess of common salt, nor is there any other way to get rid of it then by washing out with fresh water. Hydrated lime would have a good effect upon heavy marsh land by making it more friable, consequently easier in cultivation and better for plant growth. It would also have the effect of making some of the organic matter more available. The application can be up to any reasonable amount which the grower thinks would be eco-

nomically profitable, and that he would have ascertain by some experiments. The use of a thousand pounds to the acre would be an average application for one year. It ought, however, to be stated that hydrate of lime does not act as gypsum in the neutralization of alkali, and should be used with care on land containing such an amount of salts as you indicate. Gypsum would be a far better material to use, as in addition to reduction and a possibly beneficial effect upon the carbonate of soda, it would act in increasing the friability of the soil in the same way, but not to the same extent that the lime hydrate would do.

#### A Dollar for Melinda.

To the Editor: Will you kindly tell us of the Melinda strawberry is the same as the strawberry called the Dollar berry? If not, please give us a description of the Melinda. We grow many varieties of strawberry. Last winter we paid a fancy price for some plants that we ordered as the Melinda strawberry, but they have proved to be identical with the Dollar strawberry. The leaf, berry, blossom and growth are the same.—TRIBBLE BROS., Elk Grove.

The Malinda strawberry, which is sometimes called "Linda," and should properly be Melinda (for that is the lady's name), is said to have originated at Watsonville, and the variety is grown almost exclusively in the Watsonville district. We have never before heard that it was suspected of being identical with the Dollar, but these things are funny sometimes. What do our Watsonville readers think about it? From your experience they are identical, and you have secured two Dollars for one, which is pretty good in these hard times, or, you have two Melindas—which would send you to San Quentin.

#### Dried Potatoes.

To the Editor: I will appreciate it if you can inform me of a process whereby potatoes can be dried so as to be of less weight in instances where it is necessary to pack them long distances, and still retain their food value.—R. W., Bakersfield.

Potatoes may be pared and sliced with an apple parer and slicer, sliced thin, boiled five or ten minutes and then dried in the sun like fruit is. They are also bleached with sulphur fumes in a sulphur box or house such as is used for fruit. They lose nothing but water, and retain all their nutritive qualities. There was considerable of a product of this kind made during the early days of the Alaska excitement, but so far as we know there is little done in that line at the present time.

#### The Vedralia in Action.

To the Editor: I am sending you, under separate cover, sample of bark and leaves of an orange tree, infected with an insect new to me. You will notice a bug similar to the ladybug, only smaller. Is it a parasite or only one stage in the life routine of the scale-like insects on the bark?—C. E. D., Kingsburg.

You have the cottony cushion scale, and the ladybug is the *Vedralia cardinalis*. He is present not only in perfect beetle form, as you have noticed, but his children and grandchildren are coming on in their several preliminary stages. Just stand back and enjoy the fight. There is nothing you can do to help things.

#### Disturbing Melon Vines.

To the Editor: Is it an injury to disturb the melon vines? Some pull them into winrows so they can cultivate, but I notice lots of little feeders attached to the runners.—Melon Grower, La Mesa.

One ought, of course, to handle the vines carefully, but it is a great deal more important to cultivate well than it is to save little feeders which would perish if the ground is allowed to bake.



## Horticulture.

### CALIFORNIA CURED FRUITS.

(Continued from Page 97.)

California will probably have a large cured fruit product this year, on the whole, although some kinds will be below the normal amount. It is also probable that there will be rather more low-quality fruit than usual. We have had a very hard growing year: a maximum setting of some fruits, followed by growing conditions as trying as ever experienced. The result is a larger proportion of small fruit than usual, and low quality, which is worse than lack of size. Fruit which is short of water is naturally small, but this year something has happened which gives this small fruit a meaner flavor than naturally belongs to it, although such fruit may be expected to be poor. We have also observed that much fruit which is fair sized, considering the unfavorable season, is ripening freakily, unevenly, inside-out almost, in some cases, and in other cases maintaining a flat toughness which argues bad texture as well as lack of flavor in cured fruit made from it. We are mentioning these disagreeable things because of the lesson there is in them in connection with fruit curing. It is clear that our preparations for irrigating fruits, even in places where the rainfall is usually adequate, must go on. As was described by Mr. Gannon of Winters in the last issue of the *PACIFIC RURAL PRESS*, it is perfectly practicable for individual growers to guard themselves against stress of trees, inferiority of product and uncertainty of fruiting the following year. This is not only the key to individual comfort in many cases, but it is a surety that our cured fruit product will retain and extend the hold it is securing upon the world's markets. Nothing can hurt us more nor hurt us longer than an output of poor cured fruits, and this can only be avoided by reasonable preparations to grow nothing but good fruit.

### FROST AND APPLE BLOOMING.

The question of frost and apple blooming is of constant interest to apple growers in the mountain valleys in all parts of the State. Mr. Frank Femmons, the well known fruit grower of Ahwahnee, Madera county, recently wrote his observations to an Eastern friend, and we are indebted for a copy of the letter to Mr. W. P. Stark of Louisiana, Mo., President of the Missouri State Board of Horticulture. The following parts of the letter are of particular interest:

I sometimes wish that I had saved more definite data at the time I was watching with some care the blooming times of apples as observed here. It is an interesting subject and I am still giving it more or less attention, but the lesson I learned was that while early or late blooming in a variety had its value in a general way—the later blooming escapes frosts that injures the earlier—yet I found that the observations and conclusions from the facts of one year were but poor guides for the next, or others. Their relative time of blooming is not constant, and is often greatly influenced by local or general climatic changes and soil conditions. Some seasons nearly all varieties will bloom at nearly the same time, or so near it the orchard presents the appearance of a mass of bloom. Some varieties that have a tendency to early blooming will be a day or two earlier, and the later ones a little later, but the real difference in time has but little practical value. Other years, and perhaps in other locations, their relative times may extend over a longer period.

My observations have convinced me that for the past few years this fact of early and late blooming of varieties has been given an importance out of all proportion with its true value, and many people seem to think it the key to the entire situation in orchard production, and almost the first question asked of some variety is, "Does it bloom late?" From many years' observations along this line I am confident that the vigor and hardiness of bloom in any one variety is a constant factor and of far more importance in any apple-growing section than its relative time of bloom. Some varieties will resist, or are immune from,

injury with five or six degrees more of frost than others. With us the W. W. Pearmain is one of our earliest to bloom, and yet we have no variety that we can better depend upon for an annual crop. Maiden Blush is another among the old apples that spring frosts seldom injure, and yet it is among the earliest to show bloom.

Of the newer varieties, Delicious, King David, Paragon, Stayman Winesap, and Magoon have a fine, vigorous, frost-resisting bloom. They had all escaped when many others were injured or entirely killed. I had thought them about equally immune, but this year, one of the severest I have ever known, Delicious has proved its superiority; a fair crop is on all the trees, with temperature at 26 degrees at blooming time; King David, Stayman and Magoon a few, and Paragon the first failure in more than a dozen years. I am not sure that there is a Ben Davis of any kind (except Shackelford) or a New York Imperial in the orchard. Both Delicious and King David are what may be called medium late bloomers—usually a little later than any of the other Ben Davis family, and before the Jenitons, which are our latest.

I know that all apple growing regions are liable to severe frosts or freezes both early and late, at times that kill or greatly injure all bloom, and the crop is a failure. Later blooming varieties, like the Jeniton family and some others, may, and sometimes do, escape. Such years are the exceptions and are not the general rule. Our spring frosts are usually with but a few degrees of freezing, and the fact that some of our apples, and other fruits also, have a potential vigor or hardiness of bloom to resist the effects of three, five, or six degrees of frost is of far more importance than is the relative time of blooming.

[Mr. Femmons has in mind the mountain region of California, also plateau States and the East, when he speaks of "all apple growing regions being liable to severe frosts and freezes." The great interior valley and the coast valleys of California do not have such frosts, but they have other troubles which may perhaps be worse from the point of view of high quality and long keeping of the apple.—EDITOR.]

## Citrus Fruits.

### ORANGE SELLING AND HARD TIMES.

A few Crescent City orange growers evidently have been led to believe that the present stringent money market of the country, together with a prospective large crop of Florida oranges will combine to put the price of fruit down to the lowest notch for the coming fall and winter. These with the probable scarcity of labor to gather the fruit.

This looks mighty like borrowing trouble.

It was reported on Saturday that Messrs. Edgar W. McGrady, C. B. Morrow and the Carrier Bros. had sold their orange crops to Walker Bros. of Orlando for 75 cents per box on the trees; their grapefruit and tangerines at \$1. Mr. McGrady and Mr. Will Carter have confirmed the report, the latter, however, only so far as the fruit on the home place is concerned. Mr. Morrow states that he has not sold, but that he will do so unless he gets a better offer in a few days.

The largest crop in the history of citrus fruit growing in Florida was the year following the panic of 1893. The crop of that year was estimated at 6,000,000 boxes. The panic of that year was the real thing, and no make-believe. And yet the price of oranges on the trees at Crescent City was \$1 and \$1.05. There were sales in South Florida at a less figure, but South Florida oranges don't compare with the fruit raised in this section, and freight is much higher.

The Florida crop of the present year is conservatively estimated at 4,000,000 boxes, and the panic is rapidly fading away.

The News has interviewed a number of our leading growers. They will not sell at less than a dollar. One prominent grower said he would let his fruit rot first. He won't have to.

The Crescent City crop for the coming winter is large, but not over 20,000 boxes in excess of last

season. The panic got in its deadliest work last winter. If the panic continues it will result in making labor more abundant. The only panic to be feared at this time is the kind that may seize the growers and induce them to sell their fruit at a price never before heard of in this section.—Palatka News.

### AN OREGON FARMER IN A CALIFORNIA ORANGE GROVE.

How happy and contented a northern farmer can be when, after having made a stake in the more strenuous activities of the North, he invests it well in California fruit producing property. The following account was written by M. M. Collins, now of Rialto, San Bernardino county, to Mr. N. C. Maris, of the North Pacific Rural Spirit, an old friend of his.

This Rialto district is a beautiful country. It lies on a bench, I would judge, about 60 or 70 feet higher than the valley that San Bernardino is in. It is a level tract of land, an ideal place for oranges, and is almost free from frost. There are peaches, apricots, grapefruit, almonds, figs, all kinds of berries and all kinds of melons growing to perfection. The man that runs the grove next to ours on the west has 20 acres in melons. But oranges are the main fruit. There are some large vineyards and they do finely.

This district is laid out nicely in 10-acre tracts, but some have 20 acres. There are lots of roads, those running east and west being one-half mile apart, and those running north and south one-fourth of a mile. These roads are oiled and kept in good condition, no dust in summer or mud in winter. Along the roads are trees set out for windbreaks. The trees are the gum and cypress—these are set out on the north of each grove, while on the south, east and west along the roads are the palm, pepper and umbrella trees, making the roads look fine. The gum tree grows very fast and tall. They top these and use the limbs for firewood. It is equal to eastern maple for that purpose.

The irrigating system they have got to perfection. The water for this district comes from the mountains. We were invited by one of our neighbors to go with him up to the mountains where they get this water. We gladly accepted their invitation and made the trip yesterday. It is only about ten miles from here. The water is first run through a cement open ditch, and then into a cement pipe underground. When it gets down to the groves it is run in cement pipes to the different groves at the highest point. At each row of trees there is a cement hydrant with two faucets, so they can run the water on each side of the row of trees at once. The secretary notifies us when we can have the water, so the day before the water comes we furrow out with a two-shovel cultivator.

When the time comes for us to have the water, we open the faucets and let the water in. It runs down the furrows, and when it gets across the grove we regulate the flow so that it will not wash the land or waste at the other end. Our neighbors, who are old hands at the business, came and showed me how to manage, the first time I had to irrigate, and I found it was a great help to me.

We have the water 25 hours every 30 days, and it will wet the ground through and through. In about 24 to 36 hours after the water is turned off we commence to cultivate, and we work it four ways; then it will hold the moisture until the next irrigating.

The orange trees are now loaded with next year's crop. There are some of the Sweets yet to pick, and all of the Valencias. The different varieties are Navels, Sweet Valencias, Budded Seedlings, Ruby Bloods, and St. Michaels. Some of the growers favor one kind and some another. But as a rule they all like the oranges better than the lemons, as they do not require so much work, and a great many are budding their lemon groves to oranges. The lemons require more pruning and more water. I am much pleased with our grove, and I think Mrs. Collins has done better than I could have done when she bought it.

The orange grove is one of the best in the district, the trees being very large and thrifty. We have three acres of the Budded Seedlings, which we had picked shortly after we got here, and took them to the packing house. It cost us \$25.25 to



get them picked, and the other day we got a check for \$903.65. To us it was like finding it. We have picked our Sweets and some of the lemons, and are going to pick more lemons. Will be picking lemons every five or six weeks all summer. The lemons are picked when they are the right size and while they are green. If left on the tree until they are ripe they get very large, and then they do not want them.

The orange and lemon groves are like any other business; the more care you give them, the better the results. But to take care of 10 acres is not very much work, for there are men here that take care of five and six 10-acre groves. A good many of these groves are owned by wealthy men who live in town and hire men to take care of their groves. So you can see that I am not working so very hard, and Mrs. Collins is having the best time of her life—only herself and me to do for. It is the first time in our lives that we can call our own, and we are trying to make the best of it.

There is one thing in which Oregon is head and shoulders above this part of California, and that is its horses. I never saw such a poor lot of horses in my life, but there are some good mules. There is one pair of mules in San Bernardino that I think is the best team that I ever saw. They look so near alike that it is hard to tell them apart. I asked the man what they weighed and he told me 3200 pounds. They are certainly a fine looking team, are black in color, hold their heads up and have good life, and my, how they can walk.

Rialto is a nice little town. There are three orange and lemon packing houses, and it is a grand sight to see them sorting and packing oranges, and see so many teams lined up to take their turn to unload. There are from 100 to 130 boxes of oranges in one load. There are three churches, several stores, two blacksmith shops, but no saloons. Mr. Sibley, who has lived here a long time, and a great orange and lemon grower, told me the other day that ninety per cent of the voters of this Rialto district were temperance men.

All of the orange growers that I have met have been so good to tell me all about the culture of oranges, and are anxious that all beginners make a success of the business.

## The Field.

### HOW CANTALOUPE ARE GROWN DOWN IN ALABAMA.

Cantaloupes are not grown in the West just as they are in the South, and yet an up-to-date southern sketch of local methods may be suggestive of things worth doing. At the last meeting of the Alabama State Horticultural Society, Mr. H. L. Trott of Montgomery county, in that State, made an address, from which the following paragraphs are taken:

**Preparing Land.**—For best results, melons require a light, quick, warm soil, in order to germinate the seed promptly and to enable the young plant to secure a good foothold in the soil, so that it may live and grow, should dry weather overtake it. Newly cleared land, if well drained and friable, because of the humus it contains, and its freedom from grass, makes ideal melon land, if it is well prepared. In clearing land for this purpose it would be advisable to grub out all brush and trees less than six inches in diameter, and to saw off large trees so close to the ground that disk and spring-tooth cultivators can be run over them. Stumps should be burst with a stick of dynamite and burned off during a dry period.

After the land has been thoroughly plowed and cross plowed, it should be laid off in rows as far apart as the melons can be planted. On level land where a team can be guided easily, six feet would do, but on rolling or hilly land seven feet would prevent considerable injury to the plants. By bedding upon these rows, cutting up the beds with disk harrows and dragging out the loose roots with spring-tooth harrows, the ground can be put in good shape for planting, though of course at a greater cost than for old land. However, thorough preparation is essential. Old land is better fall plowed and left rough, in order to destroy as many insects and weeds as possible. Early in the

spring it can be thrown into beds and the soil well pulverized.

Shortly before planting time a middle buster is run down the middle of the beds and a fertilizer containing 7 per cent of phosphoric acid, 4 per cent of nitrogen and 8 per cent of potash is drilled into them at the rate of 800 pounds to the acre. If the fertilizer distributor has no attachments for mixing the fertilizer with the soil, it must be done with a shovel plow or some other implement in order to get best results and to prevent injury to the plants. The furrow is then filled and ridged by the use of a disk cultivator, and left until the day of planting.

**Planting in the Field.**—As soon as danger of frost is past, drag off the tops of the ridges made in covering the fertilizer and plant six to eight Rocky Ford cantaloupe seeds in hills two feet apart in the row. This seed should come from Colorado and not from home-grown melons, because seed from these has become acclimated and would produce cantaloupes too large for the standard crate. Old seed, if it has not lost its germinating powers, is better than new. It will produce more prolific vines and cantaloupes with a larger proportion of flesh. In planting the seed, open a short furrow about an inch deep with the foot, drop the seed an inch apart, cover by filling the furrow with soil, step on same, and pass to the next hill, two feet beyond. This leaves the seed planted about three-quarters of an inch deep, and the whole operation can be done very quickly—one man planting nearly an acre a day.

**Starting With Transplanted Plants.**—For extra-early cantaloupes, and these bring the highest prices, the seeds are planted in small basket splints, packed closely together in a cold frame. The splints are 3½ inches wide by 14 inches long, and are made up into four-cornered receptacles, held together by a single tack. These receptacles, which have neither tops nor bottoms, are placed tightly together in a cold frame, filled with compost, which is topped with fine sand, and two or three seeds planted in each. At first the cold frame is kept fairly warm, but as the plants grow more ventilation is given, so that they will be properly hardened by the time they are ready to be transplanted. When the first rough leaf develops, the plants are thinned to one in each splint. When the plants have several rough leaves, they are taken up by running a spade under the receptacles and transplanted into previously made holes in the field. The splints are easily removed, and so the plants receive practically no check.

Transplanted plants are not apt to be injured by the striped bug, but the young plants just coming up in the fields are usually killed when attacked, and must either be protected by a covering of wire cloth or be dusted with something repellent to the bugs. Tobacco dust is good for the purpose, and so is air-slaked lime with just enough paris green added to give it a green tinge. As the bug works on the under side of the seed leaves, the dust or lime should be applied with some force, so that it will be blown back against the leaves.

**Cultivation.**—The young plants should be kept growing and free from weeds by hoeing or cultivating about once a week until the vines cover most of the ground. Two-horse spring-tooth cultivators can be used to good advantage while the plants are small, the hoe being used between the plants in the row. While hoeing, thin them to one plant in the hill after they have three or four rough leaves. Also fill skips with plants taken out, in order to secure a perfect stand. Again when hoeing, after the vines are about eighteen inches long, pinch off the ends in order to force out the lateral growth, which bears the fruit. At this time, too, train the vines along the row, so that more of the ground can be cultivated, and it will be unnecessary later to tear them loose from roots, stones, etc., to which they may become attached. In cultivating between the rows, a vine turner attached to the cultivator will prevent the breaking off of many vines, and will preserve a one-foot alley between the rows for the passage of the wagons.

The cantaloupe is nonocious, and the first flowers to appear are the male, on the main vine. The female flowers are borne by the laterals and have a melon-like development at the base of the calyx, whereby they are easily distinguished from the male flowers. As the fertilization is done by insects, it is evident that clear weather during the

blooming time will greatly favor the setting of fruit. Insects of all kinds are then busy, but the most active agents are bees, and a few hives of these near the cantaloupe field will prove a great benefit.

**Spraying for Blight.**—The worst enemy to successful cantaloupe growing is blight. In Bordeaux we have a helpful remedy, but there is still some doubt as to whether it will pay to use it commercially. Spraying early and often, say at intervals of ten days after the vines begin to run, will sometimes retard the crop for a week or ten days, during which time the market may become depressed to such an extent as to result in no financial gain. Paul Rose, an extensive grower, reports excellent results in Indiana one year, when a quarter of a 40-acre field was sprayed for the first and only time as the cantaloupes were beginning to net, or ten days ahead of picking. This portion of the field lasted ten days longer than the rest of the field, which had been sprayed twice in the early part of the season, resulting in a big gain in favor of the part of the field sprayed last.

For the first spraying, if done while the plants are still small and tender, use a weak Bordeaux mixture. Copper sulphate 3 pounds, fresh stone lime 6 pounds and water 50 gallons, will make a safe solution. Later in the season the 4-4-50 formula may be used. To each 50 gallons of Bordeaux mixture add 4½ ounces of paris green, which will destroy a good many striped bugs, flea beetles and other chewing insects. Should plants become infested with lice, they must be buried at once, or thoroughly sprayed with a solution containing ½ pound of whale oil soap to every gallon of water. If the lice are not promptly destroyed, the ants will spread them over the field.

For spraying ten acres or less, a barrel pump mounted on a two-wheel cart, and having two leads of hose, will do. For larger areas a sprayer which will cover three rows at once will be found more economical. The pump is geared to and mounted upon a heavy two-wheeled cart, which also supports a 100-gallon tank. Each row is sprayed by six nozzles, which do a pretty thorough job at the first passage of the sprayer. The rows should be as long as possible, and sufficient space should be left at the ends to turn the cart.

**Ripening.**—In a favorable season the first fruit will be ripe in about ninety days, but frequently it will take longer—perhaps two to three weeks. Cantaloupes for shipment must be picked before they lose their green color, but not before they have the flavor of a ripe melon. The inexperienced picker will have some difficulty in telling just when the cantaloupe is ready to be picked, but it will help him to know that at this stage the netting is well rounded out, making it very prominent; that the stem is dried out to some extent, so that as he presses it with his forefinger in picking, it will not be darkened by the sap which is forced to the other side; and finally, a Rocky Ford well protected by foliage will at this stage usually show a slight crack where it is joined to the stem. This last is a certain indication that the melon is ready for picking, and comparatively slight pressure upon the stem will cause it to slip off. The cantaloupes must always slip from the stem in this way. If they are torn off, the melon is too green and will never develop a good flavor. It might be advisable at this time to remove all fruit that has set too late to mature, in order to strengthen that left on the vines.

**Picking and Packing.**—In picking the cantaloupes they are placed in every third furrow, and as soon after as possible are gathered into a wagon having axles, eveners and neckyoke six feet long, and hauled to the packing shed. Exposure to the sun will turn cantaloupes yellow, thereby greatly reducing their market value. At the packing shed they are taken from the wagon and placed upon slightly inclined canvas frames about five or six feet square. The packer stands at the opposite end of the frame, so that the cantaloupes will roll toward him as he proceeds with the packing. The crate is supported at an angle of about 20 degrees, with the lower side next to the packer, but high enough so that he may reach the bottom of the crate without stooping. The side of the crate is placed on the right side of the table, the packer picking out the melons with his right hand. However, in order to secure a tight pack it will be necessary to use both hands, as a properly packed crate of cantaloupes should show a bulge



on every side. The dimensions of a standard crate are one foot square at the ends by two feet long. Forty-five standard-size cantaloupes will fill this crate—three tiers of three rows each and five cantaloupes in a row. The "pony" crate is eleven inches square at the ends, and into this are packed the cantaloupes that do not exactly fit into the standard crate. Standard "forty-fives" bring the best prices, although the same crate packed with twenty-seven "jumbos" may be as heavy and equally as attractive. The forty-five size is what is demanded in hotels and restaurants, and so is the best and quickest seller. No matter how many you have in a crate, they should always be as nearly as possible of the same size.

## The Vineyard.

### GRAFTERS TAKE HEART!

By F. T. BIOLETTI.

Some uneasiness has been awakened in the minds of the owners of vineyards grafted on resistant stock by certain articles which have appeared during late years in French agricultural and scientific journals.

The burden of these articles is that grafting destroys the character of the grape, and consequently injures the quality of the wine. Lately a very emphatic article of the same tenor was published in the London Times, and is of such a nature as to seriously disturb the equanimity of our grape growers.

These articles are written by Prof. Lucien Daniel, or are based on Daniel's theory of the effects of grafting. Daniel's theory, in brief, is that when a scion of one variety is grafted on a stock of another variety, there is a mingling of substances, which results in a more or less profound modification of the character of both parties to the graft. The result is, he claims, that a grape of high quality, like the Semillon, when grafted on a stock such as Riparia, which can produce by itself only inferior grapes, loses some of its quality by partaking of the nature of the Riparia. He bases his theory on a number of observations and experiences of his own and others.

That Daniel's theory, and the consequences he deduces from it, are utterly untenable in the form he presents them, is made perfectly clear by a study of his publications and of the criticisms of his opponents.

In the first place, most of his observations and experiments were made on annual plants, and very few on shrubs or vines. Moreover, nearly if not all of his observations are capable of a totally different and much more plausible explanation than that which he gives. Even his most striking illustrations, by their very rarity prove themselves exceptions, and cannot therefore be taken to establish a general rule. Some of his proofs indeed tend rather to disprove his theory than to support it.

In the second place, the opinions of the vast majority of practical grape growers and scientific observers are directly opposed to his. His sweeping statements that the wines of France have deteriorated since the establishment of resistant vineyards, as a direct consequence of grafting, is contradicted by every unprejudiced and competent observer. Exactly the contrary is true. In many regions it has been found possible in rich, low, moist land to produce a fair wine from grafted wines where formerly the wine was unsalable. In other regions it has been found possible to obtain paying crops from the finer varieties when grafted on resistant stock, where formerly only ordinary varieties of poor quality would bear sufficiently.

In the third place, his theory is completely contradicted for the vine by analogies drawn from other kinds of fruit-growing. The superior quality of pears grafted on quince root, of apples grown on dwarfing stock, and many other instances, might be given to prove the increase of quality by grafting, and quite upsetting his theory that the more widely divergent in character the stock and the scion, the greater the consequent deterioration of quality. Moreover, the almost universal practice of grafting in nearly all branches of fruit growing is the strongest evidence that no

deterioration of quality necessarily follows grafting the scion of a fine fruit on a stock which can produce only poor fruit or none at all. [This last sentence is beyond controversy, and the fact stated is a demonstration. We do not concede gain in quality by dwarfing stocks under California conditions, but under less favorable growing conditions there may be.—EDITOR.]

With regard to the crisis of low prices in the French wine trade—this is easily and satisfactorily explained by causes with which grafting has nothing to do.

## Agricultural Science.

### INVESTIGATIONS BY THE UNIVERSITY EXPERIMENT STATION.

Director E. J. Wickson of the University of California Agricultural Experiment Station has prepared an outline of "original researches and experiments," as required by Act of Congress of March 16, 1906, which will be pursued with the special appropriation made by Congress for that purpose. The outline has been approved by President Wheeler, and the work will be immediately entered upon by the members of the Station staff mentioned in connection with each undertaking:

By E. W. Hilgard and R. H. Loughridge: Continuation of an investigation of the occurrence of chlorosis on citrus trees in the Porterville region, and its relation to marly subsoils, with extension of study to adjacent districts in which it is found to occur, including also effects upon deciduous trees and experiments to prevent injury due to excess of lime.

By H. M. Hall: Completion of study of ornamental and economic plants in the Santa Barbara district, to determine their characteristics, climatic requirements, uses, etc.

By R. E. Smith, E. H. Smith, and F. L. Yeaw: Continuation of investigation into the occurrence of the "California peach blight," including identification and nature of fungi causing shothole blights of peach, apricot and almond, and the relations of these diseases.

By A. R. Ward and C. M. Haring: Continuation of studies in the artificial immunization of cattle against tuberculosis, based upon history of 35 calves already purchased and vaccinated, as compared with an equal number of uninoculated calves to be kept with them as a check, under same exposure, et cetera.

By M. E. Jaffa: Continuation of metabolism experiments with poultry, income and outgo of nitrogen and determination of heats of combustion of foods and excretory products to ascertain the availability of different highly nitrogenous foods.

By G. W. Shaw and Rachael Corr: Continuation of laboratory and field study of cereals from the point of view of the influence of environment upon gluten content of grains: the cultural cost of material being met by provision for maintenance of cultural stations by State appropriation in co-operation with the United States Department of Agriculture.

By R. E. Smith, E. H. Smith, and F. L. Yeaw: Continuation of study of methods of infection and spread of pear blight bacillus; life history of the causative organism is to be more closely studied under local conditions from a bacteriological point of view, because under local conditions it departs from its behavior elsewhere: also with reference to more effective treatment.

By R. H. Loughridge: Continuation of study of tolerance of plants for alkali in soils. Observations of plant growth and determinations of nature and amounts of alkali, with discussion of relations.

By C. W. Woodworth: Study of life history of the Argentine ant, particularly those features that have a bearing on the extension of the infested areas and on the use of ant remedies. A laboratory is now being equipped in the East Oakland infested area.

By E. W. Hilgard and Charles H. Lipman: A study of soil bacteria under arid conditions, and the relation of irrigation thereto.

By R. E. Smith and O. Butler: An investigation into the nature of certain "physiological" plant

(Continued on Page 111.)

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½ × 10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

Sutter county almond growers, as an association, disposed of the whole of their almond crop, amounting to 250 tons; 12 cents is stated to be the figure.

With the time of harvest drawing near, the prunes in Yuba City vicinity continue to drop from the trees. A few weeks ago the growers anticipated having a big crop of prunes, but now it is evident the yield will be small.

A crew of about 20 men was put to work in the B. F. Walton orchard, near Sutter City, picking cling peaches for the cannery. It is estimated that there will be about 400 tons of the Phillips, Tuscan and Orange Cling varieties.

Almond picking has begun near Antioch on what is a record-breaking crop. The nuts are large, and the entire section will have a heavy yield. As yet no offers have been made, but the growers state that they expect good prices.

The warm weather has had a bad effect on the late grapes in Colusa county. Already suffering from the lack of rain, the heat of the sun was burning them. The heavy foliage of the vines usually prevents this. The seedless grapes are about ripe and will not be damaged.

Fifty carloads of Bartlett pears will be shipped from Cottonwood, Shasta county, this season. The first carload has gone to markets in the East, and two carloads will be shipped daily. The pear crop this year is the best Cottonwood has ever had, both as to quality and quantity.

T. M. Hartsook of Selma says his crop of Thompson's Seedless will be light and of inferior quality this year. This is due to several causes. In the first place, the growers couldn't get water just when they should have had it. Then the thrips got on the vines and many leaves fell off, exposing the grapes to the hot sun.

Prunes, which are usually a great crop in the Anderson fruit district, are practically a failure this year. Anderson orchards yielded 3000 tons of prunes last season. It is estimated that this season's yield will not be over 250 tons. Peaches are being shipped in small quantities. The yield is good, but most of the crop will be dried.

The contents of six refrigerator cars loaded with the choicest fruits produced in the State of Washington will be distributed among the delegates at the annual convention of the National Irrigation Congress at Albuquerque, N. M., September 29 to October 3, by the Spokane Chamber of Commerce, which seeks the 1909 meeting.

The almond harvest at Orland has commenced in Houston and Bane orchards. There are 66 acres in the two orchards and a large crop will be harvested. Herebefore one huller has handled the almonds from both orchards, but this season another will be installed. These orchards produced the nuts with which the nut elephant was made for the St. Louis Exposition.

Reports from Biggs, Butte county, state that the prunes are dropping off the trees, and the only way some of the orchardists have to save any of their crop is by rushing them to market. The dried prune crop for this section will not be one-half as great as last year. The drying of fruit is in full swing. The yield and quality is satisfactory, but the prices offered are discouraging.

George Langford of Acampo is reported to have sold the grapes from his 80-acre vineyard for \$7300. Considering that the purchaser takes all the risk from now until the end of the season, harvesting

and marketing the crop at his own expense, the price is very good. Deducting the cost of cultivation and the interest on the value of the property, and the owner still has a net profit of over \$50 an acre.

A well known grape grower of the Alta district, Tulare county, states that the expected enormous yield of grapes this year is not going to materialize, if present indications count for anything. On account of the extreme dryness of the season, the vines do not seem to have the strength they otherwise would, and under the burning rays of the sun for the past two weeks the leaves have been curling up and dropping off, leaving the grapes exposed. This simply results in burning the grapes up and rendering them worthless.

### AGRICULTURE.

The lima bean crop in Orange county promises to be a good one.

Sugar beets planted in the vicinity of Biggs this season, as an experiment, are yielding a heavy crop of splendid quality.

On many of the farms in District 70, Sutter county, the yield of barley this season has been better than 40 sacks to the acre.

The prospect for a big beet harvest in Alameda county is exceedingly good. The acreage is in the neighborhood of 2200, and a crop of 22,000 tons is expected.

Richard Boyle and Fred Porter of Woodland will have between 2500 and 4000 tons of beets. They planted 300 acres and secured a fair stand on most of it.

About 3000 acres will be planted to celery in the peat lands of Orange county this summer. The plants already set out are in excellent condition. The acreage will not be as large as last year.

The Colusa Sun says J. Harry Balsdon sold a quantity of his barley at the top of the market price, receiving for it \$1.30½. It was a splendid lot of barley, and a part of the crop went 36 sacks to the acre.

The yield of hay at Pleasanton has been much larger than expected and the quality is first class. Much of the grain is being threshed, the crop being light, with few exceptions, although some fields have turned out well.

Late last spring P. and J. Paradeis planted three-quarters of an acre to Yellow Danvers onions, on their place at Princeton, Colusa county. They estimate the yield at between five and six tons, and they are selling them at 2½ cents per pound.

Alfalfa hay commands about \$11 a ton f.o.b. at Woodland. There is some complaint that baled alfalfa has a tendency to heat, which is probably owing to the unusual weather. In making contracts there is some friction on account of the variation in scale weight and the weights with which the hay-balers tag the bales.

Among the large ranchers of No. 70, in Colusa county, is Louis Tarkey, who has just finished harvesting 400 acres of barley, and from the land he has stored, ready for shipment, 15,000 sacks of as fine barley as one ever sees. Some of the grain went as high as 35 sacks to the acre.

Marion G. Carmichael of Oakdale harvested 2390 sacks of barley from 150 acres recently, which is an exceptionally good yield for this season, when even fairly good crops are the exception, and not the rule. In one day Mr. Carmichael threshed 630 sacks of barley, which is a big day's work, and one that has not often been excelled.

It was thought that the beets planted by the Sacramento Valley Sugar Co. near Biggs would not prove a satisfactory crop on account of the severe trials of dry

weather, north winds and lack of irrigation, but the opposite has been the case, and the beets are a fine yield and full of sugar. The top growth being small, the beets are large, some weighing as much as eight pounds.

The potato crop in southern California is reported extra good this year. From the districts between Covina and Alhambra, in the San Gabriel valley, the production will amount to about one million pounds. Around Anaheim and Fullerton the crop will be heavy. One farmer having 25 acres in spuds has harvested 1200 sacks. The price is running from 75c. to \$1 per hundred.

A. F. Roberts of Oakdale, who has been farming on Roberts Island for several years, states that the barley crop was immense. On one farm, run by Mr. Jones, 42 sacks per acre were harvested, and the estimate of the entire crop of the island is 30 sacks per acre. Although California is famous for her big productions, the yield of 84 bushels of barley per acre (two bushels per sack) is a record-breaker.

The Spreckels Sugar Co. has received some fine specimens of beets planted at the King City ranch last winter, states the Salinas Democrat. The beets were tested by Chemist Keck at the experiment station recently and found to be 21 per cent sugar and 89 per cent purity. The Spreckels company is very sanguine over the outcome of this year's sugar beet crop at King City and vicinity, as the beets are expected to run about 18 tons to the acre. The farmers in that vicinity also realize that the prospects are very encouraging, and it is expected that next season a large majority of them will go in for beet raising. This means that the Spreckels factory will have a vastly increased supply of beets, which will soon bid fair to be commensurate with its enormous capacity.

### LIVE STOCK.

Luther Burbank's spineless cactus will be experimented with for fodder in Yuba county.

The sales of eggs and chickens from the Escondido country have amounted to over \$50,000 during the past year. There are nearly 30,000 fowls kept in that vicinity.

W. T. Mitchell of the Meridian creamery reports the plant still in a flourishing condition. His customers are daily increasing and his sales are heavy. He ships much of his butter to San Francisco.

Anthrax has made its appearance in Santa Clara county. A case was found near Edenvale. Prompt action was taken by County Live Stock Inspector P. H. Browning to prevent the spread of the contagion. The county has been remarkably free from anthrax during the past year.

Chas. Horton, of Merrill, Ore., shipped the first beef cattle to arrive at Montague, Siskiyou, for fall shipment. Montague will be the shipping point for another year. A point in favor of Montague as a shipping point for beef cattle is the big yield of meadow hay in Little Shasta valley. This hay is the best there is for beef and the ranchers in the vicinity all maintain splendid feed yards.

Farmers around Bakersfield who own foothill land are going to try growing the thornless cactus this coming season, and have placed orders for quite a quantity of plants to be delivered the first of May. The cactus is said to be excellent for forage purposes, and is highly recommended by the Government officials. It will grow and furnish feed for stock during a dry year when all other feed is dried up.

Poultrymen in this vicinity are still reducing their flocks, and while this does not materially reduce the output of eggs

at this season, it will show a marked decrease during the coming spring and summer, says the Santa Rosa Republican. The prevailing high prices of feed are responsible for the reduction in some measure, while the correspondingly low prices for eggs is likewise responsible.

After having made a demand on the Board of Supervisors for pay for cattle lost and damaged by dipping for Texas fever tick, and the demand rejected, the way is now clear for E. J. Levengood to bring suit against Orange county. Mr. Levengood claims that the dipping done under the direction of County Veterinarian W. S. McFarlane was the cause of his losses in his herd, and wants damages.

Deputy State Veterinary J. E. Stewart says the work of dipping sheep throughout Sonoma and Mendocino counties has been well done, and he has no fear of a quarantine against this section of the State. It will be necessary, however, for the sheep to be dipped again under inspection after the fall shearing. It is believed that this will effectually drive out the scab and give the industry a clean bill of health.

All along the Sacramento river there are small farms of a few acres devoted to the growth of alfalfa. Here cows are kept fat the year round and produce that fine cream which makes California butter famous the world over. The alfalfa-fed cows yield cream that is rich in color. The cream is gathered from stations on the river bank in front of every farm by gasoline launches. These little launches do for the river section what the stage lines formerly did for the mining camps in the mountains. They carry passengers, United States mail, express, all kinds of produce, and make regular trips at stated times.

### MISCELLANEOUS.

The hops in the Sonoma valley are looking fine and promise a good yield. Picking will commence about September 1.

The hop-picking season at Pleasanton will begin about August 25, and the crop is reported to be up to the average and the quality good.

A Goshen grower has a cucumber a yard long. It is of the Roman variety and has a hollow center like a squash. We fail to learn to what use such cucumbers can be put.

Escondido citizens propose to have a grape festival on Admission Day, September 9. Last year this valley produced over 450 tons of table and raisin grapes, mostly of the Muscat variety. The crop will be heavier this year.

More than 500 hands are employed at the plant of the Napa Canning Co. in East Napa. To date 50,000 cases have been packed this season, against a total of 47,000 cases last year. The output this year will reach 175,000 cases, and operations will be continued until the middle of November.

For several days C. W. Mann and J. F. Warner have been engaged in soil surveys in the vicinity of Knight's Landing. They will be engaged at Woodland for two weeks. The work is under the direction of C. W. Dorsey, head of the Western Division of the Bureau of Soils, and W. W. Mackie, in charge of the work on the Coast.

Too many people are flocking into Wheatland for work in the hop fields. Scores of people are arriving at the hop center daily. Many of the people have no means of support, and there is a serious question confronting the authorities as to how to deal with the unemployed before the time comes for them to get work.



## Live Stock and Dairy.

### SUGGESTIONS FOR YOUNG MEN ON THE BUSINESS SIDE OF SELLING LIVE STOCK.

By E. W. MAJOR.

Many young men are taking up the breeding of pure bred live stock as the most important feature of their farming operations. To such as these perhaps a few hints will not come amiss.

The location of their place of business—the farm—may be already settled, but if not, considerable attention should be given to the selection. As in all other lines of business, a location should be chosen that is easy of access and with pleasant and attractive surroundings.

A young man should not be afraid to go into a neighborhood because there are already breeders of his breed located there. In fact, we should endeavor to concentrate on certain lines in each community. In this way one section would become well known for its Holsteins, another for its Shorthorns, and another for its Percheron horses, etc.

Nearness to a town is important, particularly to the small breeder. A buyer may be willing to drive a considerable distance in order to visit a large breeding establishment, whereas he might not bother to go half as far to see the stock of the smaller breeder.

In all lines of business the telephone is being found an absolute necessity. To the stock breeder it is really as great an essential as almost any other piece of equipment. In many communities farmers' telephone companies have been organized, and the cost of installing one of these is not great. But whether such a company exists in the neighborhood or not, some arrangements should be made to put in a telephone. It happens quite often that a buyer does not learn of the existence of some breeder until he happens to be in the breeder's town, and could he telephone and find out if the breeder is at home, and whether he has anything for sale, a new connection might be made which at that time or later might lead to considerable business.

The new breeder will, of course, do some advertising, and there is one medium he should not overlook, and that is through the local livery stables. He should get acquainted with the proprietors and leave his card with them, together with a diagram showing the location of the farm and the best road to take to reach it. By doing this some publicity will be secured, which may help both the liveryman and a possible purchaser. It is surprising sometimes, when visiting even comparatively small towns, to find that few people in the town know the breeders, and that not one liveryman is able to direct one how to proceed in order to reach the farm.

**THE FARM AND BUILDING.** Now in regard to the farm and buildings. Of course, if the young breeder has only recently taken over the place, it is ridiculous to expect to find everything ship shape. At the same time, he should try as soon as possible to get his barns and yards in at least passable condition, and there is one place where time and a little money can be spent to great advantage and that is on the fences and gates. Gates should be so built that they swing freely, and be opened and shut without too much muscular effort.

**HINTS ON SELLING.**—When the prospective buyer arrives, show him the stock and put prices on such animals as he may request, if you are willing to sell them. Have one price, it does not matter who the purchaser may be. In a store a purchaser, no matter how rich he is, expects

to be asked the same price as the poor man, and the same ought to hold good in the stock business. Don't put on twenty-five dollars because you think he can afford it. You may gain the extra amount that day, but will probably lose many times the amount later on.

**RECORDS.**—If you are breeding dairy stock, keep a record of your cows, and show the purchaser just what the animals have actually done. To be able to point out a cow and say, there is a 1200-pound cow, and that one over there will give when fresh, five gallons of milk; and my herd averaged 360 pounds of butter fat last year, and then have no records to substantiate these figures, is a weak feature in the business. If, when showing the cows to a man, you can at the same time show him your books showing accurate weights and the per cent of fats yielded by the cows, he will not only have an accurate knowledge of the productive capacity of the animals, but also have a much better opinion of your business methods. The writer happened to know of a large sale made some time ago, and was told by the purchaser that one of the main reasons why he purchased this particular bunch of cattle was because the seller was able to show him the records of the animals for several years past. The purchaser was a business man, and it was the business side that particularly impressed him.

A breeder who intends to continue in the business should not be in too much of a hurry to price everything in the herd. If he has been breeding along certain lines for a few years he will have animals that are more valuable, or even more valuable to him than to another breeder. If he sells these it means that he must almost start the work over again. The breeder who holds on to a male that he knows is breeding right, and to the females that are producing offspring of the type he desires, will keep in the front rank of breeders, whereas, the man who is willing to sell anything he has in his herds really ceases to be a breeder and becomes a trader.

### AN OREGON TEST OF MACHINE AND HAND MILKING.

Mr. Geo. A. Nelson gives to the Oregon Countryman an account of a test in that State which leads to interesting conclusions.

In January, 1907, the Oregon State Experiment Station installed a milking machine in the college barn. The experiment then planned was to milk half of the herd of 14 cows with the machine, and the other half by hand, and then to compare the results. The machine was used on the first seven cows during the year 1907, and during this year is being employed in milking the other seven, and the first seven are again being milked by hand.

In this article it is intended to show the progress of the experiment up to the present time, and to make some comparisons. It is not possible with the present data to make any conclusive deductions. Some of the cows cannot be accurately compared, owing to the fact that they were in their first period of lactation when milked by hand, and in the second when milked with the machine, and would naturally have increased in their yield, under favorable conditions; there were also different times of the year when they freshened.

Comparisons of the records of hand and machine milking show slight variations, both in favor of and against the machine milking. It is safe to say that the machine has given equally good results as hand milking. No bad results upon cow udder in any way have been noticed from the use of the machine. The cows stand as quietly and contentedly while being

milked with the machine as they do while being milked by hand. The machine seems to be a more natural way of milking than by hand, as the action of the pump upon the cow's udder is always even, and the suction is similar to that of the calf in sucking.

The time of milking seven of the cows with the machine was from 45 to 50 minutes, while with the same cows by hand, including the weighing of the milk and taking of samples for testing, it was 53 and 54 minutes. This gives the machine an advantage of from four to eight minutes, with the disadvantage of having to milk one cow alone on account of the odd number. The advantage of time is not very greatly in favor of the machine, but one man has ample time to operate two machines. This would mean a considerable advantage with the milking machine.

The washing of the machine is not very difficult, as the parts are very simple. The rubbers are all made to stand hot water or steam. With plenty of hot water at hand the machine can easily be washed in 10 minutes.

The milking machine has no doubt come to stay, as it is a great labor-saver to the dairyman, and can be made a more sanitary way of handling the milk, which is an item of great importance. The experiments so far show that the machine is safe and reliable to use, and its general adoption by the farmers of the State will no doubt follow in the near future.

### MR. TAFT'S ANGORA PANTS.

"A pair of pants made from a billy goat," says the Galveston News, is the offering Texas sent to Secretary William Taft, possible future President of the United States. These trousers were made from cloth manufactured out of mohair or goat wool, a six months' growth, weighing 10 pounds, clipped from the finest Angora billy ever bred. Last week these trousers were presented to Secretary Taft by Col. Cecil Lyon, leader of the Republican party in Texas, as a token of the esteem in which the Republican nominee for the Presidency is held in the Empire State of Texas.

The story of these trousers, "made from a billy goat," is an interesting story of Texas industry and energy. The mohair was cut from "Admiral Togo," a Texas 3-year-old, bred by Frank O. Landrum, of Montell, in Uvalde county, not far from San Antonio. Frank Landrum is one of the famous Angora breeders of the world. "Admiral Togo" was sired by "Dick," who was imported from South Africa, and won first prize at the St. Louis Exposition. His mother was "Lady Holmes," who won the Kansas sweepstakes in 1903. This March "Admiral Togo" yielded 10 pounds of the finest, silkiest mohair at a six months' clipping. This is said to be the largest crop of mohair of six months' growth ever cut.

This mohair was sent to John B. Ellison & Sons of Philadelphia, and was manufactured by them into the finest of cloth. This cloth was sent to Owen Owen of 423 West Eleventh street, Washington City, Secretary Taft's tailor, and was by him made into trousers for this large and

## EXCLUSIVE Tubular ADVANTAGES No. 7

### DURABILITY

When you buy a Tubular you can rest assured it will last your lifetime, and then be good for another 25 years or more.

### Tubulars are the cheapest Separators made

simply because they last the longest and do the most satisfactory work. We proved this by a "Fifty Year Test." The total cost of repairs was 75c—total time of adjusting, 10 minutes—total time of oiling, 8 minutes, and at the end the machine showed practically no wear and good for another 50 years.

Let us send you Catalog No. 131; contains full account of this "Durability Test"—a postal will bring it prepaid. It proves our 28 years of experience is the best guarantee you can get in your separator purchases.

The SHARPLES SEPARATOR CO.,  
West Chester, Penna.

Toronto, Can.; San Francisco, Calif.; Chicago, Ill.



## MORE MILK—MORE MEAT

IF YOU USE

# LILLY'S BEST FLY KILLER

I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.

A. F. CHAPMAN, Monahan, Wash.

For Sale by Dealers

distinguished gentleman. These trousers, as before stated, have been presented to the Secretary, and it is the earnest wish of his loyal Texas supporters that should he be elected he will wear them when inaugurated President on the 4th day of March next.

This gift was chosen by the Texans as especially typical of their State, being both large, useful and beautiful.

### LOSSES OF SHEEP FROM POISONOUS PLANTS.

A number of sheep were recently poisoned by eating choke cherry leaves while passing over a driveway across part of the Manti National Forest in Utah, and though sheep driveways are not strictly part of the National Forest range, the Government has taken steps to prevent further losses to the sheepmen from this cause. Members of the force on the Forests will co-operate with stockmen in cutting out the thickets of choke cherry bushes where they grow most densely, thus allowing the sheep to be hurried through them, and in some cases the

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.





driveway will be changed, so as to avoid the thickets altogether.

When the sheep enter this driveway they are hungry after a long trip over public highways, which form almost one continuous lane between cultivated fields. They eat the choke cherry leaves ravenously, though under ordinary conditions they would hardly touch them. The leaves contain prussic acid, and when an examination was made of the stomachs of the dead sheep, and they were found filled with the leaves, the cause of death was clearly established.

Stockmen throughout the West are coming more fully to recognize the benefits of Government co-operation and range control. The whole grazing policy is to make the range better and to insure its equitable use. Restriction is practiced not for its own sake, but for the good of the range and of the stockmen who depend upon it.

The range has deteriorated under unrestricted use, and so the Government is making investigations, under the direction of F. V. Coville, botanist, Bureau of Plant Industry, Department of Agriculture, with a view to re-seeding with better grass. Again, poisonous plants are often destructive to live stock, and in this case Dr. C. D. Marsh, of the Bureau of Plant Industry, is conducting a study to detect poisonous plants and suggest means of eradicating them. There are also heavy losses from predatory animals, but Government hunters and trappers are busy reducing the number of mountain lions and timber wolves, which do most of the damage. Finally, there is the insignificant prairie dog, which selects the choicest grassy bottoms for its operations, strips them to the soil, and plows up the ground for its burrows. They have gone after the prairie dog now, however, and by the use of effective poison will soon put an end to this pest.

#### DOGS OR SHEEP.

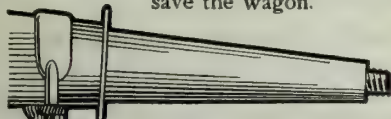
We commend a careful reading of the following from Secretary Coburn of the



## MICA AXLE GREASE

adds years to the life of a wagon. Just what a farmer, teamster or drayman needs to make the "wheels go round" with least wear and most profit.

Poor grease cuts the boxes out of your wheels—don't use it—get Mica Axle Grease and save the wagon.



Mica Axle Grease has just the right "body" to wear long without running. Coats the axle with an anti-friction surface of powdered mica which is almost as good as roller bearings.

Your wagon needs Mica Axle Grease—ask the dealer for it.

**STANDARD OIL COMPANY**  
(INCORPORATED)



**U S U S**

**THINK OF IT!**

BIORNELL, IND., June 26, 1908.  
Have used a U. S. six months; it's perfectly satisfactory. I made 17 pounds of butter the week before using the U. S. The following week with the U. S. I made 27 pounds from the same cows, under the same conditions. It's the best investment I ever made.  
ALEX. NEAL.

**An Investment Paying 33 1/3%**

and this is exactly what the U. S. earned for Mr. Neal over his former methods of skimming.  
If you are not using a reliable

**U. S. CREAM SEPARATOR**

but skimming your milk by some other method, you are losing just as large a per cent. of cream (which is money) as did Mr. Neal.  
It is clean skimming that counts, and the U. S. holds World's Record for clean skimming, therefore it is the separator that every one ought to purchase.

Send to-day for Catalogue No. 148

16 distributing warehouses in U. S. and Canada

**VT. FARM MACHINE CO., BELLINGS FALLS, VT.**

**Prompt Delivery Assured** California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

Kansas State Board of Agriculture to an inquirer regarding embarking in the sheep business in Kansas:

It is rather outside my province to advise at long range as to the private affairs of any individual, especially one whose characteristics, tastes, training, experience, situation, likes and dislikes I do not know. Good sheepmen, too, as is said of poets, are born not made.

Considering the sheep-raising investment I may say, as closely related to it, that the people of your county appear from the returns made by her officials, to be far more partial to developing the dog industry than to sheep. For example, they report to this office, under oath, that in 1905 the county was cultivating 1,759 dogs and 152 sheep, and in 1906 had increased the dogs to 1,774 and reduced the sheep to 142.

There is probably no part of the world naturally better adapted for sheep than Norton county, Kansas, and every farm in the county should profitably maintain a flock, but I could not counsel embarking in sheep in any agricultural community or in any county which shows a preference of 1,300 per cent in favor of dogs. Where dogs are regarded as so much more desirable than wool, and mutton, and lambs, the sheep industry and the sheep owner have about the same chance for prosperity as a snowball in hades.

The average Kansas canine (your Bob and Fanny, and my Tige and Togo always excepted, of course) is a worthless, sycophantic, lawn-defiling, flea-breeding, fly-snapping porch loafer by day, equalled by no other domestic animal in habits of unspeakable nastiness; and a sneaking, murderous, cruel coward, prowling all the countryside by night, with a lust for wanton slaughter unknown to any wild beast, and he harmonizes with the harmless, beneficent sheep only after the sheep's flesh is inside his stomach, its wool in his teeth and his jaws dripping with its blood.

Your county, however, is by no means the greatest sinner in the matter of discriminating in favor of dogs and against sheep. One of the best counties in the State last year officially reported, from actual count, 4 sheep and 3,145 dogs; another 1 sheep and 1,636 dogs; a third 2 sheep and 2,790 dogs; still another 1 sheep and 1,211 dogs, and so on. It seems to me that the ratios are out of proportion. Either there are entirely too many dogs for so few sheep, or by far too few sheep for so many dogs.

## Apiculture.

### HOW TO RE-QUEEN.

#### I.—The Securing of Queen Cells.

By RALPH BENTON.

There are certain natural conditions under which bees normally build queen cells, and the securing of cells resolves itself into bringing about one or the other of these conditions, as the beekeeper may deem most efficient or economical for his purposes.

These conditions are, first, under the swarming impulse; second, upon the failure of a queen, usually due to age; and third, upon the loss of a queen through some mechanical interposition.

Cells built in preparation for swarming, usually in May or June, are in most instances of a good character, large and well shaped, and supplied with an abundance of "royal jelly," the food for the queen. The facts contributing to the perfection of cells at swarming time are an abundance of honey, resulting in plentiful wax secretion, and emerging or "nurse" bees in large numbers. In the case of supercedure due to age, large well developed cells are usually produced, but not many in number, frequently as low as two or three, as against a score or more built normally under the swarming impulse.

The number of queens produced by a colony varies quite markedly among the varieties of bees. Cyprians produce the largest number; as many sometimes as two or three hundred at once. Their cells are, however, not as large as those of Carniolan bees, the largest of the cell builders. The Cyprian cells are also thinner, with less of wax and more of cocoon. This is also true of Caucasian cells, while Banater cells resemble more the Carniolans.

The cells produced by a colony due to the loss of its queen may or may not be of the best type. The tendency where old bees are in abundance is to hurry up the building of the cells, resulting in inferior cells and under-sized and scantily fed queens. It is here that the skill of the bee master comes into play, in supplying more of the swarming conditions, resulting in the securing of cells of the right type—broad at the base, well and slowly built down, with an abundance of food for the inmates. A good strong colony should be selected, with plenty of emerging brood. If honey is not coming in small regular feeds should be made every other day or so, care being taken not to incite robbing. Upon the removal of the queen, the bees will select a number of young larvae less than three days old and feed them in abundance, designing them for queens.

Should one desire cells in large numbers, artificial cups are profitably used in

**Long Lived Harness**

The old harness will do double service if you treat it now and then with a softening application of

**EUREKA Harness Oil**

Made specially to preserve harness leather. Lasts a long time without drying out. Gives a fine, black finish. Just what everyone needs who keeps a driving horse. Made by

**STANDARD OIL CO. (Incorporated)**

**The 1908 Improved DE LAVAL CREAM SEPARATORS**

Ten years ahead of all others in every feature of separator practicability

Ten New Styles—Ten New Capacities—Ten New Prices

A size for every dairy, from the smallest to the largest.

**BEAUTIFUL IN DESIGN  
PERFECT IN CONSTRUCTION  
EVERLASTING IN DAILY USE**

The result of thirty years experience in building separators

Send for handsome new catalogue illustrating and describing machines in detail and to be had for the asking

**THE DE LAVAL SEPARATOR CO.**

43 E. WASHINGTON STREET CHICAGO  
1512 & 1515 FIFTH ST. PHILADELPHIA  
GRAND & BROADWAY ST. NEW YORK  
175-177 WELLS STREET MONTREAL  
54 & 56 PRINCE STREET QUEBEC  
107 FINE STREET PORTLAND, OREG.

#### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

#### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

## FOR SALE

(Third Annual Sale.)

### 70 HEAD OF SHORT-HORN CATTLE

— OF THE —

### ROSELAWN HERD

— ON —

September 11, 1908, at 12:30 O'clock

At the Old Home, 1 mile south of Woodland, Yolo County, Cal.

Write for Catalogue. Free Buss.

GEO. P. BELLINGS, Auctioneer, Marysville, Mo.

**MRS. W. B. & T. B. GIBSON.**

H. B. Eakle sells 66 head the following day.

## SHORT-HORN SALE

At Woodland, Cal., Saturday, September 12

66 head of registered short-horns at public sale.

23 head of cows and heifers.

43 head of bulls.

Buses will meet all trains, lunch served. Sale to begin 12:30 P. M.  
Write for descriptive catalogue.  
Catalogue ready August 20.

**Geo. P. Bellings, Marysville, Mo., Auctioneer.**

R. M. DUNLAP. H. P. EAKLE, Jr.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.



the securing of a greater number of cells than would normally be built. The cups are commonly made of wood, either arranged with a flange at the base and then hung in bars in specially adapted frames, or they are plain and provided with points for securing them to permanent bars in regular frames.

These wooden cups, prior to insertion in the hive, are filled with melted wax and then rimmed out, leaving sharp and malleable edges. On insertion in the hive the bees, being in right condition for wax secretion, either from the natural honey flow or from being fed, will start to draw them down.

At this juncture just a little of the royal jelly from some of the cells naturally built in the colony should be distributed to each cell cup, and a very young larva, a day or two old, from the queen it is desired to breed from, given each cup. These may be removed from their cells by means of a sliver of wood like a match stick or toothpick bent at the end, or a more permanent device is a fine ladle as commonly used by dentists.

At this time all of the unsealed brood should be removed from the hive and frames of emergency bees given the colony in place of it. This will have the double effect of relieving the bees of the care of all larvae except the queens, and at the same time will supply the colony with an abundance of nurse bees. These nurse bees not only will care well for the queen larvae, but will have the effect of easing the querulous condition of the colony, resulting in less of the tendency to hurry the cell building. Under these conditions also a greater percentage of the cell cups will be accepted. It will also be found that less of the cups will be rejected if they are placed at or near the brood line of the colony.

### THAT ETERNAL BREAKFAST QUESTION.

I am wondering how many of our good housewives are this evening pondering over that almost "eternal question" of "what shall we have for breakfast for a change?"

The Europeans, perhaps I should say more strictly speaking, the "continental" Europeans, have practically solved this problem, and we believe that Americans are more and more coming to view things as they do. I know some of us are wedded to our beefsteak breakfast and what-not that our forefathers have dieted on for so many decades, but more and more, especially so among professional and business families in our cities, the much more healthful custom of a light morning meal is coming to be the rule rather than the exception. The continental breakfast consists of a cup of coffee or chocolate, as preferred, and a crisp roll or slice of fresh graham bread, with some fruit, do you ask? Well, yes, some times, when it is in season. But frequently fresh fruit is not always to be had, and one soon tires of jams and preserves.

The Europeans have, however, been long used to meet this necessary need with extracted honey. This article is always found on the breakfast table, even in hotels, and is eaten the year round. Besides being a most healthful and nutritious article of food, of a most wholesome nature, it is something that can be had at any time. Well ripened honey can be kept in a temperate, dry place indefinitely, and even improves with age, in that it becomes thicker, thus having more body, aroma and flavor. There is something very satisfying about a breakfast on bread and honey, with say chocolate or coffee, or even hot milk if it be preferred. This may be varied by having hot biscuits occasionally, or graham gems.

On the cooler winter mornings hot buckwheat cakes and honey prove a most agreeable variation.

## The Poultry Yard.

### THE CHIEF DIFFICULTY WITH POULTRY ON THE COAST.

By M. R. JAMES.

The subject of colds among poultry has been frequently touched upon in these articles; but owing to its importance at this season and the questions constantly coming in where the trouble is plainly due to this cause we will consider it more at length in this article.

Disease arising from colds is the chief difficulty in poultry raising on this coast. The cool winds and damp fogs which sweep in from ocean and bay are at their height during the elsewhere hot months

Rooster lumbago and Mrs. Biddy swell-head, with sore throat and snuffles for the small fry. If cracks and knotholes are many it will pay to line the houses on three sides with tar paper; failing this, use shingles—something or anything to make the walls tight. If our poultryman cannot discover even a pin-crack, then the cause must be that his houses are not sufficiently ventilated or are overcrowded—the fowls get too warm, and when the cold air strikes them as they come out of their sweat-box, colds are inevitable. In that locality the days get very warm and the nights chill; the low board houses are heated by the sun when the fowls go to roost; later the night chill strikes through the thin boards—it is a case of sweating and chilling, and the result is certain to be colds. The open-front does away with this trouble. Open the entire side which is most protected from the wind, and provide wire netting to keep out prowlers, and a burlap or canvas cur-

ture immune from disease, even when exposed to contagion and unfavorable conditions. On the majority of our ranches roup is always present in a chronic and mild form. The fowls appear normal and usually have voracious appetites; but the experienced poultryman can detect the disease in the gumminess about the nostrils, the general skinniness and the unmistakable odor. This is the underlying cause of the blue, skinny broilers which are seen in our city markets; also why there is so little in poultry raising for the ranchers. If they would make a clean sweep of their present stock; burn their old poultry shacks; change their poultry quarters to fresh ground; build suitable houses out of new lumber; start anew with pure-bred healthy stock or eggs from such stock; keep only the number that could be properly housed, fed and cared for; study up on the subject and add the experience of others to their own practical sense, they would find poultry



SILVER SEABRIGHT BATTAMS.

of June, July, and August; the chill nights after warm days, especially in the southern portion, create a climatic condition more trying upon the feathered kind than severe cold. The misleading feature is the uniform mildness of temperature, which inclines to the belief that fowls require little or no shelter. When the poultryman realizes that his fowls must be housed and has learned to house them properly, he has overcome the chief difficulty with poultry on this coast. This is a simple proposition and would seem to make the point clear; yet the small details escape on at the first. In another column is an inquiry from a poultryman in San Diego county. His houses are dry and clean and his fowls are well cared for, yet he is having serious trouble and possibly an outbreak of roup. One of two things is the cause: his houses are drafty or else too close, ill-ventilated or overcrowded. We advise him to go into them when the sun is shining and to close the doors and look for cracks, the smaller the worse. The wind gets very busy in the pin cracks, and is pretty sure to give Mr.

tain to be pinned down in stormy weather. Care must be taken that the young fowls and chicks in weaning do not pile up and huddle in corners. Put them in houses by themselves and have low perches made of four-inch scantling rounded on the edges. Under these set slantwise a slatted frame made of lath. The chicks will find this open framework not at all suited to them, and will take to the wide perches. A little attention in thinning them out on the perches, etc., will soon get them grounded in the perching habit, which is a great preventive of roup and retarded growth among the chicks.

The parent stock is another important point connected with this subject. Eggs for hatching should never come from fowls that have had roup or any serious disease. This is why the hatchet proves in the end the most profitable cure for such diseases. No matter how healthy such fowls may appear, there is always a predisposition to the disease in the offspring. Stock untainted by disease, strong and healthy from way back, will produce chicks that are in a great meas-

ure to be the best paying proposition on their ranches, and always a cash asset.

### Poultry Questions and Answers.

WANTS TO KNOW, YOU KNOW.—"I would like to know why you advocate feeding the mash at noon, rather than at night. We are often told to keep the fowls hungry all day—keep 'em going—and only let them fill up at night. The hen with a good feed of mash in her crop at noon is going to take life easy for a few hours. Is this good for her—or rather, is it good for us? There is no doubt about the first proposition. Yours, From Missouri."

We welcome our friend "From Missouri" and are glad that he has put the question. The poultry writer should never lack a reason for his assertions. Our questioner has partly answered his own question when he admits that a satisfying dinner, together with a comfortable rest in which to digest it, is good for the hen; whatever is good for her redounds to the benefit of her owner. When to feed the mash is a vexed question. Let us go to Nature for the answer. That



good mother intended the morning hours, from peep o' day till the sun is high and hot, should be strenuous ones. The instinct to be up and stirring at that time is strong in all created things except night prowlers and denaturalized man. Clearly a morning mash which would satisfy the hen and send her loafing to cover instead of scratching and singing and getting herself in condition for a good dinner, is out of place. The inclination to the noon rest is another natural instinct; the labors of the forenoon have earned it and a good dinner. Let the fowls have both; hens will utilize them in egg-production and the chicks in growth. And why not the mash at night? Hard grain and green feed are more wholesome to sleep on and have better staying qualities. Some feed both grain and mash at night. This practice is conducive to sour crop and crop-bound fowls, and is especially deleterious to chicks.

**MORE COLDS.**—"Inquirer," of La Mesa, Calif., writes, under date of July 29: "Can you tell me the cause and how to prevent a serious trouble with my chickens, large and small? At first there seems to be a difficulty in breathing; later the eyes are affected. My houses are dry and clean; have open runs, with green feed and other good feed."

Your chickens have taken colds which are likely to run into roup; the probable cause and how to prevent the trouble are discussed in another column. Separate all the ailing fowls from the well ones, and put Douglas mixture, the formula and directions for using which were given in the *RURAL PRESS* of August 1, in the drinking water for all the fowls until the disease abates. Protect the sick ones from chill winds and doctor with a mixture of sweet oil and coal oil; for the breathing give a teaspoonful of the oil to the young fowls and a tablespoonful to the mature ones two or three times a day. Feed a good crummy mash with considerable red pepper in it. If there are bad cases with a disagreeable odor, or symptoms of diphtheria, use the hatchet and cremate the bodies.

#### SEABRIGHT BANTAMS.

The Seabrights are the most useful of the bantams, and also the most beautiful. Every feather is wonderfully laced or edged with glossy black; the surface is a rich yellow in the Golden variety, and a silvery white in the Silver Seabright. The cock is remarkable for the absence of sickle and hackle feathers; he has, in fact, the same tail and markings as the hen. The Seabright stands very erect, with wings carried low and tail spread. The hens are good layers and devoted mothers. In the early part of the last

#### POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

#### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in **POULTRY SUPPLIES** of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

#### CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

**BIHN BROS.**

Petaluma, Cal.

century their originator, Sir John Seabright, spent years in studying and experimenting to produce what the Standard terms "the greatest achievement in the fancier's art, in producing birds of both sexes that are marvels of laced feathers in all sections." An old chronicle says: "Sir John obtained a buff-colored hen at Norwich, very small, with slate-colored legs; on the same journey he purchased a cockerel inclined to red in color, destitute of sickle feathers, with a hen hackle; at Walford, a small hen resembling the Golden Hamburg. After this, by drafting for five or six years, he gained the very penciled feather he so anxiously sought after. Afterward he got a white cockerel from the zoological garden, by which he made his Silvers." This item is a side-light upon the work of the fancier, and reveals the skill and the years of patient labor which have gone to the production of the various breeds, and adds interest to the beautiful birds seen in the showroom.—M. R. J.

#### BLACKHEAD, A COCCIDIAL DISEASE OF TURKEYS.

To show what poultry literature looks like when it is really and truly scientific, we quote from the journal, *Science*, an abstract of a paper read recently before the Zoologists' Meeting at New Haven:

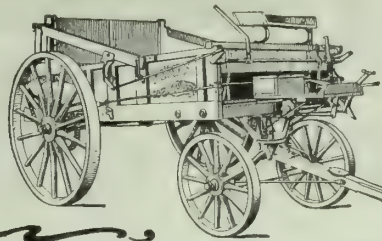
In many districts of the United States, and in Rhode Island in particular, there has been known to exist since about 1894 a highly infectious disease affecting the ceca and liver of turkeys and, to a less extent, of fowls. It is characterized, in the ceca, by inflammation, thickening, occasional perforation of the walls and denudation of the epithelium; in the liver by enlargement and by the formation of cream-yellow spots.

Since the investigations of Theobald Smith, published in 1895, it has been commonly believed that the disease is due to an ameba, *Amoeba meleagridis* Smith. The present writers believe they have demonstrated, however, that the disease is caused by a Coccidium, which, according to the nomenclature adopted, may be a variety of *Coccidium cuniculi*, and that *Amoeba meleagridis* Smith is probably the schizont stage in the development of the Coccidium.

The stages of the Coccidium most commonly found were the schizonts and the macrogametes or oocytes. The former were first discovered in smears by means of a rose-anilin-violet and methylene-blue stain. Later they were recognized in fresh preparations, both within and without the epithelial cells. The macrogametes were most common in the cecal and the intestinal content below the junction of the ceca, and were often present when the cyst stage was absent. Besides these stages the microgametocytes, the microgametes, the merozoites and the sporozoites were recognized both in fresh preparations and in sections stained with hematoxylin and eosin.

By placing the cecal content containing macrogametes in a solution of 10 per cent potassium bichromate, the growth of bacteria was stopped, and the development into cysts and then into sporozoites could be watched. The cysts are commonly oval, and have an average size of 21 by 14 micra. Cultures containing cysts were also made to develop in 2 per cent formalin, saturated solution of thymol, 4 per cent boric acid, 1 per cent lysol and 2 per cent carbolic acid. The organism is common in the soil and is frequently found in apparently normal fowls, which do not appear to be so susceptible as turkeys to this form of the disease.

By means of feeding portions of cecal content or parts of ceca of diseased birds, the disease was produced experimentally in turkeys, chicks and sparrows, but not in guinea pigs, kittens or in rabbits. In



## MAINTAIN YOUR SOIL'S FERTILITY

WITH AN

**I. H. C.**

## MANURE SPREADER

**T**HE best of all fertilizers is barnyard manure. It is your duty to apply it on the land, so that you will get the most out of it, and avoid the necessity of buying expensive commercial fertilizers.

You can make every load of manure you have go twice as far, by spreading it with one of these strong, durable, right working I. H. C. spreaders.

**Kemp 20th Century** (Return Apron Spreader).

**Cloverleaf** (Endless Apron Spreader).

**Corn King** (Return Apron Spreader).

If you have upwards of a hundred loads of manure to spread, any one of these machines will more than pay for itself the first season.

The spreader will do this by enabling you to cover more ground with the same manure, by getting a better stand of grain or grass, by doing your soil more permanent good, and by greatly decreasing the labor of manure handling.

**WESTERN GENERAL AGENCIES:** Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.**  
(Incorporated)

## YOU WANT THIS

**A New Gas Generator** furnishing gas for **Lighting, Heating, and Cooking** at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

## Western Gas and Power Company OAKLAND, CAL.

young turkeys the disease is almost certainly fatal; older birds may recover. It is doubtful if death is caused directly by the Coccidium in the majority of cases; whether there is a specific accompanying organism pathogenic to turkeys under these conditions, and less so to chickens, has not yet been determined. In cases of perforation of the cecum, death soon follows from acute peritonitis. No method of treatment is at present recognized.

The investigations reported above were made at the Rhode Island Agricultural Experiment Station, in co-operation with the Bureau of Animal Industry, U. S. Department of Agriculture, during the year 1907-07, by Leon J. Cole and Philip B. Hadley.

[To those who may weary of pursuing the above to a conclusion we remark that it means that the disease is due to a different form of low-down animalcule than the one first held to be the cause of the disease; also that nothing has been demonstrated to be an effective cure for the disease.—EDITOR.]

## Fruit Marketing.

### LABELING FRUIT.

Attention is directed to the provisions of Sections 5 and 6 of the California Pure Food Act, March 11, 1907.

The principle in these cases is the same as in the case of other food products—the label must speak the truth. The name of the fruit contained in the package, its grade and class, must be truthfully set forth. It is not necessary to state the

name of the packer or producer, nor the name of the place where the fruit is grown or packed, but if this information is given, it must not be false in any particular.

These provisions are regarded as being extremely important to the fruit industry, and they will be strictly enforced. No evasion, by use of corporate or firm names indicating place of production, or by other subterfuge, will be tolerated.

The maximum penalty for each violation of these provisions is a fine of \$500, imprisonment for six months, and seizure and destruction of all mislabeled goods.

### CARRIER'S OBLIGATIONS IN DELIVERING FRUIT.

In the case of the Wholesale Fruit & Produce Association against the Santa Fe railroad, the Interstate Commerce Commission has held that where carload shipments are to a consignee who is the owner of the entire contents of the car, and where delivery is made upon the tracks of the defendants, they should furnish in the future, as they have in the past, the necessary help to bring these packages to the car door and there make delivery to the consignee, and that the present rule of the defendants, which requires consignees to take these packages inside the car, is unreasonable.

The carrier is under no obligation to furnish a place for the assorting of packages in consolidated car lots and making delivery to the different individuals to whom the carload is addressed; but in case it performs this additional service, one cent per hundred pounds is a reasonable charge for such service.



## The Home Circle.

Ben Bolt.

Don't you remember sweet Alice, Ben Bolt—

Sweet Alice, whose hair was so brown,  
Who wept delight when you gave her a smile,

And trembled with fear at your frown?  
In the old churchyard in the valley, Ben Bolt,

In a corner obscure and alone,  
They have fitted a slab of the granite so gray,  
And Alice lies under the stone.

Under the hickory tree, Ben Bolt,  
Which stood at the foot of the hill  
Together we've lain in the noonday shade  
And listened to Appleton's mill.  
The mill wheel has fallen to pieces, Ben Bolt;

The rafters have tumbled in,  
And a quiet which crawls round the walls  
as you gaze  
Has followed the olden din.

Do you mind of the cabin of logs, Ben Bolt,  
At the edge of the pathless wood,  
And the button ball tree, with its motley limbs,  
Which nigh by the doorstep stood?  
The cabin to ruin has gone, Ben Bolt,  
The tree you would seek for in vain,  
And where once the lords of the forest waved  
Are grass and the golden grain.

And don't you remember the school, Ben Bolt,  
With the master so cruel and grim,  
And the shaded nook and the running brook  
Where the children went to swim?  
Grass grows on the master's grave, Ben Bolt,  
The spring of brook is dry,  
And of all the boys who were schoolmates then  
There are only you and I.

There is change in the things I loved,  
Ben Bolt—  
They have changed from the old to the new—  
But I feel in the deeps of my spirit the truth  
There never was change in you.  
Twelve months twenty have past, Ben Bolt,  
Since first we were friends, yet I hail  
Your presence a blessing, your friendship a truth,  
Ben Bolt of the salt sea gale.  
—Thomas Dunn English.

### "Shepherd's Platter" Found.

"Now, where under the light of the tormented sun did you find that?" asked Aunt Keziah.

She was thin and tall, with a sharp nose and a sharp chin with a tongue that wasn't far behind, and with her scant hair twisted tightly back in a little knob about the size of an English walnut in the crown of her small head.

"Didn't find it under the sun," giggled Nephew Silas, as Aunt Nabby, who was short and broad, with a double chin, a mellow voice and fluffy hair flying in soft spiral tendrils all over her head—said softly:

"Really, 'Ziah, you shouldn't say tormented sun. It's—well, if it isn't profane, it is not reverent."

"Well, where'd you find it?" and Aunt Keziah took from the hands of her two small grandnephews a large deep, heavy pewter platter, with a filigree border representing the parable of "The Lost Sheep."

"Yes," she said, "yes, it's the long lost family Shepherd's platter, but where on airth did ye find it?"

"Didn't find it on airth," grinned in turn tow-headed Jared.

"Stop prevaricatin'," said Aunt Keziah sharply, "or I'll send ye both home by the afternoon stage. Now give me a square an' compass answer: 'Where'd ye find it?'"

Dismayed by the threat, both lads replied in the same breath:

"In the church cellar."

"In the little cellar under the church."

"Now, quit that in short order! We haint no churches in this Yankee land, but we've got meetin' houses, but there haint no cellar under this one, and there never wuz."

"Nor never was," echoed Aunt Nabby, in her mellow tones, and both elderly spinsters gazed across the the strip of a garden at a cobblestone structure, low and old, with a little pointed wooden spire called by courtesy the steeple.

"Yes, there is a cellar," protested the boys, ejaculating in turns.

"It's right behind the big, old prickly gooseberry bushes. We were out there picking and eating."

"No doubt you were eating," put in Aunt Keziah, "I never say a boy who wasn't."

"Picking and eating," went on the boys, "and the biggest ones seemed to be out of reach, so we crawled in under close to the—ch—meeting-house—and the little door, bulk-head-like, you know, broke through with us, and we went do—wn the stone steps into the cellar, and among a lot of old traps we found this."

"Stop right where you be," said Aunt Keziah severely, "and keep still until you make up another and a better one. There haint no cellar to that old meetin'-us and never wuz."

"Sho, sho! go slow!" came from a cracked voice in the corner, where grandpa sat in his armchair, with his thin hands crossed over the head of his stout staff, on which he rested his chin as he leaned forward, his good ear turned toward the group to catch the conversation.

"Yis there is," the old man said. "I allus knowed it, but I never s'posed 'twould be opened, nor the old platter found in my day. Bring it here, lads."

The two boys obeyed with alacrity, holding their treasure so that their great-grandsire could trace the pattern of the sheep and the one that went astray, held now tenderly in the shepherd's arms.

"The shepherd used to have a crook, he can't have lost that in the cellar."

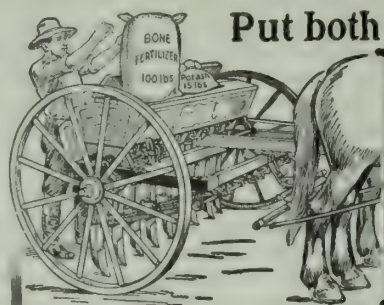
"No, grandsire, there it is, and it looks as if there was writing on the bottom of the old thing; scratched with something sharp."

"Of course, so there must be, for—"

"I don't believe it," said Aunt Keziah. "Nobody never would be such a fool as to scratch a great beautiful platter like that all up for nothin'."

"Be a leetle careful how you call an old man, and your father at that. A fool. It is settin' a bad example. I wrote it myself. I'll tell you what it is and then you can try and see if you can make it out. I was called a good writer in them days and was always showing off with a nib of chalk or anything I could get hold of that would write, and how I happened to do this bad job was this way: For all you gals hev been so great on temp'runce your granther run a distillery—"

"I've heard it, but I never b'lieved it, an' I declare for't I don't now," snapped Keziah. "And now at this late day, for you to go and own up to it and before these lads, too, I vow and declare it's a disgrace to one of the oldest families in the county!"



Put both in and mix

# POTASH

### The Last Call

We have been telling you all summer to use not less than 6 per cent. of Potash in your fertilizer for wheat, rye and barley.

We have told you how to add 6 per cent. of Potash to bone or phosphate, by mixing 100 lbs. of either with 15 lbs. of Muriate of Potash.

Have you arranged to thus increase your grain crop?

If not, telephone to your dealer to get the Potash at once—or, to furnish you with a 2-8-6 fertilizer for your wheat—equally good for rye and barley.

Potash is profit. But next week may be too late to get the goods delivered in time for use. Therefore, do it *now*.

Send for pamphlets containing facts about soil, crops, manures and fertilizers. Mailed free.

**GERMAN KALI WORKS, 93 Nassau Street, New York**  
Chicago—Monadnock Building      Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

"He owned a distillery," went on grandsire, not heeding the interruption. "The old still was down in my south meadow, and often liquor was brought up here in the night time and stored in the meetin'-us cellar. We had a blind mare that could work just as well by night as by day and knew every foot of land on the farm. She would go to the still, back up to the door, and when the casks were rolled on the old drag she would come up here and back her load up to that bulkhead without any one saying a single word to her. The liquor was put in there to age. But few people knew of the cellar. Father dug it nights with old blind Polly's help. The little door, just large enough to roll a barrel through he kept covered with a pile of fence rails that had to be moved every time a cask was put in or taken out. "When the temperance agitation came like a great wave rolling this way, mother fell in with it, for she could see that only mischief came from the old still, and she didn't want me brought up that way, and she talked until father himself began to grow scarey. After a while John B. Gough was invited to lecture in our meetin' house, and amid the excitement I heard a deal of talk between my parents.

"Mother was determined that the casks of liquor should be taken out of the cellar and father said 'No one knows they are there,—let them alone.' I was a pretty wide awake youngster, and to have a little fun wrote this verse that I had either picked up somewhere or that I made up out of my own head, I don't know which, for I used to make verses about things and folks when the fancy struck me. Somehow I couldn't help it. Mother had apples drying on the old Shepherd's platter and I poked them off and wrote this verse with a horseshoe nail:

There are spirits above and spirits below.

The spirits of love and the spirits of woe:

The spirits below are the spirits of wine

The spirit above is the Spirit Divine.

The two boys scanned the platter's smooth surface with their bright young eyes. "Yes, yes, grandsire, here it is. And it is good writing. Wish we could write like that. Just as plain as when it was written."

Aunt Keziah groaned. Aunt Nabby

knit placidly and grandsire proceeded with his story:

"As I placed the big shining platter on the rails where it could be plainly seen by every passerby, my father's only brother, my Uncle Lucius, who worked at the distillery and knew the secret, came along, and reading what I had written, said:

"If your daddy reads that you will get your jacket tanned as it never was tanned before. Your dad is getting pretty well riled about this temperance agitation, and he won't care to have his only son turn on him. You'd better git that old platter out er sight afore he gets here, an' he's coming now."

"That was easier said than done, but I knew of an airhole in the underpinning made to keep rot away from the casks, and when no one was looking I pushed it through and heard it fall to the bottom of the cellar.

"It wasn't missed for a long time, not till father died; then it was inquired for, but my uncle had been killed in the war, the platter was mine, and I was wronging no one by not bringing it forward. I knew where it was. Some said it had been stolen and others that it had been given by some member of the family to the Wadsworth atheneum at Hartford, and at last the excitement about it died away."

"And are the casks in the cellar still, grandsire?"

"Oh, no, sons—my father managed to get them all out and away, and then he planted that row of prickly gooseberry bushes to form a hedge that has hid the old door all these years, for a prickly gooseberry is ornamental and never dies and never kills out, and seeds itself and grows thicker and thicker year by year, and no one has known of the cellar door until these enterprising boys of mine fell through it."

"Greedy boys!" almost shouted Aunt Keziah, "and no one was ever known to use prickly gooseberries for anything but jam."

"And can we have the old platter?" asked Silas; and Aunt Keziah replied severely:

"No, indeed! and have that story of the distillery made public? We will hide it in the cellar cupboard, and after we are dead, if you want to disgrace the family you can bring it to light, but while we live we hope you will spare us, spare us! and that



## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

the precious old platter will not be spoken of ever again."

"And by that time," laughed grandsire, "it may be considered an honor that a member of the family had gumption enough to run a still or anything in them old days. Carry the platter down into the cellar, boys, and say nothing. It isn't lost, for we all know where 'tis, and the time will come when it will be a great treasure."—Annie A. Preston, in Springfield Republican.

### Animals Slaughtered for Food in Germany.

Consul H. J. Dunlap of Cologne states that the report of the bureau of meat inspection for the German empire for the first quarter of 1908 shows the following number of animals slaughtered for domestic consumption during that period: Horses, mules, etc., 35,987; oxen, 138,913; bulls and steers, 107,860; cows, 420,753; heifers, 212,612; calves, 1,149,342; hogs, 4,418,214; sheep, 446,180; goats, 126,936. These figures do not include all the animals killed, for many are butchered on farms and the carcasses sold, which are not subject to official inspection. Compared with former years the showing is a considerable increase. Prices for live stock have remained about stationary, though in various districts, owing to local supply and demand, there have been small variations in price, in general perhaps a slight increase.

The farmer, if he only knew it, is a little nearer the kingdom of heaven than anyone else on earth. He is certain of three square meals a day, and is the only man who can fence himself in and live in spite of the rest of mankind. A few cattle and sheep and fowl provide him with food and clothing, while his fields yield him flour and other food and are a source of revenue. So generous are these provisions, and so common, that hardly one farmer in ten makes any account of them, although the ordinary business man thinks he has done well when he reaches the end of the year and finds that he has a little more than made ends meet.

Why is a widow like a gardener? Because she is to be found in weeds.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

**San Francisco Business College**  
733 Fillmore St., San Francisco, Cal.

### Pith, Point and Pathos.

If you give a man all he asks for he generally gets mad because he didn't ask you for more.

That free lunch proposition is about the only excuse some men have for entering a saloon.

There would probably be more extensive fishing done by the men if women wore fishes on their hats.

Society wouldn't be so empty if there were not so many empty heads making it up.

The proof that man is made of dust lies in the fact that his wife's tears make his name mud.

The name the doctor gives your disease depends upon how long a name your pocket-book will stand for.

The average physician can look almost as wise regarding your physical being as a minister can about your soul.

If a man wants to make a fool of himself he generally finds a woman willing to aid and abet him.

Hope is what leads a man to make promises that he has to spend a lot of time explaining afterward.

### Good Manners.

A friend of yours and mine has very justly defined good breeding to be "the result of much good sense, some good nature and a little self denial for the sake of others, and with a view to obtain the same indulgence from them." Taking this for granted—as I think it cannot be disputed—it is astonishing to me that anybody who has good sense and good nature can essentially fail in good breeding. As to the modes of it, indeed, they vary according to persons, places and circumstances and are only to be acquired by observation and experience, but the substance of it is everywhere and eternally the same. Good manners are to particular societies what good morals are to society in general—their cement and security. And as laws are enacted to enforce good morals or at least to prevent the ill effects of bad ones, so there are certain rules of civility, universally implied and received, to enforce good manners and punish bad ones.—Chesterfield.

### Poison Oak Remedy.

If you go near poison oak (rhustoxicodendron) while it is in bloom you are likely to be poisoned, especially if perspiring, unless before being cool you thoroughly cleanse the skin with warm water thus preventing the absorption of the poison. In case of poison the following is a speedy cure: Steep plug tobacco in boiling water sufficient for a strong solution, and when cool apply to the parts affected a cloth wet with the liquid. If you prefer a preventive, put a teaspoonful of potash, concentrated lye, in a quart of boiling water and cork tightly preparatory for use. Before going where you expect to be exposed to poison oak, rub the liquid over all exposed parts of the skin. Do the same when you return and you will find yourself immune.—Ex.

Judge—Have you been arrested before? Prisoner.—No, sir. Judge—Have you been in this court before? Prisoner.—No, sir. Judge—Are you certain? Prisoner.—I am, sir. Judge—Your face looks decidedly familiar. Where have I seen it before? Prisoner.—I'm the bartender in the saloon across the way, sir.

It is stated that the heart of a vegetarian beats 58 times a minute, and that of a meat eater 75 times. Thus the meat-eating young man with a vegetarian sweetheart can see how difficult it is at times for "two hearts to beat as one."

Fifty years ago there were 1,449,073 farms in the United States. Now there are 5,737,372. The farmer is strictly in it from every viewpoint. In 1850 the value of farm property was \$3,967,343,580; now it is \$20,439,901,164.

**Stickney Gasoline Engines**  
ARE THE BEST



The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine Stationary and Portable 1½ to 16 H. P.

SEND FOR FREE CATALOG

We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

### One Way of Proposing.

Martin J. Littleton, of Brooklyn, who won national fame as an orator in the Democratic National Convention in 1902, was seriously considered as a fusion candidate for Mayor of New York this autumn, but he refused to allow his name to go before the convention. Tammany's strength made it certain that Mayor McClellan would be re-elected. "The situation reminds me of the manner in which a Scotch beadle proposed marriage," explained Mr. Littleton to a friend. "He led the maiden of his choice to a churchyard, and, pointing to the various headstones, said: 'My folks are all buried there, Jennie. Wad ye like to be buried there, too?'"

City Nephew—Well, uncle, did you have a good year?

Farmer—Did I? Gosh, yes. I had four cows and three hogs killed by railroad trains an' two hogs and nine chickens killed by automobiles. I cleared nigh a thousand dollars on them.

A pessimist always remembers that the spilled milk was probably half water anyway.

"THE OLD RELIABLE"



**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD" WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK


Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

**DEMING**

Hand, Knapsack, Barrel and Power Sprayers



for the poultryman, fruit-grower, farmer and orchardist. Each type perfectly adapted to its purpose. Every type built as strong and serviceable as it's possible to build it. Working parts of brass to resist chemical action—18 different styles.

Write for Nineteen Eight Catalogue and "Expert Testimony"—free. Much in them you should know.

**THE DEMING COMPANY**  
595 Depot St., Salem, Ohio  
(CRANE CO., Pacific Coast Agents,  
Portland, Seattle, Spokane, Tacoma,  
San Francisco, Salt Lake City.)

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

### DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco  
Established 1860.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc. constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St., San Francisco, Cal.

Buyers of Grain and Beans. Members Merchants Exchange. Established in 1855. Correspondence invited.

# Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

**JOHN R. ROBINSON,**

President John Crouch Land Company

## PROFITABLE FRUIT RANCH

TO LEASE OR SALE ON EASY TERMS.

Mountain fruit ranch; present income \$3000 to \$8000; experienced man could double.

One hundred acres cherries, figs, peaches, walnuts, berries, etc.; 460 acres cleared land, wood and excellent range. Local market takes output at high prices; good established nursery business in connection.

Ranch fully furnished and equipped; houses, barns, fruit house, jap cabin; fenced and cross-fenced. All implements, wagons, live stock and fruit material included. Many fine springs, good view, healthy. One hour from market. Present owner will contract to take part of crops at high prices; for full particulars address:

**E. V. D. PAUL**  
UKIAH, CAL.

### FOR SALE.

One large W. G. Read Almond Huller, used one season, A1 condition. Price \$250.00. F. O. B., Biggs, Butte County. Cost \$500.00. Address  
**G. W. HUME COMPANY,**  
268 Market St., San Francisco, Cal.

## Almond Hullers

—For Sale by—

**A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.**

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

## Blake, Moffitt & Towne

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## THE MARKETS.

(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

The Northern markets have been very strong, and Oregon growers are getting high prices from the Portland exporters. This market is firm in sympathy, though prices show no change since the recent advance in spot grain. There have been transactions in December wheat at \$1.65, the figure asked last week. The spot market is fairly active, milling grades being in some demand, though there is no shipping business, and some grades are quiet.

California White Australian..	\$1.75 @1.80
California Club.....	1.67½@1.70½
California Milling.....	1.70 @1.72
California lower grades.....	1.45 @1.60
Northern Club.....	1.67½@1.70
Northern Bluestem.....	1.75 @1.77½
Northern Red.....	1.65 —
Turkey Red.....	1.75 @1.80

### BARLEY.

Chevalier barley is again on the market, limited offerings being made at \$1.55, though no sales are reported at this price so far. There is little movement of shipping grain here, though the shippers are buying actively in the interior of the State, the general price being \$1.40 at Port Costa. The feed market is rather quiet, and prices on these grades show a reduction, the top price being now \$1.35, while off lots will not bring above \$1.30.

Brewing and shipping.....	\$1.40 @1.42½
Chevalier.....	1.55 —
Good to Choice Feed, per ctl..	1.32½@1.35
Common feed.....	1.3½ @ —

### OATS.

Red oats for seed are still the principal feature, being in active demand at somewhat firmer prices, and feed red have also advanced. There is also some movement of black oats, which are in growing demand. Seed lots are held as high as \$2.50. White and gray are quiet at old quotations.

Choice white, per ctl.....	\$1.47½@1.55
No. 1, white.....	1.42½@1.45
Gray.....	1.40 @1.50
Red, choice.....	1.60 @1.65
Red, feed.....	1.52½@1.57½
Black, new.....	1.75 @2.25

### CORN.

Spot stocks of corn are very small, and there has been no activity during the week. The advance recently quoted has not been sustained, Western varieties showing a considerable decline, but there is little demand here, and the new figures have so far failed to bring any business.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	1.85
White.....	Nominal
Western State Yellow.....	1.85
White, in bulk.....	1.80
Mixed, in bulk.....	1.76
Brown Egyptian.....	Nominal
White Egyptian.....	Nominal

### RYE.

There is little or no business in this grain at present, but offerings are made at the figure quoted below.

California new, to arrive.....	\$1.40 @1.42½
--------------------------------	---------------

### BEANS.

There has been no material change in the market during the past week. Prices for white beans continue exceedingly strong and show a slight advance. Other varieties are not in heavy demand, and the volume of business is rather light. There are occasional inquiries, however, for straight and mixed carloads, and in view of the small stocks on hand, it does not take much of a demand to move the bulk of the goods. There is no new development in the crop prospects at present. Reports from Michigan indicate that the weather there has done some damage to the growing plant, killing the blossoms in places, and so, while a very heavy increase in the crop was expected, it is not probable that Michigan will produce above an average crop of white beans. The acreage of red kidney beans planted in the East is very small this year.

Bayos, per ctl.....	\$3.00 @3.25
Blackeyes.....	3.25 @3.50
Butter.....	4.50 —
Cranberry Beans.....	2.75 @3.10
Garvanzos.....	2.50 @3.00
Horse Beans.....	2.00 @2.50
Small White.....	4.60 @4.75
Large White.....	4.50 @4.60

Limas.....	4.80 @4.90
Pea.....	4.60 @4.75
Pink.....	3.25 @3.35
Red.....	3.25 @3.75
Red Kidneys.....	2.75 @3.00

### SEEDS.

The seed market is quiet and featureless, prices being steadily held. There is a little inquiry in some lines, but there will be no activity before the fall season.

Alfalfa per lb.....	17½ @ 20 c
Broomcorn Seed, per ton.....	\$20.00@25.00
Brown Mustard, per lb.....	3½ @ 3½c
Canary.....	4½ —
Flaxseed.....	3 —
Hemp.....	4½ @ 4½c
Millet.....	2½ @ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

### FLOUR.

The flour market here is confined almost entirely to a local jobbing business, with occasional shipments to Mexico and Central America. Prices are steady as formerly quoted.

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras.....	5.40 @5.65
Superfine.....	4.20 @4.50
Oregon and Washington, Family.....	4.90 @5.40

### HAY.

The hay situation has changed very little. Arrivals for the week were 3890 tons, or practically the same as last week, and the prices have changed very little. Fancy wheat hay is attracting some attention, more by reason of the light arrivals of this grade than for any other cause. Still the extreme price for this is hardly as high as a week ago. Sales of importance here are very few, and dealers are still inclined to feel that the prices are too high. Nevertheless, holders of the best grades are holding back with the idea that they will be able to dispose of their high-priced product eventually without pocketing any loss. Some of the large consumers who have been holding off are now filling their barns, evidently satisfied that prices will be no lower, but the majority are still backward.

Choice Wheat, per ton.....	\$16.00@17.00
Other Grades Wheat.....	11.00@15.50
Wheat and Oat.....	11.00@15.50
Tame Oat.....	11.00@15.50
Wild Oat.....	10.00@13.50
Alfalfa.....	9.00@13.00
Stock.....	8.00@10.00
Straw, per bale.....	45 @ 75c

### MILLSTUFFS.

Stocks of bran are now fairly plentiful, a large lot having arrived from the North a few days ago, and prices have shown some weakness, the top quotation for white being lower. The demand is good, however, and more firmness is expected. Shorts are also somewhat lower, but other descriptions show no change.

Alfalfa Meal (carload lots) per ton.....	\$22.00@ —
Jobbing.....	23.00@ —
Bran, ton—	
White.....	29.50@30.50
Red.....	28.00@29.50
Broom Corn Feed, per ctl.....	90c@1.00
Cocoonut Cake or Meal at Mills (in 10-ton lots).....	25.00 —
Jobbing.....	26.00 —
Corn Meal.....	39.00@40.00
Cracked Corn.....	40.00@41.00
Mealalfa.....	22.00 —
Jobbing.....	23.00 —
Middlings.....	32.50@35.00
Mixed Feeds.....	23.00@28.00
Oil Cake Meal, per ton.....	36.75@38.25
Rolled Barley.....	30.00@31.00
Shorts.....	30.00@31.50

### VEGETABLES.

There is a moderate demand for yellow onions for shipment to Honolulu and the North, and the local market is fairly well cleaned up. The movement is not as great as last week, however, and prices have weakened a little. Some firmness has developed in tomatoes, the receipts from the river districts being very light for this season. Prices are considerably higher than last week. Other vegetables are coming in large quantities, bringing lower prices for both green peppers and okra, while other lines are steady to weak at last quotations. Green corn is plentiful, but the demand is quite strong.

Garlic, per lb., new.....	5½ @ 6c
Green Peas, lb.....	2 @ 3c
String beans, lb.....	2½ @ 3c
Lima Beans, lb.....	5 @ 6c
Cabbage, per ctl.....	50 @ 75c

Onions—	
New Red, sack.....	60 @ 65c
New Yellow.....	75c
Summer Squash, large box.....	35 @ 50c
Tomatoes, box.....	90 @1.50
Turnips, sack.....	50 @ 75c
Green Peppers, box.....	30 @ 40c
Cucumbers, box.....	40 @ 60c
Green corn, sack.....	\$1.00 @ 2.00
Egg Plant, box.....	60 @ 75c
Cauliflower, doz.....	75 @ 85c
Okra, box.....	50 @ 60c
Asparagus, lb.....	8 @ 12½c

### POULTRY.

While the poultry market shows some signs of improvement, prices are still weak, several lines being quoted lower than at last report. Supplies are no longer excessive, only three cars of Eastern stock having arrived. These include quite a lot of young chickens, and are all cleaning up well. Receipts of California poultry have been very moderate, and good stock of every description has been in demand. Inferior chickens, however, are still neglected. Receipts of turkeys are more liberal, and a decline is expected before long, though there has been no change as yet.

Broilers.....	\$3.00 @ 3.50
Small Broilers.....	2.50 @ 3.00
Fryers.....	4.00 @ 5.00
Hens, extra.....	4.50 @ 7.50
Hens, per doz.....	5.00 @ 5.50
Small Hens.....	4.00 @ 4.50
Old Roosters.....	3.50 @ 4.00
Young Roosters.....	5.50 @ 6.50
Young Roosters, full grown.....	6.50 @ 7.00
Pigeons.....	1.25 @ 1.50
Squabs.....	1.75 @ 2.00
Ducks.....	3.50 @ 6.00
Geese.....	1.50 @ 1.75
Goslings, per pair.....	1.75 @ 2.00
Spring Turkey, lb.....	24 @ 26c
Gobblers, live.....	19 @ 20c
Hen Turkeys, live.....	20 @ 21c

### BUTTER.

There has been a complete recovery in the butter market since last report. Nearly all the local dealers report a marked increase in the demand, as the vacation dullness is over. At the same time shipments from producing sections are decreasing, and prices show considerable advance. Extras are now moving at 25½ cents, and clean up about as fast as they arrive. Low-grade and packing stock, however, is steady at old prices.

Cal. (extras) per lb.....	25½c
Firsts.....	24 c
Seconds.....	22 c
Thirds.....	20 c
Fresh Packing Stock, No. 1.....	19½c
Fresh Packing Stock, No. 2.....	18½c

### EGGS.

Egg prices have been going ahead rapidly, as receipts continue to fall off, and the demand is considerably greater than for the last two months. Fresh extras are 5 cents higher, with a still larger jump for firsts, both lines keeping well cleaned up. Eastern stock has advanced about a cent. Storage extras are now beginning to move freely, being quoted at 27½ cents.

California (extra) per doz.....	35½c
Firsts.....	31 c
Seconds.....	24 c
Thirds.....	22 c
Eastern Selected.....	25 c
Eastern firsts.....	23 c
Eastern seconds.....	21 c
Storage, Cal., extras.....	27½c

### CHEESE.

Cheese is entirely unchanged as to prices, and with a light demand there is very little trading. There is a tendency to further weakness at present, as supplies are very liberal.

Fancy California Flats, per lb.....	11½c
Firsts.....	10½c
New Young Americas, Fancy.....	13 c
Oregon Flats.....	13 c
Oregon Y. A.....	14½c

### POTATOES.

The market is now well supplied with potatoes, and business this week is of small proportions locally, though there is still a fair shipping demand. While the general run of choice Burbanks are lower, fancy stock brings above quotations, and inferior stock is higher. Sweet potatoes are now arriving from several sections, and show a decline.

New Whites, choice.....	90 @ 1.00
Ordinary.....	75 @ 90c
Early Rose.....	75 @ 85c
Sweet Potatoes, lb.....	3½ @ 4c

### FRESH FRUITS.

The fresh fruit market shows some improvement, several varieties being in

lighter supply, and the volume of business is good. Prices, however, show little change on most lines. Berries show a general advance. Crated apricots are becoming scarce. Receipts of Bartlett pears are by no means large, but prices are only steady. Figs are plentiful. Nectarines are very dull, and are hard to dispose of at the figures. Fancy apples are in fair demand, but the market is well supplied, and prices show little strength. Receipts of nutmeg melons are liberal, but prices are quite firm. Grapes in general are lower.

Apples, fancy.....	75 @ \$ 1.00
Apples, common.....	25 @ 50c
Strawberries—	
Longworths, chest.....	\$6.00 @ 7.00
Large varieties, chest.....	5.00 @ 7.00
Blackberries, chest.....	2.00 @ 3.00
Raspberries.....	5.00 @ 6.00
Huckleberries, lb.....	10 @ 12½c
Apricots, ton.....	10.00 @20.00
Plums, crate.....	30 @ 60c
Peaches, box.....	25 @ 50c
Figs, box.....	75 @1.35c
Nutmeg Melons, box.....	50c @ 1.00
Cantaloupes, standard crate.....	1.35 @ 1.75
Watermelons, doz.....	1.25 @ 2.50
Grapes, crate, Seedless.....	75 @ 85c
Muscats.....	85 @ 1.00
Rose of Peru.....	50 @ 65c
Fontainebleau.....	40 @ 60c
Pears, Bartlett, box.....	30 @ 90c

### CITRUS FRUITS.

The Eastern demand for lemons has caused a scarcity at shipping points, resulting in a sharp advance in fancy and choice stock, though the movement is limited. Standard are lower. Grapefruit is weaker, and oranges and limes are steady at former prices.

Choice Lemons.....	\$4.50 @4.75
Fancy Lemons.....	5.00 @5.50
Standard.....	1.00 @1.50
Limes.....	4.00 @5.00
Oranges—	
Valencias.....	3.50 @4.00
Grape Fruit.....	3.25 @3.75

### DRIED FRUITS.

Apricots are developing considerable strength, as the crop is turning out to be less than was at first estimated. Further inquiry is reported for European shipment, and there is a fair demand from the East. The packers are buying extensively, and paying somewhat higher prices, as quoted below, though some growers are still holding back. Peaches are being contracted, and rule steady at quotations, though there is no great activity so far. Prunes are increasing in firmness, and considerable business is reported, with a growing demand in the East. Raisins show a further advance in nearly all lines, and packers at Fresno are offering 3½ cents in the sweat-box. The growers, however, expect a further advance, and are inclined to hold off.

Evaporated Apples.....	5 —
Figs, black.....	2½ —
Figs, white.....	2½ —
Apricots, new crop.....	6 @ 7c
Peaches, new crop.....	5 —
Prunes, 4-size basis.....	3½ @ 4½c
Pears, new crop.....	5 @ 6½c

### RAISINS.

2 Crown.....	4 c —
3 Crown.....	4½c —
4 Crown.....	4½c —
Seeded, per lb.....	7 @ —
Seedless Sultanias.....	4½@ —
London Layers, per box.....	1.00@1.10

### NEW CROP.

Loose Muscatels, 4 crown.....	5½@ —
3 Crown.....	5 @ —
2 Crown.....	4½@4½c
Thompson seedless.....	4½@ —
Seedless.....	6 @6½c
Clusters—Imperial.....	\$2.25 @2.40
Dehesa.....	1.75 @1.90
Fancy.....	1.30@1.40
London Layers.....	1.05 @1.15

### NUTS.

The old crop of walnuts is closely cleaned up, local dealers having hardly enough on hand to supply the Coast trade, and No. 1 softshells are hard to get at any price. Spot almonds are also rather scarce, only a few lots being offered here and there. There has been considerable inquiry for new crop for Eastern shipment. Prices on new crop almonds are unchanged, and so far there has been no business in future walnuts.

Almonds, Nonpareils.....	11½ —
I X L.....	10½ —
Ne Plus Ultra.....	10 —
Drakes.....	9 —
Languedoc.....	9 —
Hardshell.....	—
Walnuts, Softshell No. 1.....	13 —
Softshell, No. 2.....	10 —
Italian Chestnuts.....	10 @ 12½c



## HONEY.

Shipments of honey are rapidly coming forward from producing sections, and there is still some movement to the East from the country. Prices have been very well sustained, and all offerings are well taken.

Water White, Comb lb.....	16 @ 17 c
White.....	15
Water-white, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c
Dark Amber.....	5½ @ 5½c
Candied.....	5½ @ 5½c

## WOOL.

The movement of wool is very light at present, the bulk of the Coast clips having been sold and shipped, though a considerable quantity is still held by growers. California wools are mostly neglected in the East, and prices show no improvement.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15½c

## HOPS.

Hops continue quiet, and there is likely to be little business until the amount of the crop is more definitely known. Some damage is reported in Europe, but so far the outlook is not good for an improvement in prices. Some hops of this crop have been contracted at 9 cents.

1906 crop.....	1½ @ 2½c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

The beef market is in a little better condition. California cattle have about all been sold, and the supply now comes mostly from Nevada, where they are being contracted at a little better prices, the stock being of good quality. Calves are also somewhat stronger, particularly the small ones. Mutton and lamb are weak, as a great influx of Nevada stock is expected. The pork market is weak and lower. Live-stock quotations given below are for good stock delivered at San Francisco.

Beef: Steers, per lb.....	6 @ 6½c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	5½ @ 7 c
Small.....	7½ @ 9½c
Mutton: Wethers.....	6½ @ 8 c
Ewes.....	6 @ 7 c
Lambs.....	8 @ 9 c
Hogs, dressed.....	7½ @ 9½c

## LIVESTOCK

Steers, No. 1.....	3½ @ 4c
No. 2.....	3½c
No. 3.....	2½ @ 3 c
Cows and Heifers, No. 1.....	3 @
No. 2.....	2½ @
Bulls and Stags.....	1½ @ 1½c
Calves, Light.....	4½ @ 4½c
Medium.....	4
Heavy.....	3½
Sheep, Wethers.....	4
Ewes.....	3½
Spring Lambs, lb.....	4½ @ 4½c
Hogs, 100 to 150 lbs.....	6 @
150 to 250 lbs.....	6½c
250 to 325 lb.....	6c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## INVESTIGATIONS BY THE UNIVERSITY EXPERIMENT STATION.

Continued From Page 97.

diseases like the various forms of gum disease of citrus trees, etc. This work will be done at the Southern California Plant Disease Laboratory at Whittier.

By W. T. Clarke: Determination of causes of sterility of almond trees and relation thereto of cross-pollination, weather conditions, etc. Field and laboratory studies.

By H. J. Quayle: Detailed study of red and yellow scales of citrus trees, including breeding and environment experiments to determine factors responsible for two forms and their geographical distribution. This study will be made at the Whittier Laboratory and in southern California orchards.

By E. B. Babcock: Investigation of nature and origin of "walnut-oak" hybrids, with hybridizing experiments, as a basis for study of physiological principles involved.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Aug. 11, 1908.—These are the glad days for the grower and handler of oranges, for the lull is on and the day that they can go to the cool beaches is now here. Nearly all of the Independents are cleaned up on oranges in every district, while the Exchange is through shipping at Redlands, Highlands, Corona, and Whittier, and outside of Azusa very nearly the whole of Los Angeles county is cleaned up.

There are still over 700 cars of oranges in the State, and the estimate is that it will take five weeks to get them all rolling. They will be handled with care, and it now looks as if prices would be maintained right through, with the possibility of high figures at the very wind-up.

While nearly everything will be out by September 1, there are always some few cars going through the month of October. C. C. Chapman usually has the market to himself on these very late shipments, and nearly always gets prices that loom up like a sore thumb. When prices on a box of oranges get up to around \$10 they are pretty apt to attract less fortunate shippers, and they wonder why it is. Two years ago a shipper at Highland decided that he, too, would get big prices by holding his fruit to the last, but the Valencia has a funny notion of turning green in some localities when it is held too long, and that is what happened to the fruit of this ambitious man, and he got less than he would had he shipped earlier.

There is much complaint at the present time of green fruit, and there seems to be no remedy for it except to ship when the indications show themselves, and this has been done quite generally this year.

Dealers are still holding to their price of \$3 f.o.b. for good fancy stock, and they say that orders are plentiful enough to satisfy them and that they have no intention of lowering. Sales are being made every day at this price, and even orchard run fruit with a reputation commands this figure.

Lemon prices still hold at \$4.25 to \$4.65 for the fine grades, with an occasional car of a premier grade going to \$5 f.o.b. The poorer quality stock is more in demand than it was, but the prices have not risen in proportion, and the quotations run all the way down to \$3.

The lemon shipments still keep at about 20 cars a day, and up to and including the 9th inst. amounted to 4156 cars, while last year the amount was 3079 to the same date.

The total citrus shipments from southern California to date are 27,587 cars, and to the same date last year 26,423.

Prices on imported lemons have been a little better the past week, and an interior demand is helping the situation greatly.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Aug. 12, 1908.—A good demand for peaches still continues, and on the 7th the cash buying price advanced another 5c, which makes it now 45c. Although there has been considerable buying at higher figures, this fruit is selling in Eastern markets at a basis of 65c. f.o.b., although a few lots of Elbertas sold at \$1.35 delivered, which brings an f.o.b. price of 85c.

Plums are now in good demand and consequently good prices are being realized. Auction sales yesterday averaged: Hungarians, \$1.25 to \$1.55; Gros, \$1.05 to \$1.45; Simoni, \$1 to \$1.20; Diamonds, \$1.45 to \$1.65; Giants, \$1.10 to \$1.35; Wicksons, \$1.10 to \$1.30; Eggs, 65c. to 95c.; Botans, 65c. to \$1 delivered.

Auction sales this week have been low on pears. Bartletts selling from \$1.45 to \$2.10 delivered. Free on board sales are now being made on a basis of \$1, although many cars have been disposed of at \$1.10 f.o.b. Which way the pear market will go is hard to predict, owing to the recent decline, which was wholly unexpected.

Sales of grapes so far this year have been disappointing. Thompson's Seedless sold at low value owing to the carrying quality of the fruit. This variety sold yesterday in auction from 75c. to \$1; Malaga, 90c. to \$2.05. A few small lots of Tokays are now going forward. The first carload of Tokays should leave about August 18 from Florin.

Taking the deciduous situation as a

whole, the demand for peaches at the present price should continue, and, of course, plums will do well, as the supply is very light. Shipments of pears from now on should do well, although it is just a question as to what the market will do, owing to the recent decline.

Comparative shipments to August 5 for the seasons 1907 and 1908 are as follows: 1907, 2301 cars; 1908, 3805 cars.

## PUBLISHER'S DEPARTMENT.

A letter received from Mrs. Sherman of Fresno states that raisin making contracts are being made at \$14 per ton. The crop of raisins will probably be short 25 per cent in her neighborhood, and reported less in other places. Where Japanese contractors had expected to work 600 men they can only work 400. Wages, however, have not dropped.

The San Francisco Business College again through our columns is asking you to send your boys and girls to them to secure their business education and training. This is a fine institution, turning out successful students.

A new advertisement on our last page by the Palace Hardware Company of San Francisco offers a very useful article to irrigators in the farm level. The price of \$15 seems very reasonable indeed, and to anyone leveling a piece of land it will be found indispensable.

Sidney Hockridge of Redlands, owner of the City Nurseries, sends us an exquisitely beautiful reproduction of the Pink Cherokee Rose, in colors. This new rose novelty is a variety of the White Cherokee, and it is claimed that it will bloom more freely than the white. It is effective for pergolas, fences, etc., adapted to California and all milder sections of the country.

The Gibson stock sale, to be held at Woodland September 11, will doubtless attract a large number of buyers who want good stock. It will be well to make preparations to stay at Woodland two days, as the Gibson sale takes place on the 11th and the Enterprise Stock Farm will hold its sale the next day, the 12th. Read the two ads. in our live stock department.

The advertisement of the State Fair in this issue reminds us that it is getting near time for farmers to take a lay-off and see what California produces. The display in all lines promises to be good this year.

E. V. D. Paul of Ukiah is offering a fine opportunity to someone. Note his advertisement in this issue of the RURAL PRESS. The place is offered for sale or lease. It's a proposition worth investigating.

## BOOKS FOR THE FARM

For Sale by PACIFIC RURAL PRESS

FARM CONVENIENCES.—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00

FEEDING FARM ANIMALS.—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated. 5½ by 8 inches. Cloth.....\$2.00

THE BOOK OF ALFALFA.—Its history, cultivation, merits, and uses as a forage and fertilizer. This little book on alfalfa, which appeared a few years since, has been a complete revelation to thousands of farmers throughout the country, and the increasing demand for still more information on the subject has induced the author to prepare the present volume, which is by far the most authoritative, complete and valuable book on this forage crop ever published. The book is printed on fine paper, with many full-page photographs that were taken with the especial view of their relation to the text. It is unquestionably the handsomest agricultural reference book that has ever been issued. By F. D. Coburn, Secretary Kansas Department of Agriculture. Illustrated. 6½ by 9 inches. 336 pages. Cloth.....\$2.00

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page
Alexander Pipe Co.....	—
Beckman, Geo. V.....	105
Bihn Bros.....	107
Bird & Co., J. A. & W.....	—
Blake, Moffitt & Towne.....	109
Bray Brothers.....	109
Breeders' Directory.....	105, 107
California State Fair.....	112
Croley, George H.....	107
Clark Wise & Co.....	—
Cutter Laboratory, The.....	105
De Laval Dairy Supply Co.....	105, 109
Deming Co., The.....	109
Dewey, Strong & Co.....	109
Dietz Company, R. E.....	109
Disbrow, F. H.....	112
Driver, Aber & Co.....	112
Driver, E. S.....	105
Dunlap, R. M.....	105
Eakle, H. P., Jr.....	105
Fresno Agricultural Works.....	—
Galloway, A. J.....	112
German Kall Works.....	108
Gibson, Mrs. W. B. & T. B.....	105
Hamlin, Miss Sarah D.....	109
Hart, Ed.....	107
Hopkins & Son, G. H.....	112
Howard Cattle Co.....	105
Hume Co., Geo. W.....	109
International Harvester Co.....	107
Jackson & Co., T. W.....	112
Kendall, Dr. B. J., Co.....	—
Lawrence-Williams Co.....	104
Lilly Co., Chas. H.....	104
Lister, Henry B.....	109
Lynch, John.....	105
Meacham, Frank A.....	—
Minnewawa Vineyard.....	112
Mountain Copper Co.....	112
Murphy, P. H.....	105
National Wood Pipe Co.....	112
Oakland Poultry Yards.....	107
Palace Hardware Co.....	112
Paul, E. V. D.....	109
Pear Blight Remedy Co.....	112
Rix, O. A.....	109
Robinson, John R.....	109
Roeding, Geo. U.....	105
Sharples Separator Co.....	104
Shorthorn Sales.....	105
Silva & Bergtholdt Co.....	112
Simmons Hardware Co.....	—
Smith, Francis.....	—
Southern Pacific Railway.....	112
Standard Oil Co.....	105
Stowe, C. A.....	105
Sullivan, W.....	107
Teague, R. M.....	92
Temple Pump Co.....	92
Tower Co., A. J.....	—
Tuttle's Elixir Co.....	—
Vermont Farm Machine Co.....	105
Wagner, J. B.....	112
Waite, Thos.....	105
Western Gas & Power Co.....	107
Wilson, R. F.....	112
Windeler, Geo.....	112

CELERY CULTURE.—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth.....\$0.50

BEAN CULTURE.—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth.....\$0.50

TOMATO CULTURE.—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth.....\$0.50

MUSHROOMS; HOW TO GROW THEM.—By William Falconer. This is the most practical work on the subject ever written, and the only book on the growing of mushrooms published in America. The author describes how he grows mushrooms, and how they are grown for profit by the leading market gardeners, and for home use by the most successful private growers. Engravings drawn from nature expressly for this work. 170 pages. 5 by 7 inches. Cloth.....\$1

IRRIGATION FARMING.—By Lucius M. Wilcox. A handbook for the practical application of water in the production of crops. The most complete book on the subject ever published. New edition, revised, enlarged, and rewritten. Illustrated. Over 500 pages. 5 by 7 inches. Cloth.....\$2.00



# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

August 17, 18, 24 and 25.

Sept. 15 and 16.

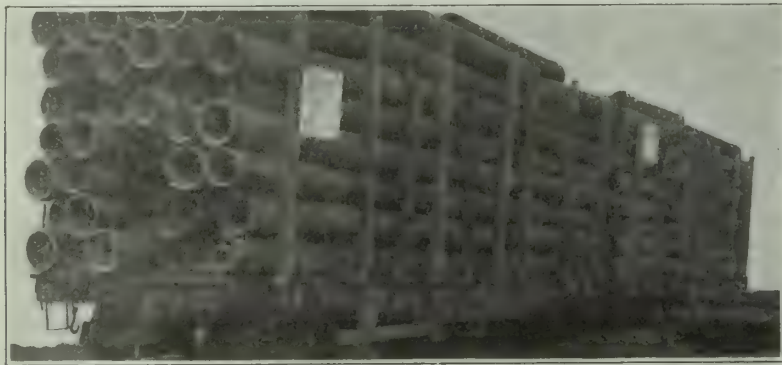
Sept. 23, 24, 25 to Kansas City Only.

HERE ARE SOME OF THE RATES:

Omaha	. . .	\$ 60.00
Council Bluffs	. . .	60.00
Kansas City	. . .	60.00
Chicago	. . .	72.50
St. Louis	. . .	67.50
New Orleans	. . .	67.50
Washington	. . .	107.50
Philadelphia	. . .	108.50
New York	. . .	108.50

Tickets sold on July dates good for 90 days; those sold August and September good until October 31. Stopovers and choice of routes going and coming. See nearest agent for details.

## SOUTHERN PACIFIC.



### WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

### NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



WINE TANK.

### Tanks Tanks

WINDELER'S PLANING MILL AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

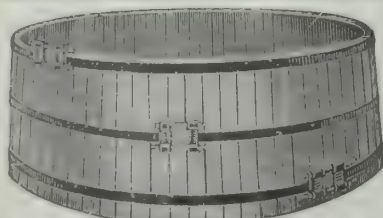
GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

R. F. WILSON,

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

## CALIFORNIA STATE FAIR SACRAMENTO

August 29th to September 5th, 1908

All Admit the Last Fair Was the Best, THIS FAIR WILL BE BETTER

**BIG PURSES  
BIG RACES  
BIG PREMIUMS**

**A BIG FAIR  
WITH STARTLING  
ATTRACTIONS**

Bring the family and enjoy yourselves. Nowhere can you see so much or have such a good time for your money.

See the Show  
and be Saved  
Miss it and  
be Miserable

\$20,000 in Premiums,  
\$15,000 in Purses,  
\$5,000 in Amusements,  
\$10,000 for Advertising  
and Operating.

All Live People  
Show, and  
All Good  
People Go

SPECIAL RAILROAD RATES.

Address J. A. FILCHER, Sec'y.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

## SILVA & BERGTHOLDT COMPANY

Newcastle, Cal.



FERTILIZERS

## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

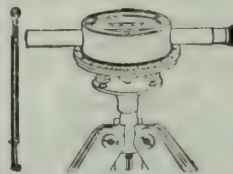
## The Mountain Copper Company, Ltd.

150 PINE STREET, SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco

## BOSTROM'S IMPROVED FARM LEVEL



Cheapest and  
Best Level yet  
Invented for  
Farm Use.

Has the latest patented improvements in simplicity and usefulness.

Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

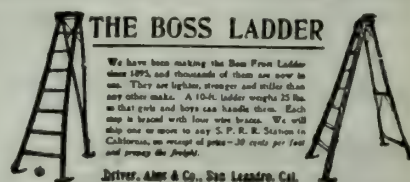
## Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$80 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.



### THE BOSS LADDER

We have been making the Boss Ladder since 1875, and thousands of them are now in use. They are lighter, stronger and stiffer than any other make. A 10-ft. ladder weighs 25 lbs. so that girls and boys can handle them. Each step is braced with four wire braces. We will ship one or more to any S. P. R. Station in California, on receipt of price—30 cents per foot and prepaid freight.

Driver, AMER & Co., San Leandro, Cal.

## Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywine, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September.

G. H. HOPKINS & SON,  
Burbank, Cal.

## Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now for season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## FOR SALE

Freshly gathered Eucalyptus Rudis seed—by the pound or ounce.

MINNEWAWA VINEYARD, FRESNO, CALIFORNIA.

## RESISTANT VINES FOR SALE.

About fifty thousand rooted Rupestris St. George vines for sale cheap. Address

A. J. GALLAWAY, Healdsburg, Cal.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 8.

SAN FRANCISCO, SATURDAY, AUGUST 22, 1908.

Thirty-eighth Year.

## YELLOW FRUIT AND YELLOW GOLD.

By R. M. TEAGUE, San Dimas, Cal.

*"Knowest thou the land where lemon trees do bloom,  
And oranges like gold in leafy gloom;  
A gentle wind from deep blue heaven blows,  
The myrtle thick, and high the laurel grows?  
Know'st thou it, then?"* —GOETHE.

It will hardly be news to the advanced readers of the ever-popular and ever-reliable PACIFIC RU-

had reached 1000 carloads, showing an increase of 600 per cent. Since the 80's the advance has been steady and along healthy lines, to which we shall pay more attention later on.

Many of the readers of the RURAL PRESS will probably recollect a Mr. Webster who, once upon a time, wrote a little book dealing with the meaning of words, in which he described, as news,

known as the Roman navel, but in more modern times they have learned something about the Washington navel, because the California growers of orange and lemon trees have been sending good trees to the land of the Caesars. All of which goes to show that California horticulture is winning its spurs in all portions of the world.

To go a little farther along this same line, the books will tell you that the citrus fruits are native to India and China, but say very little as to varieties, methods of culture and marketing. It is said that the tree was introduced from its habitat to the warmer regions of the Mediterranean along about the twelfth century, and that it found its greatest exploitation in Spain and Italy. From the former it was undoubtedly introduced into America. Some 350 years ago one of the ancient



GROVE OF TWO-YEAR-OLD WASHINGTON NAVEL ORANGE TREES IN SOUTHERN CALIFORNIA.

RAL PRESS to be told that California will ship, for this season, not less than 28,000 carloads of oranges and lemons, the value of which is approximated at nineteen millions of dollars; it will, however, be news to the younger readers of the paper, but not to the old guard on its subscription list, to learn that in 1883 the orange growers of southern California were somewhat proud of the fact that the shipments for that year aggregated 150 carloads. The commercial advance of the industry during its earlier period is clearly indicated by the fact that three years later the total volume

something which was little known or of recent happening; hence, under the former definition, it may be news to some of the older readers, as well as the younger, to learn that classical literature first mentions the orange as early as 450 B. C. This, of course, was somewhat early for the embryo Californians of that date, and also antedated the period at which Nero fiddled and saw Rome burn. In the Hebrew it was called "hadar," meaning "the beautiful." In Roman literature it was known as Adam's apple, or Paradise apple. I can find no reference to any orange

hoboes of both land and sea by the somewhat euphonic and botanical name of Bernal Dian el Castillo is said to have planted a few orange trees in old Mexico, from whence it eventually found its way to California and Florida. Its early planting, however, was purely experimental, along ornamental lines rather than for commercial purposes; the varieties were limited exclusively to seedlings, which were more or less a feature of all the early Mission gardens planted by the Spanish pioneers. For nearly 100 years its development

(Continued on Page 116.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor

FRANK HONEYWELL - - - Business Manager

## The Week.

Even in the fogs of August the metropolis is full of people, and the streets are alive of people, some of them with their mouths open in surprise at the remarkable speed in rebuilding, others to get good draughts of cool fog, which they pronounce delicious after the dry heat of the plateau States or the moist heat beyond the Rockies. Multitudes are coming to San Francisco to see how we are getting along, and at the same time to get cooled off, and all seem to attain their ends, even if they do press heavily upon the hotel capacity, which, if we mistake not, is now greater than before the great fire, and constantly increasing. It is very clear now that San Francisco is soon to be a very much larger city than it was before the catastrophe, and more handsome and modern than anyone who has not recently seen the city can imagine. All this is an expression of confidence in the State, an exponent of interest in our industries, a clear promise for the future.

Speaking of the future of the United States, and perhaps even more clearly in its applicability to the future of California, are some words recently published in the London Statist, an English journal which certainly cannot be suspected of agricultural booming, as follows:

"The continued progress of the United States would be much more doubtful did the country not possess unlimited power of expanding its agricultural output. But it is not within sight of the period in which it will not be able enormously to increase its output of foodstuffs. In the West and in the South there are very large districts still awaiting cultivation, and these districts are supplemented by great tracts of land where irrigation is only in its initial stages. Moreover, after the whole country is brought under cultivation by what is known as extensive farming, the resort to intensive farming may enable it to double the production possible under the present system. The possible increase in the agricultural, mineral and manufacturing wealth of the country is for all practical purposes unlimited."

In this statement the Statist is simply voicing the popular conception of the straightest, surest road to national greatness, because it is no longer necessary to argue that in such a nation there must be trade and manufacturing. The United States has demonstrated that all industries will associate themselves with most intelligent food production. We all talk about coming to San Francisco to cool off because that is the current gossip. The real reason why the metropolis is building up as it is and is full of people as it is, is because people wish to get warm—industrially.

If more specific evidence is needed that the country's eye, if not the world's eye, is on San Francisco, cast a glance at what will happen here in a few weeks. The call has just been issued

from Kansas City for the nineteenth annual session of the Transmississippi Commercial Congress, which is to meet in San Francisco October 6, 7, 8, 9 and 10. The executive committee submits the following subjects as germane to the objects of the congress, and upon these a free and full discussion is invited: Irrigation and drainage; river and harbor improvement; leasing of public lands; dry farming; Alaska statehood; parcels post and postal banks; transpacific trade; closer trade relations with the Latin republics; public ownership of utilities; Panama and the canal; Hawaii and the Philippines; immigration; live stock industry; national and State aid for highways; sugar beet industry; Alaska-Yukon-Pacific Exposition; national finances; an enlarged and improved consular service in the Far East; the Pan-American railroad; interstate commerce. Those who made that inventory of national questions appreciate the fact that they are wide as the country, and that the best point of view of some of them is to be found in San Francisco. Our readers who have public interest and leisure may be interested in taking a look at some of them through the lenses of the Transmississippi Congress.

How many people forget that it all depends upon the moth. Since it was cabled from Germany that the Saxon authorities have discovered what seems to be an excellent way to put an end to the caterpillar plague which is having such a disastrous effect on the local forests, by the invention of an immense electric light trap, we have been attacked by all sorts of inquiries as to why this was not the solution of the whole pestiferous insect problem. Such inquirers forget that it simply depends upon whether the moth will go to a light or not. Some moths will, and some will not; some prefer the moonlight to the limelight, and that is all there is of it. Apple growers who filled their orchards a few years ago with that widely advertised flash-pan moth trap know something about that. The Saxon combination of light and wind will work if the moth will, but not otherwise, and most troublesome moths won't.

The agricultural department of the University of California has lost some of its best men because they became so interested in telling other people about how to do farming that they are irresistibly forced to go back to doing it themselves. Some people think it is more interesting to talk about farming than to do it yourself. That depends, of course, upon how you do it, and that is one of the most important discoveries of the generation, but that is not what we wish to talk about now. In a way the return of our teachers to the farm is a credit to their insight and a demonstration that they are not teaching what they do not care to do themselves, but it is really a public loss to have our good teachers go that way because they ought to stay at the desk and help other people to connect up with the farm in the right way. However, they are like the moths who will take the Saxon trap, and nothing will stop them. Take the case of the dean of the department of women in the University of Washington, Miss Anna Howard, who recently resigned to take the management of a Kentucky mule farm. Since 1890 Miss Howard has been engaged in educational work in Washington, principally at the university, but she heard the call of the mule and has gone to her father's old farm in Kentucky to breed mules. He gave his daughter a college education and she did many years of good teaching, and now she goes back to the farm. "And why shouldn't I succeed?" she said recently. "I have been reared on the farm. I know all about it, and am only going on with my father's business."

And yet they are apt to say that college people don't go back to the farm. It is not likely to be true much longer.

On other pages there are some exhortations toward organization for commercial handling of farm products which may be interesting. There are others found in facts like that of the almond growers of Sutter county who recently entered into a pool agreement whereby the total crop of the county, consisting of 300 tons, will be sold to the highest bidder. Bids were expected from the eight largest buying firms in the State, and this has been a successful method of selling for several years. We have now the complete report of cantaloupe shipments from Imperial valley, covering 1954 earloads, of which about three-fifths went beyond the Rocky Mountains. But they did not sell well because they were not handled well, as we intimated not long ago. In the face of this experience the Desert Farmer of El Centro says:

"Many excuses may be made for poor prices—bad financial conditions in the East, floods which hindered shipments, poor quality of melons, devastating tornadoes, and all the rest—but distributors and growers alike know that the chief cause of price failure lay in the competitive system of distribution. Of what profit will it be to raise crops if the financial return is to be lost through unwise and unbusinesslike methods of getting the produce to market? It does seem as if the occasion is ripe for the slogan to sound from ranch to ranch, 'Get together, organize, unite.'"

But will they do it? Melons can be handled just as well as oranges, and in the same way.

And how about cabbages? They have a sauerkraut society in the Mississippi Valley which they call the National Kraut Manufacturers' Association. At the annual meeting of the kraut association held in Chicago last week reports were made to the effect that the excessive drouth had damaged the output of cabbages to such an extent that the executive officers will determine the feasibility of increasing the price of sauerkraut. It was the opinion of the delegates that a slight advance was necessary. And what have the California cabbage growers to say about it? California cabbage is the stuff which, because of its winter maturing, can meet this shortage before another Eastern crop can be grown. What are our California growers doing about it, or will they allow bright buyers to corral the product and get all the profits from the Eastern shortage? There is no use in refusing to sell and losing the crop. The way to do is to have the California cabbage in the hands of a growers' organization wise enough to get the best they can out of the situation by selling wisely, not by refusing to sell.

And there is another California vegetable which is becoming a national question. At their meeting in Atlantic City last week the National Grocers' Association called upon Congress to provide \$400,000 to be applied, with a similar sum by the State of California, for the improvement of California rivers, in order that the delta lands may be protected. The resolutions are the outgrowth of the failure of the asparagus crop this year, owing to the river overflows which inundated the fields which are located in the Sacramento and San Joaquin valleys. The failure of California crops, according to the grocers' association, affects national trade. California asparagus during the past few years has supplanted German asparagus in the United States trade, owing to the excellence of the home product, and grocers prefer to handle the California article. Periodical floods



and consequent inundation of fertile lands of the State where the asparagus is principally grown, has during previous years destroyed the crop, advancing prices materially and causing general dissatisfaction among wholesale grocers because they were unable to fill their orders for California asparagus. All this is not only a tribute to California asparagus, but it shows the power of organization. The National Grocers' Association will probably get what they want by strengthening the hands of the California Congressman, Mr. McKinlay of the first district, who has such a bill in Congress. But why do not the growers get busy also in their own behalf? Our farmers have too long let the commercial men get all the benefits of pulling together. This pull will help asparagus growing in this State, but who can tell what their next pull may do, and who is to pull the other way if they do not pull right?

## Queries and Replies.

### Cutting-Back or Staking.

To the Editor: In your answer to Grower, Sacramento County, "Trees in Alfalfa," issue of August 1, you did not state definitely whether you would cut back or use stakes. These trees, by reason of so much water, are making a rapid growth—too rapid; some of them, even the apples, three and four feet already, peaches and apricots more. The winds will later break them and incline them. Is it best to clip off the tops some, or to stake them. I have already staked some of them, but it may be of service another time.—Grower, Sacramento.

Where such rapid growth is being made and the water used for the alfalfa is likely to keep the trees growing right along, as long as suitable temperatures continue, we should certainly cut back and not go to the expense of staking, unless you have quite a windy place, where the whole mass of foliage is apt to catch wind enough to beat about the tree a great deal, and this would be exceptional. Where you know beforehand that such growth is likely to be made, you can direct it to good advantage by pinching the tips of the shoots when they have grown about a foot, and this will force laterals, which you can use in making the framework of the tree at the following winter pruning. You will of course have many shoots to remove entirely at that time, so that you do not have too many branches. In this way your trees will attain the form of a two-year-old tree at the end of the first summer's growth, for the growing conditions you have furnished may be equal to two seasons by rainfall. By keeping all the growth, you may have to cut back to larger diameter than is desirable because of failure of outer buds and slow healing of the wound. For this reason cutting back, after you have neglected to pinch back earlier in the season, should not go back as far as desirable to get the laterals in the right place, but only part way; another shortening to be made at the winter pruning.

### Burnet and Other Plants for Oak-slopes.

To the Editor: I am especially anxious to learn of some grazing plant that will re-clothe our oak-clad slopes. Our hay fields do not yield well, less than a ton per acre. Our land is adobe and gravely red soil. How does the plant called "Burnet" stand for growth on dry lands?—Reader, Sonoma.

You have two distinct propositions. Your hay lands probably need fertilizers, and need them badly. This is a subject to take up with fertilizer manufacturers, and their publications have, as a rule, good information. The plant Burnet, which has been quite fully discussed in our columns by subscribers who have tried it in the St. Helena

region, must be regarded as one of the most promising plants for dry uplands we know of. As for winter growth on the slopes, wild oats and other native forage plants will appear if the lands are not overstocked, and especially if the stock is taken off so that the plants can make some seed during the latter part of the rainy season. The reason why the pastures were so good before is because these plants had a chance to make seed, which has been denied them during recent years, and the foxtail, which looks out for itself in seeding, under all conditions, has gained a right of way. This is one of the most interesting questions in our California agriculture, and we are sorry it is not easy to accomplish the improvement which is so desirable.

### Alfalfa Growing.

To the Editor: Is there a State publication on alfalfa? What seed do you think best for this foothill country? I hear there are many kinds. In reading Eastern papers I see they have a great deal of trouble in getting it to grow properly. Is it necessary to sow a nurse crop with it?—Beginner, Calaveras County.

There is no general treatise on alfalfa from a California point of view. Mr. Coburn's "Book of Alfalfa" has, however, Californian experience as well as Eastern. Alfalfa growing is continually under discussion in the PACIFIC RURAL PRESS and other agricultural papers. There is only one alfalfa, speaking broadly, and that is the common variety, the seed of which is handled in all country stores. Another variety, called the Turkistan, can also be had from special seed dealers of San Francisco, and other cities probably. All other varieties, of which there are many, are still under trial at experiment stations, and no seed available at present. The common alfalfa grows luxuriantly all through the foothills, wherever the soil is of proper depth and water abundant, and there is usually no difficulty about getting a stand if the land is well prepared and the seed very lightly covered and put in just as soon as possible after frost danger is over, so as to get as much growth as possible before the dry season comes on. It is altogether undesirable to use any kind of a nurse crop. It simply robs the alfalfa of the moisture which is necessary to its growth, and all recent experience, both Eastern and Western, is in favor of growing the plant by itself.

### The Use of Hydrated Lime.

To the Editor: Your answer in the PRESS of August 15 to questions in relation to the use of hydrated lime on marsh lands has had my careful attention. I desire further to ask you if you can give us the information as to just what the action, benefit, etc., hydrated lime would be to soil containing adobe, clay, sourness and otherwise defective soil, and about what quantity you would suggest to be used per acre on soils of this description.—Farmer, Solano County.

The action of hydrated lime is similar to that of ordinary air-slaked lime. That is, it causes a granulation of the particles of clay, and in that way overcomes their tendency to run together into a brick-like condition. This, of course, makes the clay soil more easily cultivated and facilitates the extension of plant roots. It would also act upon the organic matter in the clay and render that more available. It would also overcome acidity in the soils in which water has been standing and much improve them for plant growth. It would not have any beneficial effect upon alkali soil, because you are simply adding more alkali in the lime itself. Applications can be made to advantage in quantities of from 1000 to 2000 pounds a year, generally applied in 500 pound doses at different times of the year.

### Who Likes Beardless Barley?

To the Editor: In these rocky hills and lean valleys it is difficult to grow forage enough to supply the family cows and farm work teams. Oats rust; wheat is stalky. It is too cold in winter and too dry in summer for corn or cow peas. The quails and orioles are very destructive to Canada peas. Alfalfa is destroyed by the gopher where one does not have water to irrigate. Only barley seems to meet the difficulties and thrive, and the beards make that bad feed. Is beardless barley a success, and if it is, can you tell me where to find good seed? Would it be possible to Pasteurize the gophers?—Farmer, San Diego County.

You surely are having a time of it, and we will not add to your misery by general comments. Beardless barley has never secured very wide introduction, and we do not know where you could find any seed at the present time. Although it is theoretically good, it has not displaced the common barley to any extent whatever. It is not possible to Pasteurize gophers. Experiments in that direction thus far have not accomplished anything. Hydropathy is best for them.

### Tell Us About Rostrata.

To the Editor: Eucalyptus planting is an engrossing theme with the people at the present time, and the following varieties are recommended, viz.: Globulus, rostrata, rudis, corynocalyx, teretioris, etc. I have noticed in two sections where the rostrata has been planted it does not grow straight. It very often throws up two shoots and is crooked, and on this account cannot be a desirable sort to plant. I would like to hear from some of your readers what their experience is with the rostrata. My opinion is that the globulus cannot be beat.—JOHN VALLANCE, San Francisco.

The rostrata is not as straight or as rapid a grower as the globulus. There is, however, ample testimony that it is as a rule a good and rapid grower, and its extra hardness as against low temperatures or possibly against alkali constitute it a safer species than the globulus. We shall be glad to have notes on the growth of rostrata from all readers who have had it under observation for several years.

### Prunus Simoni.

To the Editor: Is the Prunus Simoni a productive plum? Does it come into bearing early, and has it proved a success in the market?—Reader Sacramento County.

That depends upon where you are. Prunus Simoni is very productive and profitable in the hot regions, but not otherwise; in fact, it is useless and worthless to grow in regions where the nights are apt to be cool. The best Simoni district seems to be in the Visalia region, where it is esteemed for shipping. It probably does well in other similar places, but we should be careful about doing much with it except in an experimental way.

### Not That Way.

To the Editor: I have been told that you have an improved hog in California which has been secured by crossing the common hog with hogs you brought from China. Is that true?—Reader, Mexico City.

The hog which is chiefly grown in California is the Poland-China; it is, however, an American breed. One of its remote ancestors was the so-called China hog, but that importation was made a century ago. There has been no recent introduction from China. The Poland-China breed was first brought to notice in the State of Ohio and is now popular all over the United States. Our leading breeders in California can furnish good stock.



## Citrus Fruits.

### YELLOW FRUIT AND YELLOW GOLD.

(Continued From Page 114.)

was almost stationary, scarcely enough fruit being produced for a limited home consumption. Nor did the first influx of the Americans in the fifties and sixties stimulate citrus planting to any appreciable extent. A stray orchard here and there in and about Los Angeles and the more thickly settled portions of the San Gabriel valley, a few trees at San Diego, with a scattering in the San Joaquin and Sacramento valleys, constituted the visible orange planting of the country. It was not until the seventies that the orange and the lemon excited sufficient interest to merit consideration as a business proposition. The results attained at about that time in Riverside, around Pasadena, in Orange county and other points were so alluring as to attract people and capital from all sections to its importance. Indeed, it developed so rapidly and gave such splendid returns to the growers that we now surpass in production any other section of the world favorable to its growth. Citrus history in our own times merits a paragraph to itself.

As already observed, in 1883 there were shipped out of southern California 150 earloads; in 1886 the volume of production had increased to 1000 earloads; in 1890-91 Los Angeles county (at that time including Orange county) had to its credit 2212 cars, and San Bernardino county (then including what is now Riverside county) shipped out 1708 cars; in 1898-99 the total shipment in southern California aggregated 15,000 earloads, valued at about \$12,000,000. For the past season of 1906-07 the output was about 25,000 earloads, valued at \$19,000,000. The present season, which is now drawing to a close, will possibly exceed in number of earloads the previous one, though in money value it will stand about the same, as prices have not been quite so good this season as last. It is interesting in this connection to note the annual shipments covering the period from 1891-92 down to the present time:

Season.	Carloads.
1891-92 .....	4,016
1892-93 .....	4,400
1893-94 .....	5,871
1894-95 .....	5,022
1895-96 .....	7,575
1896-97 .....	7,350
1897-98 .....	15,840
1898-99 .....	10,875
1899-00 .....	18,400
1900-01 .....	24,854
1901-02 .....	20,397
1902-03 .....	22,425
1903-04 .....	27,899
1904-05 .....	28,000
1906-07 .....	30,000

The increase of acreage from year to year during this period is problematical. The area planted was, of course, necessarily large—much larger than the volume of fruit actually shipped would indicate, because numbers of orchards were planted in situations unsuitable, either by reason of soil or climate; others were planted and neglected and allowed to lapse; while still others went to ruin through improper methods of cultivation and management. In a broad sense, however, the output at present represents something like sixty-eight or sixty-nine thousand acres in bearing trees, valued, approximately at \$200,000,000, the annual output of which, taking the State as a whole, must be in the neighborhood of something like \$20,000,000. It will be interesting to note the acreage of recent planting about to come into bearing; which is, however, a phase of the subject hard to solve along intelligent lines. There has been a strong and healthy planting going on for the past few years in the thermal belt of the San Joaquin valley. It is estimated that there are in this belt at the present writing about 5000 acres in bearing, and fully seven to eight thousand acres in various stages of development under full bearing age. For the immediate future it is my prediction that the largest planting will be done in that region. There is another section, namely, the Imperial valley, that has commanded

wide attention for its soil production during the past few years. That it is destined to occupy a prominent place in the horticultural development of the State goes without saying. Among its other field and orchard products, the orange and the lemon will undoubtedly find a conspicuous place. With an ample water supply for irrigation, there are many portions of the valley possessing conditions of soil and climate well calculated to produce a fine quality of commercial cit-



MR. R. M. TEAGUE, of San Dimas, Cal.  
Owner of the Largest Citrus Fruit Nursery in the World.

rus fruit. This is certainly a virgin field for the exploitation of the industry, and where conditions are right, good results are certain to follow. Obviously there will be more or less planting in all of the citrus belts in the State, but not in comparison to the immense plantings that were so pronounced a feature of southern California in the late eighties and early nineties.

Having said something of the total output and its bearing on the industry, it may not be amiss to refer somewhat briefly to the cost of production. The cost of bringing an orchard into bearing is, indeed, an elastic question, depending almost entirely upon local conditions of soil, climate, water, the lay of the land, whether the owner and his family are to do the work or it is to be accomplished by hired labor, besides many minor points which render accurate estimates almost impossible. Basing figures on our experience in our home neighborhood, we should say that the cost of preparing and grading the land and planting the trees will average from \$15 to \$25 to the acre, which includes cultivation for the first season. After that, the cost will be according to the amount of labor expended, from \$15 to \$25 per acre, up to the fourth year, at which time it should produce about 1½ boxes of fruit to the tree, and increase from that time on, according to the amount of labor and care expended on the orchard. The amount of irrigating water is usually about 1 inch to ten acres for the first two seasons, 1½ inches for the following two, 2 inches for the fifth and six, and after that, an inch for every four acres. The expense of caring for the orchard will average all the way from \$25 to \$60 per acre, everything depending on the cost of water and labor, and whether the owner's family handles the enterprise or he uses hired help.

It is an aphorism in California that if a person is about to engage in horticulture, the first essential requirement will be water. Having secured it, it will then be time enough to look for dirt to put it on. To no industry does this apply so forcibly as to the growing of the orange and the lemon. Hence, if you are about to plant a grove, be sure, (1) that you have an abundant water supply; (2) that your soil is adapted to the business;

(3) that your climatic conditions are right; (3) that you will master the details of the business and become proficient in the growing of only first class fruit. These are the ground principles; the secondary items to observe are the planting of good trees and only commercial varieties—those that have stood the test of the market place and have invariably brought returns. A poor tree (one stunted, or badly grown, or imperfectly headed out, or with a bad root system) is expensive to plant, even as a gift. Its original cost is the smallest item to be considered, for, bear in mind that to have an unprofitable tree in your orchard after expending four years of time in its cultivation and bringing it into a bearing condition, is indeed an expensive luxury. So we say that if you have the water, the soil, the climatic conditions, and will then plant good trees of standard varieties, and give them intensive culture, you may safely go into the citrus business in any portion of California and make money.

The law of the survival of the fittest applies to all things in the vegetable and animal world, and to nothing more forcibly than in the atmosphere of the market place, where only the good survive and the poor perish. Elimination has simmered down the commercial varieties of oranges and lemons to a very few, namely, in oranges, the Washington Navel, the Thomson Navel, the Valencia Late, and in a lesser degree the Mediterranean Sweet, Paper Rind St. Michael, and the Tangerine. In lemons we have the Eureka, the Villa Franca and the Lisbon, here listed in the order of their commercial importance. In the pomelo, or grape-fruit, there is the Imperial and Marsh's Seedless. Obviously, there are other varieties which possess merit and are capable of bringing returns, but in the main the foregoing now constitute the varieties that command markets in the United States.

The wise men of the Rural Press are open-hearted and sufficiently generous to ask me to tell their readers of the future of the industry. Being neither a seer nor a prophet, I will, nevertheless, venture a guess. No one, unless he has viewed the vast acreage planted to citrus fruit from some coign of vantage like Rubidoux mountain at Riverside, Smiley Heights of Redlands, the San Jose hills of Pomona, and the vast stretches of rolling land dotted like a checker-board with orange trees in the Porterville district, can have any conception of the horticultural greatness of the industry; neither can a person have any opinion of its commercial importance, unless he has visited the great citrus packing houses of Riverside, Redlands, Ontario, Pomona, San Dimas, Porterville and other points, and seen the daily departure of whole trainloads of fruit. With these strong pictures fairly impressed upon the mind, one may be pardoned in predicting something of the future. I really think Uneedanorange, and what we want to do in order to extend our markets is to advertise the dietary values of California oranges and lemons. In other words, inaugurate a systematic advertising campaign, and thereby double the demand for the fruit. This once done, we would be marketing \$40,000,000 worth, instead of \$20,000,000, which would mean the planting of thousands of additional acres. The record of the past is certainly the best promise for the future. We have succeeded in growing the finest orange in the world, and I see no reason, if we employ proper methods of marketing, why the industry should not continue to grow. Indeed, I may say that it is my firm conviction that the San Joaquin valley will show an immense acreage devoted to citrus fruits within the next decade; that the Imperial valley will also become known as a citrus-growing section; that smaller plantings will continue to be a feature of the landscape in all sections of the State where conditions are at all favorable for the luxuriance of the Golden Globes that are making California famous.

### THE COMING FLORIDA ORANGE CROP.

While there are those who predict an immense orange crop next season, some going to the extreme of 4,000,000 boxes, once in a while there is a statement that does not justify this optimistic belief. For instance, this, from the St. Petersburg Times:

Mr. George Meares, who is one of the best posted orange men around here, states that there will be a very light crop this year, owing to the



lack of rain, the scale and the white fly. Small crop and low prices last year, and almost no crop and hard times this year, will make many of the growers desperate. Mr. Meares has been over considerable of the country lately and says that while there are a few, but very few, groves that bear fairly well, there are a great number that had scarcely an orange on them. There are a few Tardiffs coming in now from last winter, but what there is of the citrus fruits this year will commence to come in about Thanksgiving. Since the recent heavy rains the groves are looking better, and if the showers last a good crop will be had for next year. The white flies are rapidly disappearing since the rain. Reports come from all over this State, and even from California, of the ravages of this insect. In the western State the devastations are stated as being immense.

## Horticulture.

### BUILDING NEW TYPES OF STRAWBERRIES AT ETTERSBURG.

Written for the PACIFIC RURAL PRESS

By ALBERT F. ETTER, Briceland, Humboldt County.

In preparing an account of my progress in strawberry breeding, a work which I began over twenty years ago, I am going to first quote a little science on the subject. This will not only be interesting reading to many, but it will, in a manner intelligible to all, define my position and the character of my work.

Dr. Hugo de Vries says: "Another point of importance which is also evident from Burbank's work is that in many genera the development of hybrids seems to have reached its limit. In some cases neither Burbank nor any other breeder could produce something new. Apples, pears, peaches, strawberries and a few other types are quite exhausted. The circumference of their form-circle, if I be allowed to express myself this way, or, as Americans say, their possibilities, are already taken up in cultivation. Inside that circle, of course, improvements are possible, and everyone who eats canned apples or peaches or pears from California knows that progress in regard to these fruits is evident enough. But Burbank himself considers those species exhausted, and he asks for his improvements no higher rank than what already exists. He has added to them only greater productivity and the qualities required for packing and shipping."

The above quotation is taken from the writings of Prof. Hugo de Vries of the University of Amsterdam, Holland, eminent botanist and originator of the mutation theory, in the *Popular Science Monthly* of August, 1905, page 346.

It is not likely that anyone read the above paragraph with more genuine interest than the writer of this article. The opinion expressed did not worry me, for neither eminent authority, gilded halls nor Carnegie libraries were extensively used in the foundation of my knowledge of plant breeding. And the judge of what we can do or cannot do is higher up than any earthly authority. I always will be curious, though, to know how Prof. de Vries arrived at such an opinion, or what he bases it on. [Mr. Etter must not attach too much importance to the paragraph he quotes. It is gossip and relative, and simply means that Mr. Burbank thinks there are more chances in some fruits than in others. Neither Dr. de Vries nor Mr. Burbank would hold for a moment to such a decision in the face of "newly discovered evidence," as the lawyers say.—EDITOR.]

If the reader is curious to know what I think regarding plant breeding, in as few words as possible I will say: All matter with weight is held in place and governed by the law of gravitation. All life is restrained and held in the balance of nature by another law, the law of heredity. In construction work with ponderable materials we have to reckon with gravitation, as in construction with organic matter we have always to reckon with the law of heredity. The steel bridges and skyscrapers of today are but worked out progress against the law of gravitation over the primitive foot-log and one-story adobe hut. Any abnormal development in a living being, either plant or animal, is just that much building away from hered-

ity. The plant breeder's art is to detect abnormal development and evade the law of heredity as possible and build against it. The limit set on his work of building up and away from heredity is in substance similar to that of the architect in dealing with gravitation. In either case ability is measured by wisdom in the selection and combination of materials. The architect studies the quality and strength of his materials, and how best to combine them to give the greatest strength to his structure. The plant breeder deals with a problem in his art that is cut on similar lines.

To claim that the apple, pear, peach and strawberry are built out to their limit is, in my opinion, all nonsense, and in the case of strawberries, I have a good deal more than an opinion to back up my statement. I can show the goods. From the most ancient times bright-minded men have been studying the laws of gravitation and heredity. Today gravitation is well understood. From the nature of organic matter, we can claim that the analogous laws of heredity, and their value in combination, can be measured. Heredity is, however, far less worked out, and in some cases is so intricate that it will take many a long year of experimenting yet before we can put the lid on and say we can build abnormal development no farther, because the possibilities of development have been all taken up.

When we stop to consider that only three or four species are represented in the stock of strawberries now cultivated in this country, and that the strawberry family is represented throughout the world by a very large number of species and sub-species, the possibilities of building up are very great indeed. We cannot tell beforehand what strength a species will exhibit in a hybrid progeny. In my own work, the Alpine and California, both rather diminutive, both in plant and fruit, have given surprising results along lines of development where one would positively be unable to even suspect it. What broadens the work beyond measurement or computation is that every varied cross brings out a multitude of varieties and flavors, some of which are altogether strange in the strawberry world of today. As the work proceeds, too, strange character will creep in that may be transmitted, or even intensified, in their progeny. As I size up the game, we will be a very long time in exhausting our material in strawberry breeding.

In my next letter I will speak especially of what is going on at Ettersburg.

Briceland, Humboldt County, August 2.

## Sylviculture.

### MR. STRATTON'S CLASS IN EUCALYPTUS GROWING.

To the Editor: So much of my time is required to answer letters regarding the eucalyptus that I have advised all correspondents to consult your paper, where I would answer their various inquiries to the best of my ability. Enclosed find a very interesting series of questions from the Strong Land Co. of Oakland which seems to cover the main points of interest. I therefore hope you will print this interesting letter, which I will answer in rotation of numbers. I regret to see such an energetic company led astray, as their later correspondence shows.

I have no ambition to appear in print as an author or writer; my writings are only my experience; further than that I shall not go.

The following is the letter:

We are considering planting a eucalyptus grove, and having one of your pamphlets, would like to trouble you for a little more information on the subject.

1. What section of the State would you consider best adapted to this proposition? How would Sonoma, California, be? That is, upon hill land, as we assume the level land would be too valuable for this purpose.

2. We understand from your booklet that you favor planting them eight feet apart each way. We notice in the circular of a company which is planting eucalypti for sale that they advise planting 990 trees per acre, of the rostrata. This would be only 44 square feet per tree. On the

other hand, some advise us to plant them 10 feet apart, which would be only 445 trees per acre.

3. We notice that Mr. Pinchot's circular (No. 59) does not recommend the rostrata for commercial planting, stating that they possess a strong tendency to irregular growth, thus developing a form unsuitable for mercantable timber.

4. We see it stated in catalogue above referred to that 5-year-old trees are worth \$4 each. Is not this figure very much exaggerated?

5. Is there any actual market for this timber at present, except for ties and firewood? And if so, what is the price of the lumber per thousand?

6. Would not the range of hills between Berkeley and Walnut Creek be quite suitable for a grove, and how many times would it be necessary to water the young trees?

7. What would be the average cost of planting, say 20 acres, to eucalyptus, both on level ground and on rolling hills? Also the cost of cultivation for two years?

8. Have you varieties of eucalyptus that would grow well in sections having occasional zero weather?

9. Would you recommend planting eucalyptus, as more profitable than fruit trees, or walnuts, on soil well adapted to the latter?

1. Your question is a hard one. I consider Sonoma county by all means more suitable for the growth of eucalyptus trees than any other section of the State. The main reason is our coast fogs, which help to retain moisture, and we get a growth equal to any part of the State, and, too, without irrigation. The largest groves are on hilltops, on useless land, though many are now using the best valley land, obtaining returns much quicker than on hilltops. The very best land you can get will give you the quickest returns. Hill land will do very successfully, too, but remember that greater care is quite necessary, in planting and after care.

2. The original planting in this vicinity was made eight by eight feet each way. Later 10 by 10 feet was thought more practicable. Many are now planting 12 by 12. All these are the blue gum, or *E. globulus*. As for the rostrata, it does not possess the value many place on it. It will not grow straight, which is a very serious objection. Though close planting alone will give fairly straight trees, they will lack the trunk formation. I firmly believe that *E. tereticornis* or *E. leucoxydon*, or *E. gonicalyx* will ultimately be the leading variety, but the difficulty is in getting the correct seed. The blue gum of southern Australia grows very straight, and the wood is extremely durable.

3. This question is answered above.

4. I certainly agree with you, that a 5-year-old tree is worth \$4, is nonsense. Such statements emanate from "quick-rich" concerns. As Prof. Wickson very aptly states, "The truth is good enough."

5. There is an unlimited demand for all the strong-wooded varieties. When it is a fact that this timber is imported at a cost of \$100 per M. from Australia, and that the Eastern market is already drawing on our California supply, there can be no doubt about it.

6. The range of hills near Berkeley is not favorable for rapid growth, but the Walnut Creek country, especially the valley lands, would give most excellent results. There must be a large quantity growing in that section, judging from the large orders I have received from that locality. The trees need no irrigation there; simply cultivate well and deeply, or mulch the ground heavily with straw or weeds, which retain the moisture.

7. The cost of planting 20 acres would largely depend on the man behind the plow, and the nature of the soil. On the average soil here, \$2.00 per acre for plowing level land; hillside land, not too steep, \$2.50 per acre. Here the soil is in good condition as though for planting. A good man, if the soil is furrowed out, will plant from 500 to 750 trees per day on fairly level land. The second year, if trees have made a fair growth, little cultivation can be done except to use the cultivator freely to keep down weeds.

8. No; I do not grow those varieties.

9. Eucalyptus is more profitable than any fruits, walnuts not excepted. Speaking of walnuts, I have several trees 10 years old, growing in deep, rich, black soil, that scarcely give me a



quart of nuts a year. I keep them only for scions for grafting. Franquette does the best, with the Santa Rosa second. Our trees are very thrifty, making some 6 to 8 feet growth each year. I hope my answers will be of some value to the many who are enquiring.

W. A. T. STRATTON.

Petaluma, Cal.

## The Vineyard.

### THE ALMERIA GRAPE.

To the Editor: I would like to get all the information possible about these grapes, covering the experiments of culture of same in this State, etc., whether it would be advisable to plant them as a commercial proposition. Want something in this district for late shipments, after the Tokay and Cornichon are gone, and a grape that will stand considerable rain. Any information that you can give will be very acceptable.—Grower, Sacramento County.

Answer by Mr. F. T. Bioletti.

The Almeria grape is the grape that is shipped from southern Spain packed in barrels of coarse cork dust or chips. The name of the variety is the Ohanez. It is a very late grape, tough, hard and very firmly attached to the pedicel. It is so firm that it does not dry up readily, and its firm attachment to the stalklet preserves it from moulding or decay. It is of very poor quality as an eating grape, but sells well, as it can be put on the market in December, January and even later, when no other grapes are procurable except at very high prices.

Many attempts have been made to grow this grape in California. The attempts have not been successful commercially for several reasons. The grapes will not mature except in the hotter districts, and to obtain good crops they must be grown on high trellises. By training them on two or three wires several feet from the ground they can be made to bear well, and the position of the grapes preserves them from injury by rain. It is impossible to obtain the cork dust cheaply enough in California, but if we raised the grapes they could be shipped the same way as the Tokay.

A very late shipping grape, to come after the Cornichon, would be very desirable. Several varieties recently imported from Algeria and China are promising for this purpose, but have not yet been sufficiently tested. The Hunisa, a variety introduced by the Department of Agriculture at Washington, D. C., from Asia Minor, is among the most promising. It resembles in appearance the Red Emperor as grown in the upper San Joaquin valley. It is, however, of better quality, and remarkably resistant to rain and other unfavorable conditions.

Hollister.

### WORKS ON VITICULTURE.

To the Editor: You would oblige me by mentioning in the columns of your paper some of the standard works on wine-making; also the manufacture of unfermented grape juice; and where these books can be obtained.—W. A. WASHINGTON, Woodbridge.

Answer by Mr. Bioletti.

There is no work I know of in English that is of much value as a guide to the modern wine-maker. Your correspondent might get some ideas, if he is a beginner, from "Grape Culture and Wine-Making in California," by Prof. G. Husmann, published by Payot, Upham & Co., San Francisco, in 1888. This, taken in connection with the bulletins of the Agricultural College at Berkeley, would cover a good part of the subject.

In foreign languages there are many good works on wine-making. Perhaps the best is that of P. Pacottet, entitled "Vinification," published by J. B. Baillière et fils, Paris, 1905.

On the manufacture of grape must I can refer your correspondent to Bulletin 130, "The Preservation of Unfermented Grape Must," Agricultural Experiment Station, Berkeley, Cal.; and Bulletin 24, "The Manufacture and Preservation of Unfermented Grape Must," Bureau of Plant Industry, Department of Agriculture, Washington, D. C.

## The Field.

### THAT OLD EGYPTIAN WHEAT.

In a recent issue we gave our readers warning about a fake wheat boom which is reaching nearly all the prominent journals of the country. The following in the Chronicle from Prof. C. W. Shaw of the University of California Experiment Station is interesting in this connection:

Some time ago I was interested in an editorial in the Chronicle dealing with the reported discovery of a very wonderful wheat by some man in Idaho. Only today I have been interested in again reading about this wonderful wheat under the name of Alaskan wheat, and of looking over the calculated yield of "227 bushels to the acre," and the further fact that some of this new wheat had been sold by the promoters for as high a rate as \$300 per bushel.

In 1880 the California Experiment Station imported a number of varieties of wheat from a seed firm in Germany. Among this was one known as Egyptian or Miracle wheat, which was this same wheat which now "bobs up serenely" as Alaskan wheat. How the wheat may have gotten to Alaska I do not know, but for several years after this freak wheat was secured it was tried out by the University, both on its own lands and distributed to a number of farmers in California for trial, and the fact that not one can be found in this State who is now growing it, at least in a commercial way, is sufficient commentary as to its value. The wheat is a durum or macaroni wheat, which renders it relatively rust resistant and comparatively early, but there are a number of durum varieties which are preferable to it.

Inasmuch as manifold typewritten matter describing this product is being scattered quite widely among the papers, I fear it is another case of freak advertising. I am writing you this because I know that you have the interest of the farming community at heart, and thought that you were possibly unaware of the early history of this freak in this State.

## Patrons of Husbandry.

### POTTER VALLEY GRANGE.

To the Editor: Potter valley, in Mendocino county, is set in a circle of mountains, and through it flows a lovely stream. It is three or four miles in width and perhaps twice that in length, with an elevation of 900 feet. Some of the surrounding mountains rise to a height of 2000 feet or more. Mt. Sanhedrin dominates the landscape, as does St. Helena the northeastern part of Sonoma, and Uncle Sam the vicinity of the lakes in Lake county.

Here is one of the oldest Granges in California, founded in 1873. It has been in continuous thriving existence since that time. The Grange owns a most convenient and pleasant hall, with grounds adorned with shade trees. It is furnished with a view to beauty as well as use, a fine piano being a part of the musical equipment.

State Master Griffith and wife attended an all-day meeting of the Grange on July 18, and even in the busy hay harvest four fifths of the members were present and enjoyed a cheering and inspiring social meeting. For a number of succeeding terms the present master, Bro. William Eddie, has held the office. Bro. Griffith and wife afterward visited one of the members, who, at his fine mountain ranch at 2000 feet elevation, entertains many summer visitors. A hundred guests were there at that time, enjoying the hunting and fishing and other delights of the country round Potter valley.

On the 25th the executive committee held its regular session at Sacramento, and had a pleasant meeting with the Sacramento Grange, which is already laying plans for the entertainment of the State Grange at its next meeting. One of the matters considered was the amendment to the State Constitution which will be submitted to the voters this fall, which is intended to make taxation more equitable and to improve the methods of raising revenue for both State and county.

GRACE S. HURWORD.

Geyserville.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |   |
|--|---|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.   |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.  |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.  |
| 4 The Wild Fruits of California.                         | 23 The Quince.  |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                           |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                            |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                           |
| 8 The Nursery.   | 27 The Date.  |
| 9 Budding and Grafting.                                  | 28 The Fig.   |
| 10 Preparation for Planting.                             | 29 The Olive.   |
| 11 Planting Trees and Vines.                             | 30 The Orange.  |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                    |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pine-apple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                    |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                   |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                 |
| 17 The Apricot.  | 36 Injurious Insects.                                       |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                             |
| 19 The Peach.  | 38 Injurious Animals and Birds.                             |
|  | 39 Protection from Winds and Frosts.                        |
|  | 40 Utilization of Fruit Wastes.                             |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**

PUBLISHER

667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

Prospects are good for the grape crop in Sacramento county.

Ten tons of dried apricots were shipped from one orchard in Orland. They are bringing more than \$100 to the ton.

Biggs, Butte county, this year for the first time will become a shipper of grapes. The young vineyards are healthy and bear well, and the fruit is excellent.

The Golden State Canning Co., of Ontario, has had a big season putting up apricots, having already handled 800 tons of the fruit. The factory will soon commence work on peaches.

At Placerville the price paid for pears in box furnished by the ranchers, picked, packed and delivered at packing house, is 85 cents per box. Last year \$1.50 was paid. Peaches bring 35 cents.

The San Antonio Fruit Exchange, embracing the fruit associations around Pomona, has already shipped 2100 cars of oranges and lemons for the year, and has about 50 cars of Valencias yet to ship.

Vineyardists of Lodi have found it profitable to paint melon vines between the grape vines, and as the melon season is over before the grape season commences, a double crop is reaped from the same land.

Twenty-five carloads of watermelons a day are being shipped from Lodi. Before the land was set out to Tokay grapes melons was the principal crop in that section, and 100 car shipments were of almost daily occurrence.

The apricot season at Campbell is drawing to a close. While there has been some choice fruit, there were many inferior apricots. Lack of thinning and the small rainfall seems to be the cause. Much of the fruit was left to rot on the ground.

A number of farmers of Buena Park, Orange county, have filed incorporation papers in the name of the California Grape Land Co., with a capitalization of \$38,000. The new company will grow grapes in Tulare county on land already secured.

It was first thought by growers and shippers of Lodi that considerable damage was done through sunburn, and that the heavy crop, which is about matured, would be ruined, but thorough investigation shows that comparatively little damage was done.

Apple trees at Placerville are breaking, even at this early date, under their load of fruit. Only the choicest fruit is being shipped, and the packers seek to relieve the branches by selecting the largest apples. There is little call for apples as yet for shipment.

Like the prices on green fruit this year, that on the dried are likely to be low. Although the buyers are saying little, it has been learned that they will attempt to buy at a price about one-third lower than the figure last year. The dried-fruit dealers claim there is no market in the East.

The Sutter pear crop this year is large but the price is low. The H. Falk Co. has purchased a greater portion of the yield and the best price was \$20 per ton. The canneries have refused to handle pears at any price, which is very discouraging to the grower. Several of the growers have been compelled to dry their own product.

The peach crop in the Ojai valley this year, like the apricot, will be one of the biggest in years. The trees in both the upper and lower valleys are loaded down almost to breaking, and in nearly every orchard props have been resorted to to

sustain them. The trees are practically free from pests and the fruit promises to be of excellent quality.

Grape growers in the Cloverdale district figure on the crop being light. Reports from other sections of the State, however, indicate that the crop will be quite heavy. With but little wine moving to the Eastern and Southern markets, and the coöperation of the State generally full, there is not much basis for high-price figures this year, says the Reville.

John P. Onstott has completed the harvesting of his apple crop near Yuba City, which was unusually large this year. He secured over 75 tons of fruit off of eight acres, for which he received \$40 per ton. The crop was sold to the H. Falk Co., and the greater portion of it was packed and shipped to Los Angeles. The apples were of excellent size and quality this year, and therefore found a ready market.

Complete figures on the cantaloupe crop of the Imperial Valley show that 1954 carloads of melons were shipped out of the valley, including approximately 100 cars from Coachella and Yuma. Of the total crop this year the Pacific Coast consumed about 400 cars and the balance went East. The shipments by districts were as follows: Brawley, 953; El Centro, 321; Neber, 306; Holtville, 73; Calexico, 63; Coachella, 54; Yuma, 48; Imperial, 41; Keystone, 39; Thermal, 39; Gleason, 15; Mololand, 4; total, 1954.

Four hundred and eighty thousand cans of peaches have been packed thus far this season by the Yuba City cannery of the J. K. Armsby Co. This means that 20,000 cases of fruit have been sent out. The cases contain 24 cans each. Thirty thousand cans a day is the average. The season is a good one. Manager Coates is pleased with the work and the prospects for a record-breaking season. Something over half a million cans of peaches have been put up this season by the California Fruit Canners' Association at the same place.

The dates August 25 and 26 have been definitely chosen for the meeting at Watsonville of the entomologists or "bug men" of the central coast counties of California. The conference will open at 2 p. m. on the 25th with a number of papers. There will be another session at 8 p. m. On the 26th there will be further discussion of the bug question in its relation to horticultural matters, and then an excursion to the orchards to observe the effect of this year's spraying. The latter trip will be under the direction of Horticultural Commissioner C. H. Rodgers.

### AGRICULTURE.

The beet growers around Castroville report that, owing to the ravages of worms and bugs, the crop of sugar beets will be light.

The farmers in the vicinity of Weed, Siskiyou county, are cutting their timothy and clover hay crops. They report the heaviest crop that has been harvested for several years.

Here is a good beet story. From a 14-acre tract in Orange county Louis Birchard has taken an average of 22½ tons of beets per acre, which tested 20 per cent, and are worth \$6 per ton. Pretty good for a dry year.

The new sugar beet company at Santa Ana is signing contracts with farmers to furnish them with beets next summer. The new factory there will be ready for the campaign 30 days before the beets are ready for delivery next spring. The factory is to cost \$550,000.

Round about Tehama, within a radius of five miles, no less than five hay presses are at work getting ready for shipment the hay crop of that region. One of the

hay presses bales 75 tons per day, while the others have smaller capacities. In many fields the third crop of alfalfa is now ready for the jobbers.

The Spreckels Sugar Co. will have beet-hauling begin on September 1. There are about 15,000 acres of beets to be harvested this year, and an average of about 12 tons to the acre is expected, which would make about 180,000 tons to be cut up. This is more than have been cut in years. About \$1,000,000 will be paid by the factory management to the beet raisers.

Practically the entire hay crop at Tres Pinos is out of the hands of growers. Most of the hay was sold at from \$12 to \$14 for wheat, and \$11 and \$12 a ton for barley. In San Benito valley probably about 75 per cent of the crop has been sold, generally at good prices. At present the hay market is at a standstill, buyers refusing to make any purchases owing to the uncertainty of securing cars for shipments.

The million dollar sugar factory at Corcoran started up, but it is said that there are not beets enough this season within its jurisdiction to supply it, and so it has been closed down and the beets grown in Kings county will be shipped to the factory at Visalia and consumed there this year. The Corcoran plant is a big one, and to run it there should be a big lot of beets. The factory is there, all well equipped, and now it remains for the producers of sugar beets to produce the goods, and then it will be able to work.

### LIVE STOCK.

Sheepmen have begun shearing the fall clip of wool in several counties in the northern part of the State.

The Petaluma branch of the Sonoma County Co-operative Poultry Association met Saturday in the City Hall, Santa Rosa. Regular business in connection with the association was discussed. The articles of incorporation under which the association is now working will expire October 14, and reincorporation must be effected by that time.

It is stated that arrangements are being made to secure a supply of virus from the Berkeley Agricultural College for the inoculation of squirrels in the Hollister valley. This virus is a recent discovery and after the inoculation the pests spread the disease broadcast. The experiment will be watched with great interest by the farmers all over the county. It is stated that in some of the northern counties squirrels have been entirely eradicated by this method.

William Tracy, of Button Willow, Kern county, has shown his enterprise and progressiveness by establishing the first ostrich farm in the county. He also has a patch of thornless cactus growing. So far as reported, this is the first experiment with the cactus here, and although it has not yet gone far enough to justify conclusions, Mr. Tracy is greatly pleased with the showing so far. He is growing the cactus on moist land, and it will yet remain to be seen how it will do on the dry mesa and foothill land.

The value of horses owned in California in 1907, as reckoned by the statisticians of the United States Department of Agriculture, was \$37,224,000, or an average of \$93.41 for a total of 306,000 head. This was three times the value of all the milch cows in the State, and more than a third more than the value of all the other cattle. The horse industry is the greatest of all California animal industries, and will continue to be for years to come. At the tax rate of 45 cents on each hundred dollars worth of assessed property, the owners of California horses will pay into the county treasuries \$167,508.

### MISCELLANEOUS.

Another box factory has been established at Truckee to supply fruit box lumber to the orchardists and shippers.

Under the direction of the Forestry Service at Washington, experiments in growing eucalyptus are to be conducted this fall and winter in San Diego county.

Tomatoes measuring 14 inches around and weighing over 15 ounces were grown from seed sent by the Agricultural Department at Washington to a grower near Marysville.

The large pit-cracking machine that is to crack the immense apricot pit crop of the Winters section has arrived and is being installed. The work of preparing the pits for shipment will begin soon and continue until fall.

Grasshoppers are becoming a grave menace to the farming lands along the coast of southern Monterey county, says the Salinas Democrat. Large hordes of these little insects recently visited Lopez Point and totally destroyed grass and other feed over a strip half a mile wide and extending for many miles down the coast.

The Sacramento Valley Development Association is securing returns upon the growth and progress of the Japanese matting grass, of which 15,000 roots were distributed through the valley last spring, and from what has so far been learned the outlook for producing an entirely new crop from the low lands along the rivers is exceedingly promising.

Articles of incorporation of the International Eucalyptus Association of California have been filed in the office of the Secretary of State. As set forth in the articles, the purpose of the association is to plant, subdivide and sell groves of eucalyptus trees. The capital stock is to be \$100,000, of which sum it is stated \$75,000 has been subscribed. Sacramento is to be the principal place of business.

The California Folding Crate Co. is a new manufacturing enterprise just being opened at Anaheim. The company will make a new folding crate for shipping oranges, eggs, potatoes, etc., which it is claimed will weight 8½ pounds less each than the present form of the common egg crate. The crates can be folded and shipped back after use and be again filled for shipment.

There is a rumor to the effect that the hop growers and dealers in Sacramento and Yolo counties will hold a meeting to take drastic action to steady the hop market, which, it is claimed, is now suffering through overproduction. The movement which is said to be under way contemplates bringing the growers and dealers of the entire Pacific Coast in line, with a view to letting a portion of this year's crop, possibly 20 to 25 per cent, go unpicked. It is understood that after the meeting the growers in Mendocino and Sonoma counties will be approached, and then those of the States of Oregon and Washington.

People in Yuba City and Marysville burn peach pits. In the canneries there will be something like sixty tons of peach pits which will be sold for fuel. They make an admirable substitute for coal or wood, particularly when they can be bought a great deal cheaper than any other kind of fuel. When the pits are dry they burn readily and last almost as long as coal. At the California Fruit Canners' Association cannery there are now thirty tons of peach pits for sale as fuel. The price will be in the neighborhood of \$6.50 a ton. The Armsby cannery will have about as many pits for sale, and besides this there will be a great many tons of Muir peach pits for sale as seed.



## Live Stock and Dairy.

### SHORT-HORN CATTLE.

By E. W. MAJOR.

In response to frequent requests for information in regard to Short-horn cattle, something of their early history is here given. Every breeder ought to read "Short-Horn Cattle," by A. H. Sanders, editor of The Breeders' Gazette. No one has made a more thorough study of the breed than he, and his book is full of most interesting and historically accurate facts concerning the breed, both in the old country and in the United States.

The Short-horn, or "Durham," as it was formerly called in many parts of the United States, and still quite generally in California, originated in the counties of Northumberland, Durham, York and Lincoln, finally crystallizing in and about the Teeswater valley. While there is more or less uncertainty in regard to their past history, there is no question as to the fact that the breed is a very old one. The Dukes of Northumberland are said to have had a short-horned type of cattle on their Yorkshire estates as early as 1600. The earliest recorded animals, however, do not date back farther than about 1735 for males, and few pedigrees can be traced by name on the female side beyond 1780.

**THE COLLINGS.**—A family that was most powerful in the improvement of the breed was that of Colling, consisting of Charles Colling, Sr., and his two sons, Charles and Robert. Upon their two farms, Barmton and Ketton, the modern Short-horn may be said to have its origin. In 1783 Charles Colling, Jr., made a profound study of Bakewell's work, and the following June he commenced his work by the purchase of the cow Dutchess, from which came the family afterward so famous in the hands of Bates. Two years later he bought the cow Lady Maynard, until that time known as Favorite. She became the ancestor of some of the bulls that fairly made the improved Short-horn. Descended from her was the great bull Favorite, and also Comet. Comet was the first Short-horn bull to sell for \$5000. The bull Favorite was the sire of the two animals that did a great deal to advertise the breed. One was "The Durham Ox" that traveled over England from about 1801. At two years old he weighed nearly 3400 pounds. Favorite also got "The White Heifer that Traveled." She had a live weight of about 2300 pounds. The Colling brothers founded the Phoenix, Wildair, Princess, Bright Eyes and some other families.

**THE BOOTH.**—Thomas Booth was another famous early breeder. He commenced breeding at Killerby, Yorkshire, prior to 1790. Booth was a faithful disciple of the Collings, and bought a number of bulls from them. He did not consider it necessary to go to them for females, but purchased large-framed, roomy cows showing good constitution and an aptitude to fatten, and bred these to the Collings bulls. His two sons, John and Richard, continued the work. In addition to the farm at Killerby, they had one at Warlerby, where a descendant still carries on breeding. The Booth family strongly emphasize the beef type. They wanted easy feeding, thick fleshed animals with lots of constitution.

**THE BATES.**—While the Booth family was working at Killerby and Warlerby, another great breeder was at work, Thomas Bates, at Kirklevington. He commenced to breed about 1800 and, being a great friend of Charles Colling, he purchased some foundation stock from him. Bates believed that Booth made a

mistake in going to an extreme, as far as the flesh producing property was concerned. For his part, he considered it important to maintain the milking qualities of the old Teeswater cow. Bates, too, considered the Booth cattle somewhat rough, and bred a finer type. The families, or tribes, bred by him have always been famous for their milking qualities. The greatest family that he developed was that of the Duchess, and it is with this family that his name will always be linked, for the Duchesses have fetched the highest prices that have ever been obtained for cattle. Among the famous tribes developed by Thomas Bates were the Oxfords, Wild Eyes, Cambridge, Red Rose, and Secrets.

**OTHER BREEDERS.**—Among other early breeders who did a great deal to advance the breed were Christopher Mason of Chilton, Jonas Whittaker, and Wetherall and Charles Knightley, whose "Fillpails" helped build up the reputation of the breed in the dairy. In Scotland were Robertson of Ladykirk, Rennie of Phantassie, Barclay of Ury, Grant Duff of Edin and Hay of Shethin. These men bred well, although their work has been obscured by the splendid work of the Collings, the Booths and Bates, of England, and of Amos Cruickshank of Scotland.

**THE SCOTCH TYPE.**—Amos Cruickshank was born in the county of Aberdeen, Scotland, in 1808. In partnership with his brother, he took possession of the farm at Sittyton in 1837, and here he commenced to select and buy Short-horns with the idea of developing a type that would have the ability to turn feed into meat at a profit. He demanded animals that possessed lots of vigor and rapid flesh producing qualities. Gradually he developed a type of Short-horns that is known as the "Scotch," which is broad and thick of back, deep bodied, short legged, heavy of flesh and early maturing. The great popularity of the "Scotch" families in recent years testifies to the value of his work to the breed. Today, in fact, we have almost as great a craze for Scotch bred Short-horns as the breeders of fifty years ago had for the Duchesses. Among the important tribes established by him are the Violet, Venus, Mimulus, Picotee, Broadhooks, Nonpareil, Orange Blossom, Brawith Bud, Lancaster, Victoria, Secret, Lavender, Spicy and Lovely.

**IN AMERICA.**—The first importation to America was made in 1783, by Mr. Miller of Virginia and Gough of Baltimore. A number of importations were made during the next thirty years, and in 1817 the first pedigreed stock was brought into the Genesee valley by Hopkins. In the same year Sanders of Kentucky brought over four bulls and four cows, but only three bulls and three cows lived. The descendants of these have always been known as the "17's". In 1834 the Ohio Company started their importations, and they followed this by other importations in 1835 and 1836. In the first importation were two heifers that gave names to American families, viz., Rose of Sharon and Young Mary. In later importations they brought over, among others, Joseph, Young Phyllis, Illustrious and Harriott.

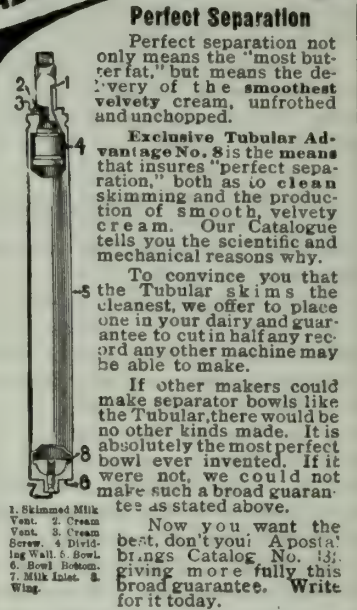
**PLUMB'S DESCRIPTION.**—The following description of Short-horn characteristics is taken from "Types and Breeds of Farm Animals," by Charles S. Plumb:

"In general conformation the Short-horn adheres closely to the beef type, though certain tribes, notably Bates bred, tend strongly enough to milk production to be known as general purpose cattle. In size, mature cows usually weigh about 1400 pounds, though they frequently exceed that, and in rare cases reach 2000 pounds. The mature bull will easily attain 1800 to 2000 pounds; many weigh

2000 to 2200, and weights upward to 2500 pounds occur, though the latter is infrequent. This may be regarded as our largest breed of cattle, although the Hereford is a close second, and may be considered by many as its equal in weight and size. The following points especially apply to the cow. The horn is variable, but is always comparatively small and short, and preferably curves forward, with the tips bending inward and upward. In color a waxy yellowish tint is preferred, though blackish tips are not debarred. The head should be lean and shapely, and short from between the eyes to the muzzle, which should be flesh color and broad, with large nostrils. A dark or blackish muzzle is distinctly objected to by most breeders. The neck should be short, and be neatly attached to the head and blend smoothly into the shoulders. Short-horn shoulders tend to be a bit prominent and bare. They should be well laid in and smoothly covered with flesh. Back of the shoulders the crops and fore flanks are often deficient, and lack of heart girth is a frequent criticism of the breed. Superior animals show a body that is very broad of back, strong of loin, and so prominent of rib as to give a large girth and digestive capacity of the first order. The flanks before and behind are also low and full. A thick, deep body is usually associated with a low, full chest and prominent breast—essentials with a proper constitutional development. The brisket should be broad and deep and carried forward as a part of a smooth, full and attractive breast. The hind quarter of the Short-horn is usually typical of the breed—superior in its general development to that of any other breed. The rump is usually long, level and broad and well covered with meat, while the thighs and quarters are long, thick and deep from fore to rear, showing a maximum amount of meat for this quarter. Animals of naturally heavy fleshing qualities frequently get "patchy" about the root of the tail at the rump, and also roll some on the sides, thus detracting from the smoothness of finish; but these are characteristics of easily fattening animals only. The udder of the Short-horn averages decided greater capacity than does that of other beef breeds, and is a noteworthy feature.

"The Short-horn bull should possess in the main the desirable features of the female, without her feminine qualities. His head, horns and neck naturally should be stronger and larger, the latter being arched, the whole front showing character and breeding power. The horns of the bull are less bent than those of the

## EXCLUSIVE Tubular ADVANTAGES No. 8



cow, and should be prominent, yet not coarse. Over the forehead and neck should be a covering of thick, fine and moderately long hair. In general form the bull should also be broad in front, with full deep bosom, broad powerful arms, a comparatively shorter and more blocky body than that possessed by the cow, and with greater relative size.

"The color of the Short-horn is in part distinctive of the breed. This may be pure red, red and white, pure white, or roan, the latter being a commingling of red and white hairs without forming a solid color. The shades vary, the red ranging from light to dark, and the roan from slight or white roan to dark or red roan. No other breed claims the roan color. Black is not a Short-horn color, and should not occur in pure-bred animals. The importance of the color va-

## FOR SALE

(Third Annual Sale.)

### 70 HEAD OF SHORT-HORN CATTLE

— OF THE —

### ROSELAWN HERD

— ON —

September 11, 1908, at 12:30 O'clock

At the Old Home, 1 mile south of Woodland, Yolo County, Cal.

Write for Catalogue. Free Buss.

GEO. P. BELLOWES, Auctioneer, Marysville, Mo.

MRS. W. B. & T. B. GIBSON.

H. B. Eakle sells 66 head the following day.

### SHORT-HORN SALE

At Woodland, Cal., Saturday, September 12

66 head of registered Short-horns at public sale.

23 head of cows and heifers.

43 head of bulls.

Buses will meet all trains. Lunch served. Sale to begin 12:30 p. m.

Write for descriptive catalogue. Catalogue ready August 20.

Geo. P. Bellows, Marysville, Mo., Auctioneer.

R. M. DUNLAP.

H. P. EAKLE, Jr.

### MORE MILK—MORE MEAT



I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.

A. F. CHAPMAN, Monahan, Wash.

**For Sale by Dealers**



ries in the estimation of different persons, but color has never indicated the best animals, and wise breeders select on the basis of intrinsic merit rather than color."

## STOCK NOTES IN SAN DIEGO COUNTY.

Mr. A. B. Foster of the Pamo Valley Farm, situated at the foot of Mesa Grande, about 8 miles north of Ramona and 45 miles from San Diego, gives the Cajon Valley News some notes of his experience and observation in that region:

My own district, Ramona, is a good sample of San Diego's inland country. It is a fair country for grain and stock raising, but dairying is the industry for which it is specially suitable, and the cow is certainly building the district up. It is well known that until the commencement of the dairy business some few years ago the merchants carried their bills from one year's end to the other, with very little prospect of their being reduced, and today credits are, as a rule, from month to month, and Ramona tradesmen are doing a big percentage of cash business. In the Ramona district there are dairy herds to the number of about 400 or 450 cows, and the San Ysabel ranch, outside, carries over 500 milkers.

Dry feed dairying has been successful to a great degree, but the farmers who have been able to raise alfalfa or corn have got much greater returns for labor and capital expended. The San Ysabel people have confined themselves mostly to natural grasses and have had good returns, while the San Pasqual people, who have a beautiful valley and co-operatively owned butter factory, not having the advantages of a lot of range country, were compelled to turn their attention to the production of something to take the place of range feed, so they went in for alfalfa and corn, and I think I am justified in saying that the result is that San Pasqual is today the richest and most prosperous little spot in San Diego county. I say, too, that if the big San Ysabel ranch, that has, I think, about 17,000 acres, much of it as fine alfalfa land as I ever saw, would go in extensively for corn and alfalfa, using some of the vast amount of water close at hand, the present capacity would be increased many times over, and the property would be one of the best and most productive of its kind.

There are many smaller properties scattered through the Ramona district, where small areas of alfalfa and corn could be raised, sufficient, in addition to the dry feed, to make dairying very profitable.

This country is fine for stock increase.

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

## SWINE.

EO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

EO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

7 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

**Warranted to Give Satisfaction.**

## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

In Colorado we figure that 60 per cent is good. Here 90 or 92 is not uncommon, and I know one old Colorado man who last year got 100 per cent on a herd of 50.

For thirty or forty years the farming in this country seemed to have been on the "anyhow" principle—at least so it would seem to an outsider, and consequently a man from other States, going through the district would soon notice that the country does not show up as it ought to, but conditions are rapidly changing. The people are concentrating their energy on smaller areas. They are giving more time to dairying and poultry raising, and I may say briefly here that my district, Ramona, in common with the rest of inland San Diego, is fine poultry country and there is a big future for the industry here.

## SHEEP SHRINKING.

A dispatch from Ukiah says that the low price of wool is responsible for the disposition of many thousands of sheep in this county and northern Sonoma, where vast ranges have been devoted to these animals for many years. At the spring sales the wool growers refused to accept the prices offered for their fleeces, and now many are determined to go out of the business entirely and are disposing of their sheep. Special trains of fifty and sixty cars are being hauled to San Francisco almost daily over the Northwestern Pacific railroad, and there is danger of the market for mutton in the metropolis being badly glutted. The ranges will in future be devoted to beef cattle.

## A More Courageous View.

J. M. Howell of Henlyville writes to the Sheep Breeder and says: We want all the encouragement we can get on the outside, for there is not much at home; wool at just half the price of last year and no market at all for sheep; that is, stock sheep, and very little demand for mutton and no sale for bucks. That is letting the sheepmen down in a parachute, I think, for we have been soaring very high for the last four or five years. It is no new thing to me, for I have seen the wheel of commerce; that is, the sheep wheel, turn over seven times in 46 years; so he that hangs on will come on top again. We have several discouraging things looking the sheepmen in the face. Of course, we have had quite a drouth and scant feed, but the forst seems to be the forest ranges. It looks like the government is against the sheepmen and are practically going to stop the sheep from running on government lands.

## CERTIFIED MILK.

Doubtless few of our readers know to what perfection some of the large dairies have attained in the manner of handling and producing milk. On a recent visit of our representative to the Sleepy Hollow Dairy, situated four miles from San Anselmo, and under the management of P. H. Davis, he had the opportunity of thoroughly inspecting and witnessing the modern and up-to-date methods of producing Certified Milk. The name "Certified Milk" signifies certain rules and conditions which have been adopted by the Milk Examiners and Medical Inspection Board, a compliance with which is necessary to entitle a dairy to receive the endorsement of the board.

The cows are stalled in a barn that is built expressly for producing this class of milk; each animal is thoroughly groomed and curried with the same care that a thoroughbred horse is cared for. The floors and feeding boxes are absolutely clean. Everything is prepared before the milking is begun, in order that no dust will be present at the time. The udder of each cow is carefully washed, and the milkmen are uniformed in white duck suits, which are used during only one milking. The first milk that comes from the cow is rejected; the balance is milked through sterilized cloths which are placed over the buckets, that have also been sterilized. This milk is then taken into the bottling room, where everything is immaculately clean and pure. It is then placed in bottles which have been cleaned and polished till they look like cut glass. After the bottles are capped they are sealed with paraffine wax, and over this is placed the endorsement of the Medical Board.

Mr. Davis, the manager, is most courteous and hospitable, and takes great pleasure in showing anyone over his up-to-date plant. He extends an invitation to anyone to visit Sleepy Hollow ranch and see for themselves how certified milk is produced.

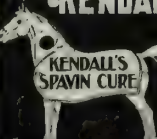
## DAIRY NOTES.

The Lucerne creamery reports an increased production of butter daily. On August 2 the factory turned out 4000 pounds of excellent butter. The increase of the daily output of the factory indicates the increase of the business.

The manager of the Meridian, Sutter county, creamery, reports business brisk at that institution. He is now planning for the establishment of a store and depot in San Francisco from which he will distribute the butter direct to the wholesalers, instead of having it go through the commission stores.

At Castroville something over 11,000 pounds of milk each day are being run through the separators at the Castroville creamery. This represents only part of the supply, as fully as much more is skimmed by the farmers themselves, and only the cream delivered to the creamery. At the present season, when feed is dry and the milk supply is at its lowest mark, the daily output of butter is a little over 600 pounds. During the spring season the average daily output was twice that amount. This represents the Castroville district alone, as no milk or cream is shipped in. There are a number of large dairies in the vicinity, the largest, that

**KENDALL'S SPAVIN CURE**



The world-wide remedy. Once used, always used. Cures Spavin, Splint, Ringbone, Curb, Swellings, Lameness.

\$1 a Bottle; 6 for \$5  
All druggists. Get free book, "Treatise on the Horse."  
DR. B. J. KENDALL CO.,  
Enosburg Falls, Vermont

**"ONE MILLION IN USE."**

## DE LAVAL CREAM SEPARATORS

THE DE LAVAL SEPARATOR CO  
165-167 BROADWAY, NEW YORK. 42 E. MADISON ST. CHICAGO.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

## THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

owned by Louis Griffin, general manager of the creamery, milking 125 cows, which yielded during the month of May over 3000 pounds of butter.

## The Veterinarian.

## DIPPING FOR TICKS IN SAN DIEGO COUNTY.

The El Cajon News in several recent issues has given interesting details of what seems to be a very active campaign being waged to clean the county of Texas fever ticks. We shall take therefrom interesting paragraphs:

Dr. W. E. Selleck, County Veterinary Surgeon, was in the valley last week attending to some stock dipped, and this week he paid another visit to see the results of his work.

In conversation with him the News man learned that the new arsenic process of dipping is beating the old oil process out of sight. About 5000 head of cattle have been put through the arsenic dip and there has been no loss whatever and no complaint about anything.

In the valley two herds have been recently handled—Webb Bros.' and Miller Bros.—and the dipping was not attended with loss or trouble.

The formula used by Dr. Selleck is as follows: To make 500 gallons of dip—arsenic, 8 pounds; washing soda, 25 pounds; soap, 25 pounds; pine tar, 2 gallons. The method of mixing and preparation is to boil the arsenic and washing soda in 20 gallons of water for 15 minutes. The soap is dissolved in boiling water and the pine tar poured into this. All the ingredients are then thoroughly mixed together, with enough hot water added to make up 50 gallons. This makes the dip, and it is sufficient to make a 500-gallon lot of dipping fluid strong enough to put the ticks out of business without hurting the stock.

A. B. Foster, dairyman and stockman of Pamo valley, Ramona, reports the successful treatment of the Pamo valley herds by the new arsenical dip.

A new dipping-vat has been built in this valley by C. E. Holland and Mr. Foster, acting together. Under the supervision of Dr. Selleck, 325 cattle from the two ranches, and a number of cattle belonging to other owners, were recently dipped, and Mr. Foster says that the dipping was thoroughly successful. Everything that wore hair was put through—calves a few days old, and all sorts—and there was no blistering or any other bad



result. The mixture used was that described above. The dairy cattle were carefully examined each day. At the end of the first day after dipping, ticks were found with a little life in them, but after two or three days not a solitary live tick could be seen, and the cows showed no ill effects whatever from the dip. There was a little shrinkage of milk at the start, due to confinement and less feeding, but this soon passed away. The herds are going to be put through the dip again in 20 days from the first dipping.

Mr. Foster is an experienced cattleman from Glenwood Springs, Colo., and when he says the arsenic dip is a success his statement can be relied on. He says he would not have his herds oiled at this time of the year for half of what they are worth. In his opinion, oil does not class in any way with the new mixture. The arsenic is easier to handle, cheaper, safer and better in every way.

Dr. George W. Pope, Federal Veterinary Surgeon from Washington, was in the valley on Monday and Tuesday, attending to stock dipping for ticks at the Webb dip. Dr. Pope is thoroughly pleased with the arsenic dip. He has, he says, dipped several thousand cattle in the last few months and has lost none. He uses oil wherever the owners so desire, but he greatly prefers the arsenic. The work of tick eradication is now, he said, much easier.

An unusual thing happened at Santee. A boy came to the district with a horse to pasture, and after trying to get it on the Webb and Miller places, he went down the river to Fanita ranch, where the animal was taken in. The Fanita people found that the horse was covered with ticks, and Dr. Pope was sent for. The horse was dipped in the arsenic mixture at Webb's, and three days after, on examination, it was seen that the ticks were all shrivelled up. Particulars as to where the horse came from were not forthcoming from the boy.

To protect animals from the annoyance of flies the following preparation is recommended: Two-thirds linseed oil, one-third crude carbolic acid. Apply with a swab to the tips of the hair, especially about the horns, and the animal will not be bothered with flies of any kind for a week. This preparation, it is asserted, is excellent for horses, answering the same purpose. The linseed oil prevents the hair from coming out, and also retains the carbolic acid.

Every army horse in Argentina receives two ounces of sugar with its daily supply of food.

### POULTRY.

BUFF ORPINGTONS.—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

### CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

### BIHN BROS.

Petaluma, Cal.

## The Poultry Yard.

### THE BUSY MITE.

By M. R. JAMES.

If the poultry keeper looks under his fowls' roosting perches these August days he is likely to be treated to a surprise. There at the ends and in every cozy crack and corner and knot and nail hole he will see clusters of what appear like grains of red sand. It is the busy mite, resting after the labors of the night, together with his cousins and his uncles and his aunts and his parents and grandparents and great-grandparents, and his progeny unto the fourth and fourteen-hundredth generation. The rosy complexion they all display is not their own, but is the life blood of the feathered victims upon which they have riotously feasted, showing through their dull gray hide. If our poultry keeper is a pains-taking man, he is more than surprised; he is shocked and disgusted. Is not his poultry house a model of cleanliness?—not left from week's end to never, like his neighbor's, but daily swept and garnished with lime. Where indeed is the much heralded reward of well-doing, if the vulgar mite with impartial favor abides alike with the faithful and the neglectful? Such an instance has just been called to the attention of this department, and it serves to illustrate the fact that simple cleanliness will not keep the premises free from such pests in warm weather, especially when one has careless neighbors.

THE MITE IS MIGHTY FOR EVIL.—The insect pest is one of the serious difficulties with which poultry keepers everywhere have to contend. Some writers contend that this is our chief difficulty with poultry on the coast, owing to the absence of freezing cold; but it should not be overlooked that if we lack the intense cold to destroy them, we are also free from the intense heat to breed them at their worst. The writer having spent some years in Southwestern Texas, where even the wild nestlings are often sucked bloodless by the mites, considers the difficulty as easily handled here as anywhere, and much easier than in some sections of the country. Eternal vigilance is the price of other things than liberty, and it surely is the price of success in the poultry yard.

SPECIAL TREATMENTS.—In addition to the general cleaning up and burning of trash, followed by a thorough whitewashing at the advent of warm weather, about once a week the perches should be taken out (always have removable ones) and wiped with a cloth or brush dipped in coal oil, a cheap grade of which should be kept for that purpose. The oil should be poured into all cracks, knots or nail holes in or about the perches and roosting places and over the nests for the roosts, and sprayed or brushed into the walls thereabouts. There is nothing better than coal oil for the purpose. Keep the perches seasoned with it; it is effective in catarrh and scaly leg as well as driving away the mites. The nests should receive particular attention. Always have removable nest boxes, and take them out in the open frequently; empty the old straw and set fire to it; pour a little oil into the cracks of the boxes and let the blaze run through them; then whitewash or brush with coal oil, and when sunned and dry refill with clean straw—but have a care that it does not come from mitey quarters.

LOOK OUT FOR THE ENVIRONMENT.—Many of the barns where people are neglectful with their poultry are infested with mites to such an extent that the hair of the animals occupying them is

eaten off in patches. In fact, where these vermin are not checked they will take the entire premises. A neglectful pigeon loft, or pigeon nests among the rafters of the barn, and sparrow nests under the eaves, all contribute to that end. When the premises have become infested it requires heroic measures to rid them—spraying with a strong solution of crude carbolic acid, whitewashing, or painting with crude petroleum. This latter, when thinned with cheap coal oil and mixed with red or brown metallic, makes an excellent paint for barns, poultry houses, fences, etc. Crude petroleum is acknowledged the best wood preservative known, and all vermin shy at it. A paint made as above is used by the U. S. Government in the protection of its outposts and such buildings. The thinned petroleum known as fuel oil is good for poultry house purposes.

FUMIGATION.—It is well to fumigate poultry quarters and other infested buildings with sulphur when they can be made sufficiently tight for the purpose. The killing fumes penetrate deep into the wood and cracks, where other disinfectants cannot reach. Take a deep basin or iron kettle, to prevent risk of fire, dip a piece of paper in coal oil and place it in the bottom, with some fine dry chips on top; over this pour sulphur, a teacupful or more, according to size of building. Make the house as tight as possible, and set the basin or kettle safely distant from anything inflammable in it; light the edge of the oiled paper and quickly close the door. Let the smudge remain till noon, then open up everything, that the fumes may be dissipated before the fowls or animals go in for the night.

With a thorough treatment of the premises as outlined, not omitting some good dustings of buhach for his fowls, the poultry keeper may feel reasonably sure of having the busy mite and its numerous relations hors de combat; but he must not rest too long in this belief, lest his pertinacious adversary steal a march on him and the work is all to be gone over again.

### Poultry Items.

THE SHOW SEASON.—The Pacific Coast Poultry Shows begin at San Jose November 9, 1908, and end at Clarkston, Wash., February 6, 1909. The Oakland show holds through the second week in December, and is immediately followed by the Petaluma poultry show.

BEARDED GRAIN.—Mrs. O., writing to the RURAL PRESS from a poultry farm in Missouri, says: "Corn is our staple chicken feed, and our fowls thrive on it; but some of my neighbors got an idea from their poultry papers that it is too fattening, and switched off on oats as the main feed. I have always held that much bearded grain is bad for fowls, and have just had pretty strong proof of the same, which I will give for the benefit of other poultry raisers. My little boy had a pet pullet, and of course wanted it to have the best going, and from hearing so much of oats vs. corn, decided on the former and accordingly made oats her entire grain feed. After some time his pet began to droop, and finally died. We try to learn the cause when our young fowls drop off under good conditions, and so made an autopsy of this one. We found that the intestine that enters the gizzard was completely perforated with oat beards, and the whole viscera badly inflamed. The result established my point and convinced by neighbors that there is danger in feeding too much bearded grain, especially to young fowls."

AN EDITOR'S HENS.—An Illinois poultry editor who has a ranch in California indulges in a crow over the same from his editorial chair in the Sucker State, the

hen part of which follows: "Rolling in luxury, a flock of Minorca hens are singing joyfully or cackling steadily. These hens began to lay five months and two days from the day they were hatched, and have been keeping it up ever since."

When we consider that even the precocious Leghorn, though often beginning to lay at five months (but not the whole flock), doesn't get down to steady laying much before six months, it becomes evident that the Illinois editor's California hens are cognizant of the fact that they are laying for publication and are coming on some.

A CHICKEN THIEF.—An unmistakable squawk came from the woodshed where the old hen was brooding her "clutch." We rushed for the kitchen door, Mr. Blank, who had stopped for his gun, bringing up the rear. In the meantime the squawking went on, but it had been reduced in vigor to spasmodic and long-drawn-out qu-r-r-r-oks expressive of choking. We cautiously opened the door and reconnoitered. The moon at its full lighted the yard clearly, and there down the path from the shed was the most comical sight—something in the order of a triumphal march in the days of Old Rome: In the lead was the captor, a big opossum, and following was the captive, our Cochin hen, with a bodyguard of little possums trotting along at the sides and behind. We had to look twice to understand why the hen seemed to follow, and discovered that she was being dragged—the varmint's prehensile tail was twined around her neck and she was slowly choking to death while her captor unconcernedly marched ahead. A shot ended Mrs. Possum's pleasant anticipations of a well-earned chicken dinner, and released her victim. The latter regained her wind in a few minutes and staggered back to her chicks. We gathered up the terror-stricken baby possums—there were seven of them, the cutest creatures, with eyes like beads and soft downy hair. In fact, they looked too innocent and pretty to kill, and we tried to mother them; but they were too young and their mouths were so tiny that we could find no way to feed them; so they were sent to join their mother in possum-land.

### DRY BREAD FOR CHICKENS.

To the Editor: What is the feeding value of stale bread (not mouldy) at 1 cent per pound, compared with wheat and corn at present prices? Is it better to feed dry or moisten? Which is it better to feed to, hens or growing chicks? I notice they don't eat it if they can get wheat.—Inquirer, La Mesa.

### Response by Prof. Jaffa.

In answering the above question it may be of interest to compare the analyses of stale bread, wheat and corn, as given in the following table:

	Stale bread.	Wheat.	Corn.
	%	%	%
Water	30.00	11.50	10.60
Ash	.70	1.76	1.50
Protein	7.84	11.85	10.30
Fiber	.25	2.45	2.20
Starch, sugar, etc.	60.61	70.40	70.40
Fat	.60	2.03	5.00
	100.00	100.00	100.00

It is thus seen from the table that stale bread rates considerably lower in protein than do either of the grains. Therefore, considering the foods as sources of protein, the grains would be more preferable. The grains are also far richer in fat and mineral matter than is bread, similarly with respect to starch. This is due to the fact that the bread contains much more water than is found in the



grains. At the same time the difference in price at present being so great, it might pay to use bread as a substitute for part of the grains, and the difference in protein could be made up by a slight addition to the ration of some concentrated nitrogenous food. It would not be advisable to change suddenly from grain to bread, because such changes are always sure to bring about unfavorable results. The bread should be fed dry, rather than moistened.

M. E. JAFFA.

University of California, Berkeley.

On a recent visit of the PACIFIC RURAL PRESS' representative to Petaluma he had the pleasure of meeting L. C. Byce, the president of the Petaluma Incubator Co. Mr. Byce reports business particularly good and active for this season of the year, and anticipates a record-breaking output for the coming season. The Petaluma Incubator has become so widely and favorably known that it is taxing the full capacity of their manufactory to supply the demand. While talking to Mr. Byce there passed through the factory 48 incubators for direct shipment to South Africa. Doubtless many of our old subscribers will remember Mr. Byce as editor of the Poultry Department of the PACIFIC RURAL PRESS several years ago.

## Apiculture.

### HOW TO RE-QUEEN.

#### II.—The Ripening of Queen Cells and Stocking Nuclei.

By RALPH BENTON.

In the issue of the PRESS for August 15 the first of the series on the general subject of "How to Re-queen" was presented, the item of "The Securing of Queen Cells" having received treatment. It was found that the rearing of queen bees in practice resolved itself into bringing about one or the other of the natural conditions under which the bees start cells, and that the most successful and profitable production of cells resulted when the condition of the bees approached that of bees acting under the swarming impulse.

Today we propose to take up our subject at the point where we left off, and treat of the "Ripening of Queen Cells" and the "Stocking of Nuclei" for their reception.

In the securing of queen cells the strongest colony of young bees obtainable should be used, and either the same colony or a similar colony should be used in the ripening or maturing of the cells. From the time the cell is sealed, at about the middle of the ninth day from the laying of the egg, to the emerging of the virgin queen, is the period of ripening, and this time is just a week—seven days. As the hour of emerging among a number of queen cells varies, one cannot count on leaving the cells together unprotected safely longer than about the sixth day, and we have found that cells within two days of emerging may be safely handled if not jarred or chilled. Accordingly, about the fifth day after sealing, steps should be taken to protect or provide for the emergence of the cells, lest the first queen out should ruthlessly destroy her sisters, in her first flush of regal power.

**EMERGENCE.**—One can always tell whether a cell has normally emerged or whether it has been destroyed by a queen or others of the bees. In the case of normal emergence the cell is neatly cut about the tip, and frequently the cap so cut loose is seen depended from the cell.

Sometimes this cap gets closed shut and sealed up, and to the novice the appearance of not having emerged occurs, but the experienced can usually detect an empty cell. Bees brood their ripening cells, and cells no so brooded are either usually emerged or dead.

In the case of the destruction of queen cells by the bees, the cell is bitten into at or near the base. The reason for this is that the tip is tough on account of the thickness of silky covering within, known as the cocoon. At the base the bees find easier access through the wax covering, and can also reach the inmate at a more vital point to destroy her.

**PROTECTING LATE QUEENS.**—For the protection of queen cells nearing their time of emergence, wire cloth cages provided with food have been devised. Large numbers of cells can thus be accommodated in these nursery cages hung in numbers in specially adapted frames in a single colony. This is, however, only temporary, as the queens should be removed from the cages and introduced into nuclei (small colonies) or full-sized colonies as soon as convenient, since a virgin queen confined for two weeks or longer will rarely mate, and thus a "drone layer" is produced, namely, an unfertilized queen, producing only unfertilized or drone eggs.

**DOING AWAY WITH NURSERY CAGES.**—The writer prefers to utilize the ripened queen cell as his introducing cage, thus eliminating the use of nursery cages. This necessarily involves promptness in the removal of queen cells on or about the fifth or sixth day, as they begin to darken just prior to emerging, and also the readiness of queenless nuclei or colonies to receive the ripe cells. A most acceptable size of frame for a nucleus is in some subdivision of a standard Langstroth frame, and the common one in use is one-third the size of a Langstroth frame. This enables the beekeeper to stock his nuclei by simply placing together three nucleus frames in the center of a colony, in place of a Langstroth frame. We have found that the best bees for making up nuclei are Banaters, and in any case young bees should be used. Nuclei are best made up with the adhering bees, just as the brood is beginning to emerge in the comb used to stock them, as then the young bees will remain on the new location. Nuclei should be queenless about two days prior to the insertion of queen cells, and may better be fed when cells are inserted. The artificial cells may be inserted simply between two combs, and the natural cells are usually fitted into the combs to prevent jamming and insure proper brooding.

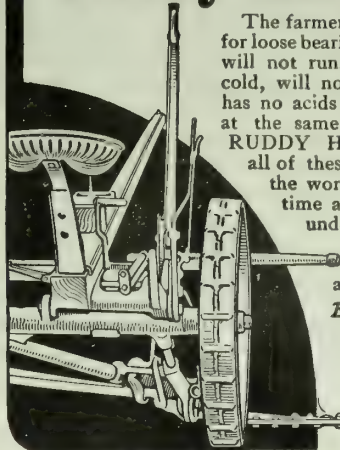
#### Bee Questions and Answers.

Enquirer from Corona, Riverside county, under date of August 8, writes as follows: "I would like you to answer the following questions about 'Carniolans': 1. Are they too large to work through common queen-excluding honey boards? 2. Are they (the workers) too large to use common brood cells, such as are built by ordinary Italians from commercial brood foundation? I believe they would be a valuable acquisition if I would not have to remodel my apiary. And last, where can I get a pure-bred queen?"

We welcome this inquiry, as we would any others from our readers. While Carniolan bees are a little larger than other bees, there is not enough difference but that they can be kept in the same hives, with the use of the same queen-excluders and other appliances, and the use of the same comb foundation. These bees are bred extensively by queen breeders in

**QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS.** Home-bred, \$1.00 each; five at \$5.00 each; imported, \$4.00 each. **FRANK BENTON**, Box 17, Washington, D. C.

## Ruddy Harvester Oil

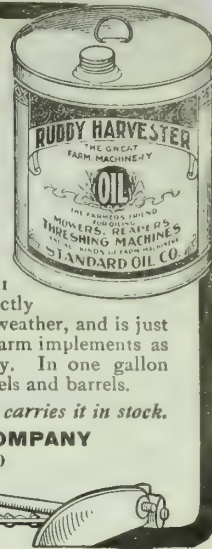


The farmer's needs demand a heavy oil for loose bearings, one that will work freely, will not run, is not affected by heat or cold, will not gum or grow rancid, that has no acids to injure the bearings and is at the same time economical to use.

**RUDDY HARVESTER OIL** answers all of these requirements and lightens the work of the horses, saving their time and strength. It works perfectly under all conditions and in any weather, and is just as good for all sorts of farm implements as for harvesting machinery. In one gallon and five gallon cans, half-barrels and barrels.

Every dealer in farm supplies carries it in stock.

**STANDARD OIL COMPANY**  
(Incorporated)



several States. We commend to our enquirer and our readers generally our own advertisers as thoroughly reliable and worthy of patronage.

## Fruit Marketing.

### PEACH GROWERS OF GEORGIA WANT TO DO AS CALIFORNIA DOES.

Mr. Albert McMahon gives the Fruit Trade Journal an idea of what Georgia needs to market her peach crop profitably. He says:

My experience during the season just closed has placed me in a position to judge the faults of the present system and to suggest remedies that will in a large measure prevent a repetition of the disastrous gluts occasioned during the heavy shipping season.

If I were a grower I would lay down a set of rules to be operated in the producing and marketing of my crop along the following line:

First. Believe all men are honest and upright until proved otherwise. (The fear in the heart of the grower that selling agents are generally rascals is a detriment to the proper marketing of his crop.)

Second. Have my peaches picked, packed, graded and loaded according to a standard established by experts. (The cry that only the best peaches should be shipped is in a measure a fallacy. I would order this to read, "No misshapen or defective peaches should be shipped." Small peaches, when properly packed, can be sold to advantage in many of the minor markets at profitable prices to the grower.)

If the growers could come together in one organization at first and control the majority of the Georgia peach crop, they could evolve a system that, while at first would have minor faults, whereby the main object would be obtained in a year or two and near-perfection would be reached. It is admitted that the ideal fruit marketing agency of the United States is the California Fruit Growers' Exchange. Of course, if the Georgia growers could adopt a plan along the lines of this organization it would probably bring them the highest gross receipts for their peaches, but the objection to this plan is the expense, if operated along the lines of the California organization. This objection can be summed up in a nutshell. The California people hire the best men obtainable at their destination points, and in order to get their expert labor they employ their men the year round. As the Georgia crop is marketed during six weeks' time, the expense of hiring expert salesmen the year round (and you can obtain them in no other way) would be prohibitive.

The next best plan would be to appoint selling agents on every market that will take car lots of peaches. These selling agents would have to be in almost every case commission merchants in the various markets. In the larger markets a number of agents could be appointed. To expedite the handling and selling, an intelligent understanding of the requirements of each market must necessarily be had. Some of the smallest markets could not handle more than a car a week, others two cars, and so on. Expert inspectors should be employed at every large shipping point to inspect the carrying and standard of quality of the fruit. Inspectors should be placed at every icing point to note the icing of the cars, and at the last icing station before reaching destination to note the carrying condition of the fruit. The diversion of the shipments should be under a competent head, with enough help to operate, and there should be a number of traveling representatives to visit the various markets during shipping seasons and keep in touch with the selling end of the problem.

J. B. Neff, of Anaheim, while in our office last week, stated that the new walnut bleach, recently described in the RURAL PRESS, was considered a success. The machinery with sufficient capacity to handle a car of nuts daily, will cost about \$500 installed, and the process of bleaching the nuts will be cheaper than in the old way. Plants will be put in at Anaheim, Riviera, and by both the Limoniera Co. and Walnut Association of Santa Paula, if the machinery can be secured in time, to handle the maturing crop of nuts. As to the size of this year's crop, it is thought it will be heavier than last, which amounted to about 7000 tons. The blight has been very light this season. While the price for the coming crop has not been set, it will doubtless be around 12½ cents per pound.

Eucalyptus growing has taken a great hold throughout the State, and the demand created for seed and for young trees last fall taxed the dealers beyond their capacity to produce. The prospects are, however, that intending planters will be able to get all the young trees they want the coming year, as nurserymen in various parts of the State are growing them in quantities. A RURAL PRESS representative was recently shown through the nursery grounds of W. A. T. Stratton at Petaluma, who has eucalypts growing of every variety suitable to California. After looking over his large number of plants the representative made a guess of 280,000 young trees, of the various eucalypt varieties, which, considering that he was new at the game, was not so bad a guess. He came within about half of the number Mr. Stratton has growing for fall and winter planting.



## The Home Circle.

### Cheerfulness.

As bright as are sun's rays through cloud rifts,  
As welcome as flowers in May,  
As fair as a clear, golden sunset  
At the close of a dark, rainy day,  
Unto hearts that are fainting and weary,  
Unto feet that are slow in life's race,  
Are the words of a glad, cheerful spirit,  
Or the smiles of a bright, cheerful face.

Then speak not the words of repining,  
Though oft to the lips they arise;  
Proclaim that the sun is still shining,  
When his light is not seen in our skies.  
To your own heart and other hearts  
round you  
Keep singing a joyous refrain,  
For the sweetest of songs that e'er found  
you  
Was the bird-song you heard through  
the rain.

Ah, the long, dusty highway grows weary  
To thousands of worn, marching feet,  
But the change to the steps of the victor,  
When music comes down the long  
street!  
Fling out, then, the spirit's own music,  
To comfort, to lift and to bless,  
And march to the jubilant measures  
Of the chorus of Cheerfulness.

—Leslie's Weekly.

### The Two Doctors.

Elizabeth drew the scented note from her pocket and glanced at the directions. They were surely explicit enough.

"Leave the train at the right-hand side. Go down the wide street three blocks, turn to the right, go past the second street, and we live in the third house on the left-hand side."

"Grace forgot to tell me which end of the car to take in leaving, but the rest is easy," commented Elizabeth to herself as she took a fresh grip on her handbag and started out.

Grace had explained that it would be impossible to meet her friend, and that it was not expected that Dr. Taylor would be at home in time to go to the station.

This was a matter of no concern to Elizabeth. She and Bertha Bradley had made the tour of Europe without once getting lost. How could she go wrong in this tiny suburban town and with such minute directions?

The silver doorplate with the name justified her belief in her own cleverness, and she pressed the button.

She was rather surprised at the youth of the man who admitted that he was Dr. Taylor. Somehow she imagined that most men with Ph.D. after their names were rather older than this decidedly good looking young man, but he must know who she was, and the girl stepped into the hall.

"I am your sister-in-law, Elizabeth," she said, "and I'm real glad to see you." She demonstrated her joy by a vigorous kiss, and led the way into the parlor.

"How are you all," she demanded as she settled herself. "It seems an age since I saw Grace. Where on earth is she?"

"So you have heard of her," he laughed. "She went up to town this morning to do some shopping."

"I'm glad she's better," said Elizabeth a little stiffly, "but if she is well enough to go to town she might have staid at home to meet me."

"We did not expect you yet," he explained. "Let me see if I cannot rustle up some lunch. Will you excuse me? There is a room at the top

of the first flight. You will probably want to remove the stains of travel."

He vanished into the dining room, and Elizabeth went upstairs to the tiny room that was evidently the baby's nursery. Presently a bell rang and she went down to a dainty meal.

She was hurt at Grace's absence, but she was growing decidedly fond of her brother-in-law. Grace had met him just after Elizabeth had gone to Europe for her three-years tour.

He had a horror of being photographed, and in her imagination Elizabeth had pictured him as a rather grave man with what she inelegantly described as a "bulgy" brow. This clean-cut young fellow was vastly different. Decidedly she approved of Grace's choice.

"How is the baby?" she demanded, as she pushed her chair slightly back from the table. Wasn't it rather risky to take her to town today. Grace should know better."

"There is no baby," he said, quickly.

"No baby?" she laughed. "I suppose you want to tell me that that

someone had directed you to the house, and that you had arrived ahead of time. George and I did not correspond, and there might have been a mistake in the age. The people who wrote simply said a little girl. We know your brother-in-law here as Prof. Taylor, though I believe that your sister does call him 'doctor' sometimes. I am about to hitch up for my afternoon calls, and can drive you over there."

Elizabeth gasped at the recollection of the heartiness of her greeting.

"Some other time I hope to be permitted to tell you," he said gently. "Just now I beg to assure you that I have very greatly enjoyed your visit."

"Who is Grace?" she demanded suddenly.

"My old and decidedly eccentric housekeeper," he explained. "I was surprised that you knew of her, though I had her for a nurse when my brother left."

"I think," she decided slowly, "that I have enjoyed the visit, too. You must come soon and meet the other Dr. Taylor."

### How to Banish Flies.

To get rid of flies allowed to slip into the house through the carelessness of servants, despite screens on windows and doors, is one of the problems of a housekeeper. No effort should be considered too great to accomplish this exodus, for the insects are a menace in the possibilities of carrying poison and disease, and should be exterminated. If it is convenient to darken a room, the work is quite simple. The blinds or dark curtain should be drawn until the room is gloomy, except for a little crack of light at an open window. Flies will never enter a dull room, there is no danger of more coming in, and those already there will go out through the bright crack left. This naturally takes some hours, however. A home-made poison that acts like a charm is good to use when there are children, as it is not hurtful to humans, and little if any harm will result of a youngster accidentally swallows some. This "kill" is made by boiling for three minutes a half pint of milk, two ounces of black pepper and four ounces of su-



AT THE SEASHORE.

delicious room with the Mother Goose wall paper is your own."

"That was intended for you," he said, blushing redly.

"For me?"

"I had an impression that you were a mere child," he explained. "You rather took me off my feet when you came."

"Are you trying to tease me?" Elizabeth demanded. "If you are, it is in very poor taste."

"Believe me, I am not," he said, gently. "It is clear that there is some error."

"You are Dr. Taylor," she said. He nodded. "Charles Dwight Taylor, doctor of philosophy and—"

"Winfield Evans Taylor," he corrected, "doctor of medicine. I think you must have—by Jove! I think I see it. You had written directions, I think?"

Elizabeth produced them and handed them over. He read them intently.

"Did you come from town?" he asked. Elizabeth shook her head.

"I was visiting the Haddons, in Valleyfield."

"Had you come from town and turned off to the right, these directions would have led you aright. You forgot to allow for the direction in which the train was headed. I see that the envelope bears a city address."

"That must be it," she admitted.

"Then," he went on, "I am expecting an Elizabeth, doubly an orphan, the daughter of my brother. It was for her the room was prepared. I took it for granted that

"And you must see the other Elizabeth," he laughed. "I owe much to Elizabeth."

"And so do I," she murmured, with burning cheeks.

### The President's Salary.

Washington had notified his fellow citizens that he desired no salary. The limits suggested in the first Congress ranged from \$15,000 to \$70,000. The salary was finally placed at \$25,000, and this remained the compensation until President Grant's second term (March 4, 1873), when it was increased to \$50,000, the present sum. Chapter 2918 of the law of the second session of the fifty-ninth Congress, approved March 4, 1907, appropriated for traveling expenses of the President of the United States, to be expended at his discretion and accounted for by his certificate solely, \$25,000. The appropriation for the care of the White House and its stable and greenhouses was in 1907 \$50,000.

Old Lady (who had given the tramp a nickel)—Now, what will you do with it?

Hungry Hobo—Waal, ye see, mum, ef I buy an auto there ain't enough left to hire a shofur. So I guess I'll get a schooner. I kin handle that meself.

Boy (rushing in)—Did you advertise for an office boy, mister?

Merchant—Yes.

Boy—Well, I'm him. What do I do first?

gar. This should be cooled, poured into saucers and placed about the room. Its strength will not last for more than three days.

### Conundrums.

When are trees like seams in fine linen? When felled.

When is a ship like an aching heart? When overladen.

When is a shoe like a beer barrel? When tapped.

When is a soldier like beef? When in quarters.

When is a clock like a dissatisfied man? When striking.

When is a balloon like an atom? When it is out of sight.

Why is the whale who swallowed Jonah like a retired mikman? Because he got his profit (prophet) out of the water.

What is the difference between capital and labor? If I loaned you \$5 that would be capital; if I tried to get it back, that would be labor.

What would a hen say to a man who stole her eggs? That's the man I've been laying for.

### A Lesson in Grammar.

The class was getting grammar.

"Now," said the teacher, "can anyone give me a word ending with 'ous,' meaning full of, as in 'dangerous,' full of danger, and 'hazardous,' full of hazard?"

There was silence in the class for a moment. Then a boy sitting in the front row put up his hand.

"Well, John," said the teacher, "what is your word?"

"Please, sir," came the reply, "'pious,' full of pie."



# The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

# Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

## San Francisco Business College

733 Fillmore St., San Francisco, Cal.

### Edison's Mother.

"My mother was the making of me. She was so true, so sure of me; and I felt that I had someone to live for, someone I must not disappoint," said Thomas A. Edison to a writer for the New York World. Mr. F. A. Jones, in "Thomas Alva Edison," says that all who knew her appreciated her goodness.

"I did not have my mother very long," Edison said, at the time spoken of, "but in that length of time she cast over me an influence which has lasted all my life. The good effects of her early training I can never lose. If it had not been for her appreciation and her faith in me at a critical time in my experience, I should very likely never have become an inventor.

"I was always a careless boy, and with a mother of different calibre I should probably have turned out badly. But her firmness, her sweetness, her goodness were potent powers to keep me in the right path. I remember I used never to be able to get along at school. I don't know now what it was, but I was always at the foot of the class. I used to feel that the teachers never sympathized with me, and that my father thought that I was stupid, and at last I almost decided that I must really be a dunce. My mother was always kind, always sympathetic, and she never misunderstood or misjudged me. But I was afraid to tell her all my difficulties at school, for fear she, too, might lose confidence in me.

## HEALD'S BUSINESS COLLEGE

AND

## ENGINEERING SCHOOL

ESTABLISHED IN 1863

Now in its new building at 425 McAllister St., near Van Ness Ave., where it has the finest equipment on the coast for Business Training and Engineering Work. Branch schools at Oakland, Stockton, Los Angeles, Fresno, San Jose, Santa Cruz, Ocean Park, Long Beach, Riverside and Reno. Write for my new catalog; free to all. Address

E. P. HEALD, President,  
San Francisco, Cal

"One day I overheard the teacher tell the inspector that I was 'addled,' and it would not be worth while keeping me in school any longer. I was so hurt by this last straw that I burst out crying, and went home and told my mother about it. Then I found out what a good thing a good mother was. She came out as my strong defender. Mother love was aroused, mother pride wounded to the quick. She brought me back to the school and angrily told the teacher that he didn't know what he was talking about, that I had more brains than he himself, and a lot more talk like that. In fact, she was the most enthusiastic champion a boy ever had, and I determined right then that I would be worthy of her and show her that her confidence was not misplaced."

### The First Potato.

Sir Walter Raleigh, who shares with Sir Francis Drake the honor of first introducing the potato in England, lived at Brixton, England, near "Elizabeth's House." Formby, in Lancashire, also claims the honor of being the site of the first culture of the potato in that country. They are said to have been grown there by a Formby man who sailed with Sir Walter.

The earliest cultivation of the potato in the British Islands was probably at Youghal, on the south coast of Ireland, where this great navigator had an estate.

It has been generally accepted that the potato was brought from Virginia, in America, and that it was cultivated there by the natives. Sir Joseph Banks and De Condelle both lent the weight of their authority to this view. But it has been ascertained that the Indians of Virginia, though they used a number of tuberous roots, did not know our potato.

One of these was the plant sometimes grown as an ornamental climber in our gardens, and called by botanists Apios tube-rosa. The Indians called the roots potatoes, and the French Canadians knew them as pommes de terre. And our potato, being a native of South America, was scarcely likely to be known to the Indians of Virginia.

Yet the potato was undoubtedly brought to England as part of the cargo of one of Sir Richard Grenville's ships, and landed at Plymouth, and the ship had come direct from Virginia and called nowhere on the way. On the voyage home, however, it had encountered and captured a Spanish ship from Santo Domingo. The potatoes were a part of the cargo of the latter vessel.

### Business Outlook and Opportunity for Positions.

Times are dull in San Francisco at present, but better than in any other place in the United States. The Presidential election year is usually slow in business circles, but things always improve after election. This year will prove no exception to the rule, and as this is to be one of the greatest commercial cities in the world, we will get our full share of the general prosperity when it comes.

With increased prosperity will come an immediate demand for properly trained office help, such as stenographers and bookkeepers. To prepare for such positions requires but a few months in a first class business college, of which San Francisco has several.

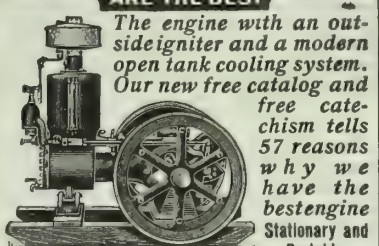
The business colleges of San Francisco are worthy of the confidence and patronage of the public. They are conducted by practical business men who make a study of business requirements and specialize in preparing young people for office positions where opportunities exist for advancement.

Not only this, but the first-class busi-

ness college is a life-long friend of its graduates, helping them secure their first positions and aiding them in many ways during the early part of their business careers, frequently assisting them to better positions.

School graduates of this year are advised not to pursue the ordinary policy of waiting until after vacation before commencing, but to start immediately, thus gaining a decided advantage over those who procrastinate.—S. F. Bulletin.

## Stickney Gasoline Engines ARE THE BEST

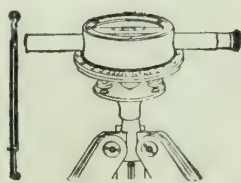


SEND FOR FREE CATALOG 1 1/2 to 16 H. P.

We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

De Laval Dairy Supply Co.  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## BOSTROM'S IMPROVED FARM LEVEL



Cheapest and Best Level yet Invented for Farm Use.

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.

Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

"THE OLD RELIABLE"

## DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD" WHEN YOU BUY A LANTERN INSIST ON A "DIETZ" MADE BY R. E. DIETZ COMPANY NEW YORK Largest Makers of Lanterns in the World ESTABLISHED 1840 PIONEERS AND LEADERS

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### Strawberry Plants.

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00. Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.

### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now for season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop. Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### FOR SALE

Freshly gathered Eucalyptus Rudis seed—by the pound or ounce.

MINNEAWA VINEYARD, FRESNO, CALIFORNIA.

# Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water. The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the typography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

## \$30,000,000

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

San Dimas Citrus Nursery  
SAN DIMAS, CAL.

R. M. TEAGUE,  
PROPRIETOR.

## Almond Hullers

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

### FOR SALE.

One large W. G. Read Almond Huller, used one season, A1 condition. Price \$250.00. F. O. B., Biggs, Butte County. Cst \$500.00. Address G. W. HUME COMPANY, 268 Market St., San Francisco, Cal.

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 59 pages 6 by 7 inches. Cloth.....\$0.50



## THE MARKETS.

San Francisco, Aug. 19, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

Wheat prices show very little change since last report, a slight advance in Northern Bluestem being the only feature. There is more activity in the North than here, with considerable inquiry for export, though prices are a little lower in Oregon, and the growers are holding back. The local market is rather quiet, with practically no speculative interest, and only a moderate cash demand. Prices are firmly held.

California White Australian.	\$1.75 @ 1.80
California Club.	1.67½ @ 1.70
California Milling.	1.70 @ 1.72½
California lower grades.	1.45 @ 1.60
Northern Club.	1.67½ @ 1.70
Northern Bluestem.	1.75 @ 1.80
Northern Red.	1.65 —
Turkey Red.	1.75 @ 1.80

## BARLEY.

Quotations on barley remain the same as before, but there is a feeling of weakness, and feed in particular shows a downward tendency. Holders of feed a few days ago were asking \$1.37½, but now there is plenty for current demands offered at \$1.35. Shipping and brewing grades remain in fair demand in the interior, though there is little inquiry here. So far there has been no business worth mentioning in Chevalier, as buyers are not willing to pay the price asked.

Brewing and shipping.	\$1.40 @ 1.42½
Chevalier.	1.55 —
Good to Choice Feed, per ctl.	1.32½ @ 1.35
Common feed.	1.30 @ —

## OATS.

Oats have advanced considerably during the week, some lines being about 10 cents higher, while new black have taken a still greater jump. The grain is quite firm, with a liberal movement at the advance, the high prices having brought out larger offerings. The principal feature is the strong demand for everything of seed grade.

Choice white, per ctl.	\$1.57½ @ 1.60
No. 1, white.	1.50 @ 1.55
Gray.	1.40 @ 1.60
Red, choice.	1.65 @ 1.75
Red, feed.	1.52½ @ 1.57½
Black, new.	2.00 @ 2.50

## CORN.

Quotations on corn again show a slight advance, but the prices given are practically nominal, as there is hardly any movement in this market. There have been no arrivals worth mentioning, and stocks here are light, with little demand at present prices.

California Small Round Yellow, per ctl.	Nominal
Large Yellow.	\$1.85
White.	Nominal
Western State Yellow.	\$1.85 @ 1.90
White, in bulk.	1.83
Mixed, in bulk.	1.80
Brown Egyptian.	Nominal
White Egyptian.	Nominal

## RYE.

The quotation on this grain is entirely nominal, as there has been no business for some time.

California new, to arrive.	\$1.40 @ 1.42½
----------------------------	----------------

## BEANS.

Local buyers are now taking beans only in small quantities, on account of the nearness of the new harvest, and the demand for shipment is principally for new crop loading. There is an easier feeling in colored beans on account of the small demand, but stocks are still light and the usual September shipments would dispose of the available stock on hand, since colored beans do not come in so early. There will be some new Lima, white and blackeye beans in September. Unfavorable weather, of course, such as heavy rains, would delay the harvest. Reports from Eastern markets indicate that the early sown part of the crop will turn out light, while the late sown promises better.

Bayos, per ctl.	\$3.00 @ 3.25
Blackeyes.	3.25 @ 3.50
Butter.	4.50 —
Cranberry Beans.	2.75 @ 3.10
Garvanzos.	2.50 @ 3.00
Horse Beans.	2.00 @ 2.50
Small White.	4.60 @ 4.75
Large White.	4.50 @ 4.60

Limas.	4.80 @ 4.90
Pea.	4.60 @ 4.75
Pink.	3.25 @ 3.35
Red.	3.25 @ 3.75
Red Kidneys.	2.75 @ 3.00

## SEEDS.

No business worth mentioning has yet begun in seeds, and the market will probably remain quiet for several weeks. The prices quoted by local dealers remain steady to firm as before. There is a prospect of some shortage of clover seed on the Coast, as the Oregon crop is very light owing to the dry weather.

Alfalfa per lb.	17½ @ 20 c
Broomcorn Seed, per ton.	\$20.00 @ 25.00
Brown Mustard, per lb.	3½ @ 3¼
Canary.	4½ —
Flaxseed.	3 —
Hemp.	4½ @ 4½
Millet.	2½ @ 3¼
Timothy.	Nominal
Yellow Mustard.	Nominal.

## FLOUR.

There have been some good-sized foreign shipments during the past week, and considerable quantities are moving from the North to the Orient, as the rates will be advanced next month. The local market, however, is unaffected, as business has been quiet for some time, under a moderate demand. Millers are steadily holding to the prices quoted.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras.	5.40 @ 5.65
Superfine.	4.20 @ 4.50
Oregon and Washington, Family.	4.90 @ 5.40

## HAY.

Under decreased arrivals, the hay market has strengthened somewhat, though the prevailing quotations have not altered very greatly. The arrivals for last week were 3180, as compared with 3890 for the week preceding, and the market has responded quickly, though dealers are careful to explain that the decrease is due rather to a car shortage than to any scarcity in hay itself. Still, it cannot be denied that the market is pretty well cleaned up and that consumers are gradually coming to the terms of the holders, in spite of the fact that considerable hay is still to be brought in. Alfalfa hay is stronger. The dairymen have become convinced that there is some truth in the report that the fourth and fifth crops of alfalfa are likely to be considerably smaller than was expected some weeks ago, and they are accordingly laying in their yearly stocks.

Choice Wheat, per ton.	\$16.00 @ 17.50
Other Grades Wheat.	11.00 @ 15.50
Wheat and Oat.	11.00 @ 16.00
Tame Oat.	11.00 @ 16.00
Wild Oat.	10.00 @ 13.50
Alfalfa.	9.50 @ 14.00
Stock.	8.50 @ 10.00
Straw, per bale.	45 @ 75c

## MILLSTUFFS.

Another large lot of bran and middlings has arrived from the Orient, but so far the market has shown no effect from it. Business on most lines is only of moderate proportions, but prices as a rule are well sustained. Notwithstanding the advance in corn, cracked corn and corn meal are both lower.

Alfalfa Meal (carload lots) per ton.	\$22.00 @ —
Jobbing.	23.00 @ —
Bran, ton—	
White.	29.50 @ 30.50
Red.	28.00 @ 29.50
Broom Corn Feed, per ctl.	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).	25.00 —
Jobbing.	26.00 —
Corn Meal.	38.00 @ —
Cracked Corn.	40.00 @ —
Mealalfa.	22.00 —
Jobbing.	23.00 —
Middlings.	32.50 @ 35.00
Mixed Feeds.	23.00 @ 28.00
Oil Cake Meal, per ton.	36.75 @ 38.25
Rolled Barley.	30.00 @ 31.00
Shorts.	30.00 @ 31.50

## VEGETABLES.

Garlic is firm at an advance, and new yellow onions are also quite strong. There is a steady shipping demand for good yellow onions, keeping the local market well cleaned up. Red onions are about cleaned up, and are no longer quoted. Tomatoes have again advanced, as arrivals continue light, and choice stock is scarce. Peas and beans are higher. Some very fine beans are coming in from the Half Moon Bay section, recently made accessible to the market. Green corn is a little easier. Cucumbers are again lower, with heavy

supplies, and summer squash and egg plant are in the same condition. Cabbage is higher and cauliflower lower.

Garlic, per lb., new.	6 @ 7c
Green Peas, lb.	4 @ 6c
String beans, lb.	3 @ 4c
Lima Beans, lb.	6 @ 7c
Cabbage, per ctl.	75 @ —
Onions—	
New Yellow ctl.	80 @ 90c
Summer Squash, large box.	35 @ 50c
Tomatoes, box.	\$1.00 @ 1.75
Turnips, sack.	50 @ 75c
Green Peppers, box.	35 @ 85c
Cucumbers, box.	40 @ 60c
Green corn, sack.	1.00 @ 1.75
Egg Plant, box.	60 @ 75c
Cauliflower, doz.	40 @ 50c
Okra, box.	50 @ 75c

## POULTRY.

The poultry market is in a little better condition than last week, though prices on most lines show no advance, and California stock is especially weak. Three cars of Eastern chickens which came in early in the week cleaned up well, with a good demand for choice stock, but most of the local offerings were neglected. Dealers expect an advance on strictly choice stock, however, within the next few days. Arrivals of turkeys have again increased, causing a decline in the price of spring fowls, but the market is steady under a good demand for heavy stock.

Broilers.	\$3.00 @ 3.50
Small Broilers.	2.50 @ 3.00
Fryers.	4.00 @ 5.00
Hens, extra.	6.50 @ 7.50
Hens, per doz.	5.00 @ 6.00
Small Hens.	4.00 @ 4.50
Old Roosters.	3.50 @ 4.50
Young Roosters.	5.00 @ 6.00
Young Roosters, full grown.	6.50 @ 7.00
Pigeons.	1.25 @ —
Squabs.	1.50 @ 1.75
Ducks.	3.50 @ 6.00
Geese.	1.50 @ 1.75
Goslings, per pair.	1.75 @ 2.00
Spring Turkey, lb.	22 @ 24c
Gobblers, live.	19 @ 20c
Hen Turkeys, live.	20 @ 21c

## BUTTER.

Butter continued to advance up to a few days ago, extras at the highest point being quoted at 27 cents. It was held by many dealers, however, that this figure was not warranted by the condition of the market, and this is demonstrated by a decline of 2 cents, the price now being ½ cent below last week's figure. Firsts are also lower, but lower grades have advanced. The market is now steady under a good demand brought on by the reduction.

Cal. (extras) per lb.	25 c
Firsts.	23½ c
Seconds.	23 c
Thirds.	20 c
Fresh Packing Stock, No. 1.	20½ c
Fresh Packing Stock, No. 2.	19 c

## EGGS.

Eggs continue quite firm, with a further advance on the higher grades of fresh stock, though there has been no change for the last few days, and it is not thought that prices will immediately go much higher. Prices are now about as high as they can be without cutting off the demand, though there is still a good movement of extras, and stocks are easily disposed of. The inquiry for the lower grades, however, is increasing. Storage stock is moving well at higher prices, but Eastern eggs are dull and easy.

California (extra) per doz.	36½ c
Firsts.	32½ c
Seconds.	26½ c
Thirds.	22 c
Eastern Selected.	25 c
Eastern firsts.	23 c
Eastern seconds.	21 c
Storage, Cal., extras.	29 c

## CHEESE.

While there is still no change in prices, cheese is now quite weak. There is no activity in the market, as buyers are unwilling to pay the present figure. Stocks are not excessive, but offerings are hard to move.

Fancy California Flats, per lb.	11½ c
Firsts.	10½ c
New Young Americas, Fancy.	13 c
Oregon Flats.	13 c
Oregon Y. A.	14½ c

## POTATOES.

Salinas Burbanks are now offered in fair quantities, and as the quality is excellent, the prices are high. River whites, however, are a little easier, though choice stock still brings good prices, and there is no great surplus on the market. Ar-

rivals of sweet potatoes show a further increase, with lower prices as a result.

New Whites.	75 @ \$1.00
Salinas Burbank.	\$1.40 @ 1.70
Sweet Potatoes, lb.	3 @ —

## FRESH FRUITS.

The market for fresh fruits is active, but with liberal supplies the prices on the principal lines show little improvement. Apricots are becoming scarce, a few small boxes bringing up to 60 cents. Berries show a general advance. Most varieties of grapes are now plentiful and prices have been reduced. Peaches are plentiful and rather easy. Pears are a little higher on smaller offerings, and apples are also firm for fancy lots. Crated cantaloupes are quoted at a considerable advance, but watermelons are lower. Figs are in large supply and weak, with many poor lots on the market.

Apples, fancy.	85c @ \$1.00
Apples, common.	25 @ 50c
Strawberries—	

Large varieties, chest.	\$6.00 @ 8.00
Blackberries, chest.	2.00 @ 4.00
Raspberries.	7.00 @ 8.00
Huckleberries, lb.	10 @ 12½ c
Plums, crate.	30 @ 60c
Peaches, box.	25 @ 50c
Figs, box.	75 @ 1.25
Nutmeg Melons, box.	50 @ 1.00
Cantaloupes, crate.	2.10 @ 2.50
Watermelons, doz.	1.00 @ 2.00
Grapes, crate, Seedless.	60 @ 85c
Muscats.	65 @ 85c
Rose of Peru.	60 @ 75c
Fontainebleau.	50 @ 65c
Pears, Bartlett, box.	35 @ 90c

## CITRUS FRUITS.

Valencia oranges are somewhat lower, and there is not much demand for anything in the citrus line. Choice Santa Barbara lemons are also lower, as they have not found much favor at the high prices.

Choice Lemons.	\$3.00 @ 3.50
Fancy Lemons.	4.50 @ 5.00
Standard.	1.00 @ 1.50
Limes.	4.00 @ 5.00
Oranges—	
Valencias.	3.00 @ 3.50
Grape Fruit.	3.25 @ 3.75

## DRIED FRUITS.

The situation in dried fruits has continued to gain strength, and prices in most lines show a further advance. According to local packers, who quote the prices below, apricots are considerably higher, and now peaches also are going higher. The Eastern buyers are showing greater interest, which now extends to nearly all lines, and the California contract is no longer an obstacle to business. The growers are getting over 6 cents for the best apricots, and 5½ cents or more for peaches. The raisin market is also very strong at the advance, though there is less Eastern business than a week ago. Sweet-box prices have been reported as high as 4 cents, and many growers are holding for still higher figures.

Evaporated Apples.	4½ @ 6c
Figs, black.	2½ —
Figs, white.	2½ —
Apricots, new crop.	6½ @ 10c
Peaches, new crop.	5 @ 7c
Prunes, 4-size basis.	3½ @ 4½ c
Pears, new crop.	5 @ 6½ c

## RAISINS.

2 Crown.	4½ c —
3 Crown.	4½ c —
4 Crown.	5½ c —
Seeded, per lb.	7 @ —
Seedless Sultanias.	4½ @ —
London Layers, per box.	\$1.25 @ 1.35

## NEW CROP.

Loose Muscatels, 4 crown.	5½ @ —
3 Crown.	5½ @ —
2 Crown.	4½ @ 4½ c
Thompson seedless.	4½ @ —
Seedless.	6 @ 6½ c
Clusters—Imperial.	\$2.25 @ 2.40
Dehesa.	1.75 @ 1.90
Fancy.	1.30 @ 1.40
London Layers.	1.25 @ 1.50

## NUTS.

Nuts remain in about the same situation as before, with the spot market well cleaned up on all varieties, and a general demand for new crop. The crop of almonds is turning out rather heavy. A large part of the crop has been contracted, and the buyers are offering in general 7½ to 10½ cents. The prices below are quoted by local packers.

Almonds, Nonpareils.	11½ —
I X L.	10½ —
Ne Plus Ultra.	10 —
Drakes.	9½ —
Languedoc.	9 —
Hardshell.	—



Walnuts, Softshell No. 1.....	13	—
Softshell, No. 2.....	10	—
Italian Chestnuts.....	10 @	12½c

## HONEY.

Honey is still being shipped to the markets, but several of the producing districts are now about cleaned out. There is a fair demand in the East, and a liberal movement in that direction, but the local market is rather quiet. The growers are getting from 5 to 6 cents for average lots of extracted. Sales in this market are made at the following figures:

Water White, Comb lb.....	16 @	17 c
White.....	15	—
Water-white, extracted.....	8 @	8½c
Light Amber.....	7 @	7½c
Dark Amber.....	5½ @	5½c
Candied.....	5½ @	5½c

## WOOL.

There is little feature to the wool market at present, as little buying is done and few shipments are going forward. While there has been some demand in the East for Oregon and Nevada clips, little attention is paid to California wools.

Humboldt, year's staple.....	15 @	18 c
Northern Coast.....	11 @	13 c
San Joaquin.....	7 @	9 c
Northern, Mountain, free.....	6 @	8 c
Southern Coast.....	6 @	8 c
Nevada.....	9 @	12 c
Oregon.....	8 @	15½c

## HOPS.

Prices continue as before quoted, but there is very little business going on at present. While the crop is estimated as far below that of last year, dealers see little prospect of better prices, as the crops in Europe are heavy. Picking has commenced in some parts of the State.

1906 crop.....	1½ @	2½c
1907 crop.....	4 @	6 c
Contracts.....	9 @	10 c

## MEAT.

Prices on both dressed meats and live-stock show little change since last week. Small lots are being shipped in from various parts of the State, but all large supplies are now sent in from outside. Mutton is plentiful and inclined to weakness, as Nevada growers are rapidly shipping in their stock, owing to the exhaustion of feed. Beef, however, remains strong. Live stock quotations given below are for good stock delivered at San Francisco.

Beef: Steers, per lb....	6 @	6½c
Cows.....	5 @	6 c
Heifers.....	5 @	6 c
Veal: Large.....	5½ @	7 c
Small.....	7½ @	9½c
Mutton: Wethers.....	6½ @	8 c
Ewes.....	6 @	7 c
Lambs.....	8 @	9 c
Hogs, dressed.....	7½ @	9½c

## LIVESTOCK

Steers, No. 1.....	3½ @	4c
No. 2.....	3½ @	—
No. 3.....	2½ @	3 c
Cows and Heifers, No. 1.....	3 @	—
No. 2.....	2½ @	—
Bulls and Stags.....	1½ @	1½c
Calves, Light.....	4½ @	4½c
Medium.....	4 @	—
Heavy.....	3½ @	—
Sheep, Wethers.....	4 @	—
Ewes.....	3½ @	—
Spring Lambs, lb.....	4½ @	4½c
Hogs, 100 to 150 lbs.....	6 @	—
150 to 250 lbs.....	6½ @	—
250 to 325 lb.....	6c	—

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

A dispatch from Fresno, dated the 19th, states that the price of raisins is going up. The crop has been damaged by the extreme hot weather, and is estimated for this year at 50,000 tons, as against 80,000 last season. The RURAL PRESS will print an article next week, sent us from Europe, giving the status of the prune crop. It seems that those growers who have good prunes will also receive better prices this year.

California's output of deciduous fruits for the present year will more than double that of 1907, and will give work to every man and woman who desires work until January 1 of next year, according to a report made by the California Promotion Committee. Up to August 1 of this year there were shipped 3805 carloads of fresh fruits, while for the same

period last year the shipments amounted to 2301 carloads. Prices were higher in 1907 than this year, but the difference is more than overcome by the excess of tonnage this year. The estimate of the value of the beans, canned fruits, dried fruits and salmon crop for the year is \$41,212,000, or slightly less than last year; but the total value of these, together with the citrus and dried fruit crops, is expected to reach \$80,000,000.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., August 18.—The deciduous market is rather unsettled at present. The peach market has declined 15 cents and Elbertas are now selling at 55 cents, and other varieties of peaches at 50 cents f. o. b. Auction sales yesterday were rather low. New York and Chicago selling late Crawford at 55 to 65 cents; Susquehannas, 60 to 70 cents; Elbertas, 70 to 85 cents, delivered. Shipments from Connecticut, Delaware and New Jersey from now until the 31st will be quite heavy, and consequently California peaches are expected to realize low values from the Atlantic seaboard markets.

It has been reported that Colorado has a large crop which is of good quality, and it is understood shipments will be quite heavy this week from that section. If such is the case Colorado peaches will flood the Western markets, and consequently low values will probably be realized for California peaches in these markets. Elbertas are practically over, only small lots being shipped at the present time.

Plums have sold well. Chicago prices ranging: Gros, \$1.00 to \$1.33; Silvers, 75 cents to \$1.35; Grand Dukes, \$1.25; Kelseys, \$1.20 to \$1.30; Wicksons, 90 cents to \$1.10.

The pear market has taken a "slump" in the auctions, much to the surprise of all. Bartletts sold in market yesterday at \$1.35 to \$2.05, the bulk of the fruit going at \$1.60 to \$1.80 delivered. F. o. b. sales have been made at \$1.00 to \$1.10. The supply en route at the present time is not very heavy, and consequently the pear market should react, although this depends somewhat on the crop that will be shipped from the northern Pacific States.

The grape market has been none too good. Prices realized in Chicago auction yesterday were as follows: Malaga, bunch pack, \$1.40 to \$1.55; plain pack, \$1.10; Muscat, bunch pack, \$1.20 to \$1.25; Thompson Seedless, 85 cents; Rose of Peru, 45 to 65 cents; Tokays, \$1.25 to \$1.50. It has been reported that a few f. o. b. sales have been made on the basis of 85 cents.

Shipments of the first pickings of Malagas are practically over, and the supply will decrease rapidly from now on.

The first car of Florin Tokays will leave about August 19, and the first car of Lodi Tokays will leave about the 25th.

Taking the deciduous situation as a whole, the immediate prospects are not very bright for peaches, and it is just a question as to what pears will do, depending upon the amount of fruit that will be shipped from other States.

High prices for Tokays are not anticipated, although good values should be realized.

Comparative shipments for the seasons 1907 and 1908 to August 12, are as follows: 1907, 2,612 cars; 1908, 4,504 cars.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., August 17.—(Special Correspondence)—Oranges are not making much noise at this time, conditions are very quiet. Some few orders right along, say the shippers, just enough to keep the thing moving. Some of the shippers who have a few cars left appear to feel that prices are bound to go down on Valencias and are offering their fruit at from 25 cents to 50 cents less than the market price. This appears to be the only disquieting feature of the situation. There was no need of this haste and the market will be inclined to strengthen instead of weaken as the supply grows smaller.

While it is true that prices are not as high this year as they were at this time last year, or in previous years, it is not to be expected that they would be. From

Write  
for Samples  
and Booklet of  
**FLINTKOTE  
REX ROOFING**  
and see for yourself  
J. A. & W. BIRD & CO.,  
91 India Street, Boston, Mass.  
PACIFIC COAST AGENTS: W. P.  
Fuller & Co., San Francisco,  
Sacramento, Oakland,  
Stockton, Los Angeles,  
San Diego, Portland,  
Seattle, Tacoma,  
Spokane.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St., San Francisco, Cal.

Buyers of Grain and Beans.

Members Merchants Exchange.

Established in 1855. Correspondence invited.

the very first of the season our oranges have been up against adverse conditions. The financial situation last fall was very bad all over the country; added to this the fruit buyers of the East had been badly bitten on the apple deal and took hold of oranges with extreme caution. They were not in a receptive mood. Shippers who visited the trade at the beginning of the season had hard work to get them to listen to orange talk at all. This shyness continued right through to May of this year and there was but very little buying for speculation up to that time.

This awakening of interest cleaned out the Navels a month earlier than usual, and the shippers were obliged to fill in the gap with Valencias and 3,000 cars, mostly Valencias went out in June, about 100 cars a day. Along the first part of July the very heavy crop of deciduous fruits began to reach the East and it was necessary to curtail shipments of oranges, and not over 20 cars a day were sent forward, showing that shippers were fully alive to the necessity of the situation.

All through these hard times prices remained at \$3.50 f. o. b. for fancy and good orchard run grades and that is where the price is today. It is hard to see, now that the vast amount of southern peaches are out of the way, upon what those who predict lower prices, base their predictions.

No, prices are not apt to go down. With not over 500 cars left in California and over five weeks left to market them in, we are very apt to see a gradual rise in values and the usual skyrocket finish of last year, when prices on the cream of shipments went to \$10 a box delivered.

Mr. W. Clark, owner of the Petaluma Hatchery, has one of the largest and most complete plants in the State. His hatchery consists of eight incubators, each with a capacity of 2000 eggs, making a total of 16,000 chicks every 21 days when running during the season at full capacity. The incubators used by Mr. Clark are of the Lutz patent, and are particularly adapted for the professional chicken hatcher. A remarkable fact in regard to these incubators is that they average a regular output of 98 per cent of chicks from the total number of fertile eggs used. While Mr. Clark's output is largely White Leghorns of the best strains and purest breed, he also supplies other breeds of chicks, viz., Buff Cochins, Light Brahmas, etc. A visit to Mr. Clark's hatchery is very interesting and well worth the time.

**CELERY CULTURE.**—A practical guide for beginners and a standard reference of great interest to persons already engaged in celery growing. It contains many illustrations giving a clear conception of the practical side of celery culture. The work is complete in every detail, from sowing a few seeds in a window-box in the house for early plants, to the handling and marketing of celery in carload lots. By W. R. Beattie. Fully illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

**BEAN CULTURE.**—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey, B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth .....\$0.50

## PUBLISHER'S DEPARTMENT.

The old reliable Heald's Business College is again advertising in the PACIFIC RURAL PRESS. Our readers are familiar with the name, and many of them have sent their boys and girls to this school. To anyone anticipating taking a business course, we would advise them to write to Heald's for circular giving all the information they need.

Petaluma has for several years been recognized as the largest poultry and egg producing center in the world, and we have now to add another record-breaking industry along these lines, that of the output of chicken food, as done by the Coulson Poultry & Stock Food Co. Under the personal and direct administration of Mr. H. C. Scrutton this firm has reached its present position in the chicken food business.

The Kendall Spavin Cure is compounded by the Dr. B. J. Kendall Co., Enosburg Falls, Vermont. These people are also publishers of a most valuable little book covering the whole range of horse troubles, called "A Treatise on the Horse and His Diseases." With this book in hand any owner of horses will be able himself to treat successfully all the ordinary ailments. The book is illustrated and gives definite information in compact form as to causes, symptoms and treatment. It can usually be obtained at drug stores, where the Kendall Spavin Cure is almost always on sale. If not it can be had free by writing the Dr. B. J. Kendall Co. at the address given above.

INDEX TO ADVERTISERS  
Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	128
Beckman, Geo. V.....	121
Bihn Bros.....	122
Bird & Co., J. A. & W.....	127
Benton, Frank.....	123
Blake, Moffitt & Towne.....	128
Bray Brothers.....	127
Breeders' Directory.....	121, 122
California State Fair.....	128
Croley, George H.....	122
Clark Wise & Co.....	—
Cutter Laboratory, The.....	121
De Laval Dairy Supply Co.....	121, 125
Dewey, Strong & Co.....	128
Dietz Company, R. E.....	125
Disbrow, F. H.....	125
Driver, E. S.....	121
Dunlap, R. M.....	120
Eakle, H. P., Jr.....	120
Fresno Agricultural Works.....	128
German Kall Works.....	—
Gibson, Mrs. W. B. & T. B.....	120
Hamlin, Miss Sarah D.....	125
Hart, Ed.....	122
Healds Business College.....	125
Hopkins & Son, G. H.....	125
Howard Cattle Co.....	121
Hume Co., Geo. W.....	125
International Harvester Co.....	—
Jackson & Co., T. W.....	128
Kendall, Dr. B. J., Co.....	121
Lawrence-Williams Co.....	121
Lilly Co., Chas. H.....	120
Lister, Henry B.....	128
Lynch, John.....	121
Meacham, Frank A.....	—
Minnewawa Vineyard.....	125
Mountain Copper Co.....	128
Murphy, P. H.....	121
National Wood Pipe Co.....	128
Oakland Poultry Yards.....	122
Palace Hardware Co.....	125
Pear Blight Remedy Co.....	128
Rix, O. A.....	125
Robinson, John R.....	125
Roeding, Geo. C.....	121
San Francisco Business College.....	125
Sharples Separator Co.....	120
Shorthorn Sales.....	120
Silva & Bergholdt Co.....	128
Simmons Hardware Co.....	—
Smith, Francis.....	128
Southern Pacific Railway.....	128
Standard Oil Co.....	123
Stowe, C. A.....	12
Sullivan, W.....	12
Teague, R. M.....	125
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Ellix Co.....	—
Vermont Farm Machine Co.....	—
Wagner, J. B.....	126
Waite, Thos.....	121
Western Gas & Power Co.....	128
Wilson, R. F.....	128
Windeler, Geo.....	—



# Back East Cheap

Low round trip rate summer excursion tickets sold to Eastern points on these dates:

August 24 and 25.

Sept. 15 and 16.

Sept. 23, 24, 25 to Kansas City Only.

HERE ARE SOME OF THE RATES:

Omaha	\$ 60.00
Council Bluffs	60.00
Kansas City	60.00
Chicago	72.50
St. Louis	67.50
New Orleans	67.50
Washington	107.50
Philadelphia	108.50
New York	108.50

Tickets sold on July dates good for 90 days; those sold August and September good until October 31. Stopovers and choice of routes going and coming. See nearest agent for details.

**SOUTHERN PACIFIC.**

## PEAR-BLIGHT We can CURE IT

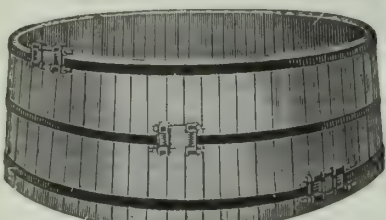
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

**R. F. WILSON,**

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

**FRANCIS SMITH & CO.,** Manufacturers of



**SHEET IRON & STEEL PIPE**

**FOR TOWN WATER WORKS**

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum

## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## SOILS

By PROF. E. W. HILGARD, of the University of California.

An excellent work by an authority. Of inestimable value to up-to-date horticulturists and farmers. Covers the formation, properties, composition and relations of soils to climate, and plant growth in humid and arid regions.

\$4.00

593 pages Well Illustrated.

\$4.00

Sent postage prepaid on receipt of price. Address:

Book Dept. Pacific Rural Press, 667 Howard St., San Francisco.

## CALIFORNIA STATE FAIR SACRAMENTO

August 29th to September 5th, 1908

All Admit the Last Fair Was the Best, THIS FAIR WILL BE BETTER

**BIG PURSES**

**BIG RACES**

**BIG PREMIUMS**

**A BIG FAIR**

**WITH STARTLING**

**ATTRACTIONS**

Bring the family and enjoy yourselves. Nowhere can you see so much or have such a good time for your money.

See the Show  
and be Saved

Miss it and  
be Miserable

\$20,000 in Premiums,  
\$15,000 in Purses,  
\$5,000 in Amusements,  
\$10,000 for Advertising  
and Operating.

All Live People  
Show, and  
All Good  
People Go

SPECIAL RAILROAD RATES.

Address J. A. FILCHER, Sec'y.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

**SILVA & BERGTHOLDT COMPANY**

Newcastle, Cal.



FERTILIZERS

## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA.

SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**

150 PINE STREET, SAN FRANCISCO.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco

## PIPE

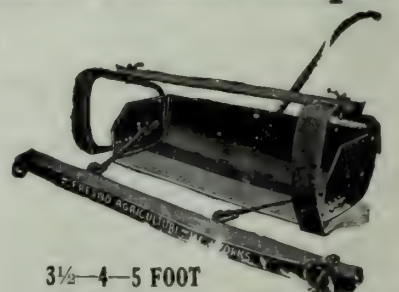
500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
3 inch	.84 lb.	\$2.50
4 "	1.12 "	3.85
1 "	1.67 "	4.50
1 1/2 "	2.24 "	6.25
2 "	2.68 "	7.25
2 1/2 "	3.61 "	10.00
3 "	5.74 "	16.00
4 "	7.54 "	19.75
5 "	10.66 "	30.00
6 "	14.50 "	42.50
8 "	18.76 "	50.00

**ALEXANDER PIPE CO.**

1083 Howard St., San Francisco, Cal.

## The Fresno Scraper



3 1/2—4—5 FOOT

Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**

1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

**HENRY B. LISTER,**

ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts. San Francisco.

## Blake, Moffitt & Towne

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 9.

SAN FRANCISCO, SATURDAY, AUGUST 29, 1908.

Thirty-eighth Year.

## Strawberry Culture.

By G. H. HOPKINS, of Burbank, Los Angeles County.

Strawberries will grow on any good garden soil, but it is generally conceded that berries grown on a sandy loam are of better color and will ship farther than those grown on heavy soil. However, for the home garden any soil that is in prime condition for vegetables will be all right for strawberries.

If possible, one should plan a year or two ahead on the strawberry bed, whether grown for the table or market. By this we mean by raising a crop of potatoes or corn, or some crop that will require thorough cultivation of the soil, and preparing for that crop by plowing under a good supply of well rotted barnyard manure. We much prefer this method of fertilizing to applying direct to the growing plants.

Previous to planting the berry plants the ground should be well plowed, and cultivated until thoroughly pulverized. If grown under irrigation it will be necessary to level the ground, which should be done before cultivation. After the soil is well worked up, use the smoothing harrow, and finally the plow to firm the soil.

As to time of planting, conditions differ so in California that it is hard to decide that matter, but, taking one year with another, we think the fall the best time, and the earlier the better. When one has water for irrigation, planting may be done at any time, and when proper care is given we believe summer planting will grow the most satisfactory crop the following season, and a good fall crop is quite possible; but great care is necessary or many of the plants will die. But as plants are more sure to grow during the cool rainy season, that time may be considered the best, and in whatever month will best suit the planter's convenience. With reference to fall or spring, fall planting will give a spring crop of more or less value, and we have known of February planting giving a paying crop, and some years a fair second crop the first year, but as a rule fall planting will give a better spring crop. However, to one who has water for irrigation, berries are not impossible the first year on plants planted as late as April.

Planted at this time, they will make a nice growth, and will probably throw out some blossoms early in the season, but if these are left on, they will make only small berries, and should be picked off. Later the plants will begin to start runners, and at the same time, if well watered and cultivated, will make a nice growth; but

these runners should not be allowed to root. Except when dormant, strawberry plants are always making an effort to increase their kind, either by starting new plants from runners or forming berries, the seeds of which will also grow and form plants.

Plants grown from seed may have the main characteristics of the parent stock, but cannot be depended upon, so this method of propagation is not practiced except in getting new varieties. Therefore keep off all runners and first blossoms that appear, cultivate and water, and the spring planting will be pretty sure to give you some ber-

sible, so that what berries there are are small and inferior.

The proper distance for setting out plants will depend upon soil, amount of plants one wishes to begin with, and whether he has a large or small plot of ground. When on a sandy loam soil and when a person wants quick results, we advocate planting in rows eighteen inches apart and the plants twelve inches apart in the row. This requires about 28,000 plants to the acre. On heavy soil, where cultivation with a horse is necessary, plants may be set thirty to thirty-six inches between the rows, and the plants twelve inches in

the row. Or, they may be planted two feet apart in the row and allowed to run sufficiently to form a double row, although the plants should not be set closer than ten inches. Where the rows are three feet apart they may also be planted in double rows, say eight to ten inches apart, being three feet from center to center of double row, and planted ten or twelve inches apart in the row. This style of planting will require about 30,000 plants per acre. Planted three feet by two it would take 7000 plants per acre.

While the first cost of plants is greater where a full stand of plants is set out, there would be four times the berries the first year and a full crop the second year, while the other way it would take the second year to make a stand of plants, getting the full crop the third year. Therefore, where one wants quickest returns a full stand of plants should be set out. All the commercial plantations around Los Angeles are planted in this manner.

Whatever the plan of planting may be, the main thing is to keep off unnecessary runners and early bloom, cultivate thoroughly and, if possible, water when necessary, so that strong individual plants will develop, as one cannot expect a large berry from a puny plant. If given plenty of room to grow in, they will make plants full of vitality, and when good stock is

used will form an astonishing crown system, thereby growing more berries and larger ones than is possible on a small plant. Furthermore, the robust plant will resist disease where the weak plant will die. There is no pleasure in growing an inferior berry, and certainly no profit.

Under irrigation young strawberry plants should be cultivated a day or so after each watering up to the time they begin to bear a heavy crop. After bearing a heavy crop the plants should rest for a few weeks without water, and then start in with the water and cultivation again.

No country is so favored in the growth of small fruit as the Pacific Coast, so there is really no reason why every owner of a plot of ground should not have a supply of berries for the table.



PROFUSION OF THE STRAWBERRY IN CALIFORNIA.

ries later in the season. Of course, if it runs into fall it will depend somewhat on frosts, according to situation.

There is one rule that can be laid down as iron-clad by all strawberry growers, without regard to location, climatic conditions or anything else, and that is, one cannot raise good berries after the plants have been allowed to run all over creation and formed a mass of young plants; nor can you raise good strong plants after the vines have fruited. So if one desires to raise his own plants he should pick out a few rows and handle them with that in view. Nine times out of ten the man who says it don't pay to have a strawberry bed in the home garden has permitted the plants to run into a solid bed, making cultivation impos-



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS  
E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

The way fresh fruits are going East this year is pleasant to think about. Our market reports from Sacramento give weekly summaries of the shipments and the prices they bring, and the joy of it comes in the fact that though the movement has already filled about 5500 cars, which is almost twice as much as last year to this date, the prices remain encouraging. It is to be expected that when such a flood of fruit impinges upon the mid-summer flow from Eastern orchards, consuming capacity of the country would be taxed and the prices lowered, but we have months to come during which California fruits will be moving eastward, and our late strokes at distant markets may be more like the early ones. If these later fruits hold out well we may make a deciduous record of 10,000 carloads, which is 50% more than usual. Such results as this would be altogether impossible if our shipping interests were not organized for distribution as they now are, and the suggestion of fuller organization should be more forcible than our preaching could make it.

Professor Bailey of Cornell has notified President Roosevelt that he cannot assume the duty of reporting upon the conditions and needs of rural life and industry in the United States, because he is too busy with his important university work. This is to be regretted, because he is full of facts and ideas on the subject; but fortunately he will be ready to check up others if they overlook anything important. What this commission has to do, according to the instructions of the President, is to tell him what means are now available for supplying the deficiencies which now exist in rural life, and what are the best methods of organized, permanent effort in investigation and actual work to make such deficiencies good. This is a thoroughly practical view to take of the situation, and President Roosevelt will send Congress a message on the subject as soon as he is made wise on the subject. All this has a hopeful look.

In commenting upon this subject recently we said that nearly all nations had undertaken such investigation for the promotion of agriculture, and all investigating commissions had reported two things as indispensable, viz., education and organization, and that the governments should advance these. Since then a new commission of that kind has reported, and our latest English exchanges bring an outline of the report. It emphasizes 32 points, all of which are interesting, for it begins with favoring agricultural education at Oxford University and in all other schools down to the lowest, and adds this as a thirty-third degree and concluding declaration: "Agricultural education is of such vital importance to the United Kingdom that no effort should be spared in making the provision for it as full and complete as possible. . . The committee are confident that

if their recommendations are adopted it will be possible to build up in England and Wales, at no excessive cost and within a reasonable time, a system of scientific and practical agricultural education equal, if not superior, to that existing in any country."

In the means toward this end, organization of agricultural societies and co-operation are prominently urged. We may sometimes think that as a new country we are up against new conditions and require new remedies, and so indeed we are and we do. It may be some encouragement along this road, that the old country, with institutions a thousand years old, has however to take the same course toward the same ends, and is starting along behind us, because it is the United States which can be counted as one of the "any countries" which Great Britain now proposes to equal or surpass in practical and scientific progress in agriculture. And if Great Britain finds it essential to make a serious start in that direction, important it must be for us to go on in the same line! President Roosevelt's proposition is looking that way.

Thinking about Washington affairs, it strikes us as rather too bad that Secretary Wilson is being lambasted because he manifested a desire to be reasonable and to look carefully into the Californian claim that the use of sulphur in fruit drying is innocent and a valuable manufacturing process. Such, however, seems to be his fate, and we do not suppose that he cares about either. Still, Californians are not pleased to see him suffer in reputation because of his Western love of fair play. Early in the month there was a convention of pure-food officers in Michigan, and the report is that Prof. E. E. Ladd, president of the association, and J. Q. Emery, food commissioners of Wisconsin, were the leaders in the startling charges against Secretary Wilson and the committee of five, which we understand to be the "referee board" appointed by President Roosevelt. The claim was that Secretary Wilson and the pure-food referee board "have permitted themselves to become parties to a plot to defeat the ends of pure-food legislation, and already have nullified most of the good work done by President Roosevelt and Dr. H. W. Wiley of the Bureau of Chemistry." President Ladd said: "The Secretary of Agriculture, when the work had been partially completed, observing that such standards were not pleasing to the special interests, seems to have succumbed to the pressure brought to bear, and, unfortunately, even aiding in nullifying the work."

Dr. Wiley is credited with coming to the defense of Secretary Wilson against the intemperate and slanderous declarations of the parties cited above. It was a very proper thing for him to do, for he knows that Secretary Wilson's course in the affair was fair and reasonable. He knows, also, that the appointment of a referee board was the broad-minded arrangement of President Roosevelt, in order that points in controversy could be carefully tested and examined, and it is simply ridiculous for such over-zealous and opinionated people to bring the charge against Secretary Wilson of nullifying the work of President Roosevelt, when the President himself would nullify his own act if he had reason to doubt that it was right—in fact, his creation of a referee board was intended to nullify until a demonstration was reached. We are glad Dr. Wiley rebuked even mildly the unwarranted attack upon Secretary Wilson, but even that act does not absolve Dr. Wiley from taking the attitude which he did in the matter. We do not hold him respon-

sible for what the telegrams say about him, but this is the alleged interview:

"Some interests formerly arrayed against me now frankly confess they were in the wrong. Among them is the largest food supply house in Chicago, employing over 400 sales agents throughout the country. There are other interests, however, that are slower to recognize the truth, although the public health is at stake. These are the dried-fruit industry of California, certain molasses manufacturers in Louisiana and the Wholesale Liquor Dealers' Association. I look for these people to come around in good time. I am enlisted for war, and do not intend to lay down my arms until victory, full, complete and permanent, has been won."

It is, of course, right for Dr. Wiley to hold his ground as long as he believes that he is right, but this claim that he is "in for war" is what excites Californians, and is unworthy of him. Is California to be subjugated? Are the California people enemies? Why does not he claim that he is right and the right will prevail. That would sound much better, and that is all that California is contending for.

In this connection it is interesting to state that, according to common reports, Mr. Arthur R. Briggs, president of the California State Board of Trade, has received information that an action brought in Philadelphia under the pure-food law of that State, under which California fruits cured by the use of sulphur were involved, has resulted in the State pure-food law being declared unconstitutional. President Briggs considers that decision very important to the fruit industry of California, because many States have recently adopted pure-food laws, while others have such laws under consideration, and all are based upon the same general principles. This, of course, is important, in that it gives warning that such legislation must not take a high-handed and arbitrary course with industries. It must be demonstrated beyond peradventure that processes which are arraigned must be demonstrated to be injurious. That again is just what California has contended for from the first. Our people have been among the most strenuous advocates of pure-food legislation, but there must, of course, be no doubt about what is impure.

This issue of the PACIFIC RURAL PRESS is rich in strawberry literature. The article by Mr. Hopkins, a leading Los Angeles county grower, upon our first page, is one of the most compact and clearest statements of the essentials of success with strawberries in this State that has ever been printed. Many an enthusiastic amateur can find in it the reasons why he has not succeeded as he expected, and it will also help many a successful grower to do better. Another notable piece of writing is Mr. Etter's account of how he is making new strawberries, using blood not available to others who have done such work in this country, and attaining most remarkable results. Mr. Etter's work in this line will bring him wide fame, and at some convenient time we shall tell our readers something about Mr. Etter which will make their interest in his work keener and more satisfying.

Agricultural visions seem to be becoming each week more picturesque. We do not call them fakes, because that word carries probably an intent to deceive. What we speak of now are merely horticultural dreams, which may deceive both the dreamer and his audience. One of our country exchanges tells that Mr. J. W. Phillipi of Acampo



has succeeded, after several years' experimenting, in crossing the peach and nectarine and evolving a fruit that he believes will prove of considerable commercial value. The flavor of both the peach and nectarine have been so combined as to produce a delicious fruit, and at the same time the desired rosy color of the peach has been retained. The new fruit has been named by Mr. Phillipi the "peacherine." As the meat is solid and firm he believes it will prove a good shipper. The fact probably is that Mr. Phillipi, whom we know to be a successful fruit grower, has secured a new nectarine. The nectarine and the peach are essentially the same, and have come back and forward by bud-variation from the earliest times. He is a good judge of the desirability of the variety, but he is only dreaming of making a combination which nature makes simply whenever she is disposed. Better call it the Phillipi nectarine.

Another horticultural dream comes from Ventura county in the form of a story from Oxnard that Mr. James Leonard has discovered coffee growing in the Matilija canyon. The account says: "The trees are six or eight feet high, and have every appearance of coffee trees found in Brazil, Porto Rico and the Philippine Islands. They are scattered over the mountains, and are called 'yerba ossa' by the Mexicans, who have never associated them with coffee trees of tropical climates. In the sixteenth century a group of Spanish adventurers entered Matilija canyon and tributary country, and they left many signs of their visit. It is thought that the coffee trees are descendants of some planted at that time."

This is of course a cock-and-bull story. The plant is the old "California coffee," a species of rhamnus, which has deceived tenderfeet ever since mining times. It has no relationship whatever to the true tropical coffee. The Mexicans apparently know more than the people who come after them to tell such stories.

## Queries and Replies.

### Lime and Peanuts.

To the Editor: In a recent answer to a question of mine you say "you can probably render your soil more friable by the application of air-slaked lime." Since ranching or farming is a new proposition to me, I will have to request you to tell me how to apply it. Do I scatter it over the dry soil and let it go at that, or do I first wet the ground and then plow the lime under? How could I apply the lime to the peanuts that are now in blossom?—Beginner, Los Angeles County.

In order that the lime may have most effect on the surface soil which you desire to render more friable, a top dressing of 1000 pounds of air-slaked lime to the acre would be reasonable. Such application is best made at the beginning of the rainy season, for the rains will dissolve out the lime and facilitate its action. You can, of course, apply in advance of irrigation if you so desire. We would not think of applying lime to peanuts during the growing period. There might not necessarily be any damage, but there would be a risk of too great concentration in spots, which would be destructive to the plant.

### Sunflower Leaves as Forage.

To the Editor: I am a beginner at farming. I planted considerable sunflower seed last spring for chicken feed. They grew very well, with large stalks, full of large coarse leaflets and large heads generally. I have a mare sucking a colt one month old, that is very fond of the leaves, either green or dried. I am unable to find anyone who can advise me whether this feed is good for stock. My cow will not eat them. If it is good feed, can

I cure a large quantity of leaves before they dry up on the stalk, without detriment to the head. Please advise me if safe to feed to stock, especially one that is suckling a colt.—Subscriber, Tulare County.

Sunflower leaves are not poisonous, and we do not find any record of their having injurious effect upon stock, except that they are purgative when milch cows eat them in excess. It seems very doubtful whether stock will eat the dry plant after the novelty of it has worn off. Animals sometimes have rather freaky appetites, which are soon satisfied, and the strange materials that they sometimes choose are afterward abandoned. We doubt if the subject will be of more than passing interest to you.

### Toadstool Fungus.

To the Editor: In your book, "The California Fruits," I notice a small paragraph on "Toadstool Destruction" by fungus in the roots. I have ten acres of oranges that are badly affected with the toadstool fungus, and have treated some of the trees with Bordeaux mixture, but on replanting, the oranges again get affected. I have also lost some loquats that are on quince stock, and pears. If possible, tell me how to treat the land which seems so full of the fungus. I may state that the timber (red gum) was cleared when green, and green roots of the red gum were left in the ground. These roots seem to be the cause.—Subscriber, Western Australia.

No easy way has been found in this State so far. Thorough clearing of the land is about the only safeguard, taking out all roots and chips as deeply as one can afford to do it. Where trees have failed amid others not attacked, dig a big hole, removing all roots encountered and using lime freely and leaving the hole exposed for a season, as a correspondent in last week's RURAL PRESS proposed to do. Our greatest trouble is with stone fruits, and often seed fruits will succeed where stone fruits have been killed. Still we have occasionally just such experience as you have described, and have found no easy way out of it.

### Sorghum Growing.

To the Editor: Can you give me a pamphlet on sorghum in this State, or give me directions where I might get it? Have there been any experiments on alkali ground with it? Would it pay as a syrup proposition on such ground?—B. C. E., Fresno.

There is no pamphlet on sorghum in this State, particularly. The plant is now widely grown and has been almost continuously under discussion in our agricultural papers, so that its behavior is pretty generally understood. It will not endure much alkali; that is, make a free and profitable growth. Some forage can be had from ground in which the alkali is not too strong. It will not pay to make sorghum syrup; that was tried out years ago on the best soil and with the best growth of plant. Nothing but an occasional local sale can be found for the syrup, because there is such an overwhelmingly large supply of sugar cane syrup from the refineries, and everybody prefers cane sugar syrup.

### Alkali and Lime.

To the Editor: Having noticed with interest the discussion in your columns about hydrated lime, I wish to ask you how to determine whether or not the soil contains alkali, and when is the best time to apply lime—in the fall, winter, or spring. One part of my vineyard, in Sonoma county, is rather heavy soil, and I would like to make it more friable.—A Beginner, San Francisco.

If you have never thought before that your soil had alkali it probably has none. Alkali is not generally an obscure matter; it blooms out in the

dry season and blanches and glistens, kills plants and acts generally in a very forward and disagreeable manner. If you see any such things, send a sample to the Agricultural Experiment Station for an alkali test. Of course lime is not good for alkali, because air-slaked lime or hydrated lime is alkaline itself, but it is very good to make non-alkaline, heavy soils more friable. We have discussed application in answering other questions.

### Usefulness of the Tree-Malva.

To the Editor: I have a shrub growing on my ranch that apparently belongs to the maple family, is a rapid grower of foliage, with a sweet juice, which is greedily eaten by all kinds of stock. They eat both leaves, stems, branches and a seed which it bears in profusion. It was originally planted for an ornamental shrub, but I suspect it has considerable economic value. What I wish to do is to have an analysis made showing its absolute nutritive value, also botanical classification. Will you kindly advise if you can analyze and classify it?—Grower, Los Angeles.

Your specimen shows that the plant which you recently mentioned as belonging to the maple family is not a maple at all, although it does have something the same sort of a leaf. It is a mallow, or malva (*Lavatera assurgentiflora*), an arborescent species of the prostrate plant which is usually called "cheeses" by the children. It is very common in all parts of the State around old ranch houses, and growing frequently on vacant lots in our cities. It is very drouth-resistant and has been frequently mentioned as desirable for forage purposes, especially during such dry years as 1877, 1889 and 1899. If it were not so common it would be counted very handsome. Its chief value at the present time seems to be as a quickly growing shade and forage plant in chicken yards, where it serves a most excellent purpose. Its forage value has been so freely demonstrated by experience and by the choice of animals themselves, that it can be taken for granted that it has value when other green forage is scant; otherwise stock will neglect it.

### Cow Peas as a Cover Crop.

Kindly inform me of the value of black-eye peas as a cover crop in citrus orchards. Also has the dry straw from threshed black-eye peas any value as a fertilizer when plowed under?—Enquirer, Piru, Ventura County.

Black-eye peas are cow peas, and cow peas are really beans, therefore tender, subject to frost killing and not fitted to make good growth during the rainy season. For this reason they are not suited as a cover crop in citrus orchards, unless your situation is practically frostless. Bean straw has a fertilizing value superior to that of grain straw, because of its greater content of nitrogen; but whether you can make use of it or not depends upon the character of the soil and the amount of moisture. It would do much more harm than good to plow under bean straw in a light soil with a limited water supply. It not only would not decay readily, but would cause such a loss of moisture from the soil that the trees would probably be injured.

### The Place for English Walnuts.

To the Editor: I intend starting a walnut ranch in this State, and would like to hear which part of it you consider best adapted for this kind of fruit.—Reader, San Francisco.

Wherever there is a deep, free soil, ample rainfall or available irrigation, freedom from very late, sharp frosts, and a man or woman who can think effectively and work hard to meet the difficulties which will arise.



## Horticulture.

### BUILDING NEW TYPES OF STRAWBERRIES AT ETTERSBURG.

Written for the PACIFIC RURAL PRESS  
By ALBERT F. ETTER, Briceland, Humboldt County.

When one looks over the collection of hybrid strawberry plants now growing at Ettersburg, at any season of the year, and compares them with their parents, he is astonished at the great superiority of the best of these hybrids. Had anyone told me three years ago that in the 1800 plants I fruited this year I should meet with such success as I have, I would have considered it very foolish indeed. I expected to get a few good varieties, of course, but to get the best I ever produced, and in crosses where I expected very little in results, was a great surprise to me. Above all, that I should be able to mark one out of every eighteen plants as showing desirable characteristics that placed it well up in the ranks, completely exceeded my anticipations. I could say, too, that had I marked every plant that was superior to ordinary standard varieties in the same patch, I probably could have marked three times as many as I did. When one stops to consider that under the precise conditions in which these hybrid plants made their great showing, ordinary varieties of red strawberries of earlier origin amount to but little, and that with but a single plant in the world to show what they were capable of doing, and when some of them carried as high as 70 to 80 ripe berries at one time, and none of them overripe, he begins to get a glimpse of their unusual character in the strawberry world.

**The Parentage.**—Of course the reader will want to know what I made them of. The truthful answer is: of comparatively worthless freaks and wild native stock, combined without any trace of "wizardism" at all. To begin with, I crossed the old well known Sharpless with the comparatively little known Parry. I then grew seedlings of this cross-bred plant through two more generations of rather worthless but freakish seedlings.

Twenty-five or thirty years ago a Captain Cousins brought plants of a fragrant white strawberry of a peculiar pineapple flavor from Calao, Peru, and gave them to Mr. A. J. Monroe of Eureka, California. It is, most likely, the Peruvian type of *Fragaria chiloensis*. It is a very different type of *F. chiloensis* from our native beach strawberry. Of tropical origin, it dislikes cold, and is far less drouth-resistant than our local beach type. It is not a strong and vigorous plant, and it is not at all fruitful. Its strong points are its deep-penetrating roots, its fragrance and its solid-fleshed berry.

Two worthless, shy-bearing ancestors, the last of the Sharpless-Parry blood referred to above, and this Peruvian beach or sand strawberry produced the Rose Ettersburg, a strawberry entirely different from any other variety in cultivation.

**Rose Ettersburg.**—It is neither red nor white, but a delicate blush pink, a color we all admire on a lady's face, but some at least do not approve on a strawberry. Coming into the world under the guidance of my hand, I will say this much for Rose Ettersburg: it is unique in the strawberry world, in a class by itself, if we except its own progeny here at Ettersburg. Although not red, as it grows here, it is a beautiful berry, with a fragrance so sweet as to overcome the odor of the well known La Marque rose. To reach perfection Rose Ettersburg requires sunshine and a deep warm and rather light soil, as might be expected of it, being that its mother came from the warm coast of Peru. It is a good canning berry, so far as flavor goes, and will not break up in boiling, but for people who feast with their eyes it is worthless, as it is almost white when canned. As I said before, it is in a class by itself and has a flavor of its own. Its best friends say they never tasted anything finer, and those who don't like it say it doesn't taste like other strawberries.

**A Great Bearer.**—The great feature of the Rose Ettersburg as compared with other strawberries is, it will under certain conditions produce enormously where ordinary varieties are of no value at all. As a matter of information, just that the reader may understand something of our soil conditions where my work is being carried on, I will

say that my soil is rather light and does not hold moisture near the surface well enough to grow a crop of potatoes well, because potatoes are shallow rooting plants. However, the soil is deep and holds more moisture at a depth of, say, two or three feet, yet there is no water-table at any depth. Any plant that will thrive must not be too fond of moisture, and must be able to reach well down for what it does get.

**Deep Rooting.**—While it has other advantages, the great advantage the Rose Ettersburg has over its rivals is its deep-penetrating roots, two or three times as long as the root system of ordinary varieties. With a shade temperature at the surface of the ground of 100 to 112 degrees, and this, too, not for a week or so, with intervening showers and cloudy weather, but a spell of about 90 days without a shower; such weather, coming just after the crop is nicely ripened, and you can figure out what we require of a strawberry plant to succeed here.

**A Problem.**—To size up a proposition such as would fulfill the above specifications, from the basis of the ordinary varieties of strawberries in cultivation, would indeed seem like a long drawn out task. In undertaking a problem like this we don't wish to wonder like a child, but give our imagination a little play. First, we must see what we want, or require; second, where the material can be found, and, third, how we can most likely contrive to secure the results we desire.

It is very easy indeed, if you understand the first principles of the game. If you do not believe it, try it and be convinced. Claim everything that turns up, whether you were looking for it or not. All this is legitimate with the "wizard" in his work.

After producing the Rose Ettersburg I began growing seedlings of it. I found such a wide variation in these second generation seedlings that I heralded the Rose Ettersburg as the foundation of a new race of strawberries.

The only thing I produced of straight Rose Ettersburg blood was "No. 23." It is a berry of brilliant red to the center, and of exceptionally high flavor. The flesh is as solid as that of a cherry, and in canning it does not break up more than does a cherry; or, plainly speaking, it holds its shape to perfection. It is of better foliage to resist heat than the Rose Ettersburg, and quite as productive. It is firm enough to be an excellent shipper, and some day it will have a better name than the "skiddoo" number.

**Some of the Offspring.**—I hybridized the Rose Ettersburg with the little native red timber strawberry, *Fragaria californica*. This was an elegant cross, producing some very large growing plants of splendid constitution. The fruit was large and of the usual red color, and they were quite productive, with a flavor of their own.

"No. 3" was the poorest in quality and the least productive of the three varieties selected, so far as fruit is concerned, but it had the foliage and root development I was seeking, and its progeny has not disappointed me. With about half the cultivation a strawberry is supposed to be entitled to, these Rose Ettersburg-Californicas are 12 to 16 inches high, while in the same row, on precisely the same soil, six varieties of Eastern stock, including Senator Dunlap and Bederwood, are barely able to survive, all being cultivated alike.

I shall write next of the crosses of Rose Ettersburg with the beach varieties.

Briceland, Humboldt County.

### PICKING UP WALNUTS BY SUCTION.

L. L. Sidwell, a Riviera walnut grower, is, according to the Anaheim Gazette, perfecting a new machine to pick walnuts by suction. The machine is operated by a gasoline engine, a four-inch hose being held just above the ground under the walnut tree. The suction draws the walnuts through the hose to the top of a tank, which is installed on a wagon. There is also an exhaust near the top of the tank. As the walnuts come into the top of the tank, being heavier than the hulls, they fall to the bottom of the tank, while the hulls, leaves, and debris picked up are blown out through the exhaust. The machine leaves no nuts on the ground, as is the case in many groves after the heavy growth of leaves begins to fall. A machine costing not over \$500 will, it is said, do the work of six or seven men, and Mr. Sidwell

believes a machine can be built for about \$3000 that will pick up all the walnuts from a 10-acre tract in one day. The machine, which is not for sale, was tried on 1000 pounds of nuts at the close of the past season, and it worked to perfection, doing the work as well as it could have been done by hand. The machine has been improved and will be used this season in groves at Rivera.

## Citrus Fruits.

### PRODUCTION OF CITRUS FRUITS.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

To study the production of citrus fruit the two principal crops must be viewed separately. The latest market reports show that notwithstanding the extensive plantings of the past few years that are coming into bearing, the total of the crop of oranges for market is not increasing. On the contrary, there is possibly a slight falling off. The present indications, as viewed from the average appearance of the trees, do not point to a larger crop for shipment next season. Without a careful and extensive study of the orchards it is scarcely safe to speak very positively of the cause of the comparatively small crops, but there is already strong grounds for the belief that the combined methods of soil manipulation and tree culture are responsible. Most financially successful growers whose names are well known are constantly besieged with inquiries as to cultivation and fertilization. Not a few of them undertake to hand back advice based upon their own soils and conditions. Such advice, while candidly given, is as frequently misleading and rarely suited to the conditions of the enquirer. The more conservative growers refuse to give advice as they do not pretend to be specialists and have troubles of their own which they have not satisfactorily solved. The inference to be drawn from this condition is that growers are not satisfied with their orchard production, and that they recognize that improved methods are desirable. The lemon crop is shown as increasing, so that, taking the two crops together, the production of citrus fruits is not decreasing.

**Summer Troubles.**—This summer is proving a rather difficult one for the orange grower. The protracted period of heat, with very little let-up, has caused serious evaporation of water from the soil. Only the most carefully conducted and controlled irrigation will tide over such conditions safely. When the surface soils to the depth of the mass of feeding roots get dry the usual noticeable result is a profuse falling of young fruit. This falling of young fruit is often blamed to insufficient or incorrect fertilization, and while such a cause is possible, yet most frequently the trouble is due to soil drouth during the active season of new root growth. When the roots are thirsting for water which the soil does not afford them, there is a tendency for the sap of the leaves and fruit to respond to the call of nature and flow to the roots. This causes a shrinkage and hardening of the immature cells before they have had a chance to become mineralized, and seems to simulate premature ripening or a ripening without sufficient mineral matter. This leaves a weakened condition, which is characterized by a fall of fruit. In some varieties of trees a similar result is observed in the fall of leaves. Sometimes the fall of fruit is not excessive until a heavy irrigation is resorted to after the soil has become too dry. This is the result of shock, or more correctly, a sudden or spasmodic attempt of the shriveled or collapsed cell to expand after it has become stiffened by insufficient moisture. As a first cause we do well to study our irrigation methods when the fall of young fruit is excessive in summer.

Another trouble that develops in dry summers is gum disease, so-called. Here again such development will be found accompanied by an imperfect irrigation method. Under such conditions as have been prevailing this summer, it is not uncommon for a tree here and there in the orchard to become root-dry, and even to be missed in the irrigation, within the area of the surface roots. If the lower roots continue to carry water to the tree and the leaves remain green and active, so that a considerable supply of sap is formed to load the surface bark, and which cannot be used



by the roots, it will generally find relief in exit and form gum when exposed to the air.

Spasmodic irrigation, which gives alternate periods of drouth and plenty, results in the forcing of young growths, which hardly ever recover their full vigor, and result in feeble fruiting or early dying, puzzling the grower. The sequel of such drying of immature wood is an accumulation of dead wood, caused by shrinkage and shriveling of the cells. We are not taking advantage of our chances if we do not use irrigation for the systematic and perfect production of crops. Simply looking upon irrigation as a necessary evil, as many seem to do, is like having "faculties we have never used"; it is poor business and shows that many of us have not risen to a realization of the grand possibilities of irrigation farming, which gives us control of the most important yet most uncertain element in plant production.

No operation of orchard culture in arid or semi-arid climates is of greater importance to the grower than irrigation. It should not be controlled by chance hit-or-miss operations, but should be understood and reduced to a positive method suited to each soil and made as perfect as conditions permit. Few growers know the amount of water their respective soils should receive. Some have learned by experience that they can use too much or too little water on parts of the whole of their properties, but the scientific optimum is absolutely unknown to them. If this is a correct statement of fact, it is not surprising that difficulties due to improper irrigation are so common among the growers. Without the ascertained water optimum of a given soil, an attempt to fix the mean between the minimum and the maximum of water to allow for the free circulation of air and water in the soil is a long-chance procedure.

**The Gum Disease.**—As the gumming of citrus trees seems to engage so much of the attention of correspondents and contributors to the horticultural press of late, it seems opportune to discuss. It is curious how readily such an intelligent class as our citrus growers accept a solution of an important problem affecting their business when it is vigorously stated by one of themselves. While they will meet with the proverbial saltshaker the carefully prepared opinion of the student and experimenter, they will swallow without seasoning the assertion of an untrained grower. This seems forcibly exemplified in the prominence and attention given to recent correspondence on the subject of gum diseases by a grower who, while a large owner, has only within a short time engaged in active citrus culture.

It is quite true that there is practically no doubt among experimentors that gum disease is neither a bacteriological nor pathological affection of the tree. (The term pathological is used to indicate a sick or diseased condition of the sap.) It is as true that the gum trouble is now considered a physiological disturbance arising from a physical condition interfering with the descending sap circulation of the tree. It has been understood as such for about five years. This therefore is not a new theory, nor is it demonstrated by such methods as described in one of the most prominent letters referred to.

It has been shown by direct bacteriological study that the trouble has no bacterial origin, and not by such uncertain methods as thrusting some gum beneath the bark of the tree to effect inoculation. A most important step in the work was to locate the source of the gum. This study traced the gum positively to the descending sap of the tree, which passes down inside the outer bark, thus proving that it did not come from the ascending sap or from the cambium or wood of the tree. A study of the gum showed it to be pure descending sap, hardened to gum by the well known action of the air on certain classes of gum-carrying sap. A study of gum arabic, and particularly of the East India gum which is taken from a tree of the orange type, assisted in this study. The why of the gum oozing suggested some obstruction in the sap circulation, and this was sought in a methodical way. Various methods of obstruction were tried. Ringing the bark at the base of the tree produced the gum oozing when done between the first of February and the first of July, and was most successful when done in March. The same operation on important roots of the tree under parallel conditions had a similar

effect. But these operations repeated between the first of July and the first of November produced no gumming of the bark, the wounds apparently healing so rapidly that circulation was effectually restored. Also a careful protection of the wound with a wax plaster avoided the gumming in most cases, the failures apparently resulting from imperfect application of the plaster. A fresh cow-dung plaster seemed as efficacious as the wax, though not so easily controlled. Having thus found an artificial method for the production of gum on the orange and lemon trees, the next step was to find what cultural or natural operations produced it. It was observed that many trees in an over-irrigated or badly drained soil developed gum. A stiff clay, gumbo, or a silt soil that surface-dried very hard and clung to the tree trunk, produced gum. A hardpan, either in a silt or clay soil, which encompassed a considerable area of the surface roots produced gum. An established hardpan that held up water and caused a puddling of the surface soil showed extensive gumming. When any of these adverse conditions were corrected and the trees whitewashed with lime wash the gumming ceased and generally the trees recovered gradually. These investigations embraced hundreds of trees, and were scattered in all conditions of soils. The trouble developed but rarely in loose, free draining soils of considerable depth, and such cases as were observed showed a complete drouth in the soil for a considerable depth during the period of most active surface rootlet expansion. One case is sufficient to elucidate the drying out theory. A small orchard of large, healthy trees (seedlings) about 20 years old was abandoned. All the trees but one were removed. It was a clean, healthy looking tree, in full leaf. No water was applied and the season was dry. Before midsummer the tree commenced to exude sap and form gum, the action beginning in the night. Examination of the soil showed 14 inches actually dry, with the next few inches too dry for healthy vegetation. The tree did not show serious wilting of the leaf, though it was paling. Investigation showed some very deep roots which were no doubt keeping up the leaf. Had it not been for the deep roots the tree must have wilted, but in such case there would have been no gumming. The gum from this tree was gathered on the first morning of its appearance and was transferred to a bottle, from which the air was extracted to form a slight vacuum. This gum returned to liquid sap in about two hours, and the most careful examination of the bark of the tree showed no unhealthy condition.

From this it is seen that there is no reason to fear gum disease, but that methods of irrigation and cultivation must be suitable to the soil of the orchard, and even drainage, if necessary, must be employed. If the cultural methods are suited to the soil and properly timed to meet seasonal conditions, gum trouble will not occur except under one condition, which has not been mentioned. This refers to an imperfect union of the bud, such as occurs when, owing to characteristic growing propensities, the root-stock and bud are of varieties unsuitable to such uniting.

There is no panacea or cure-all for the gum trouble. The remedy is to locate the obstruction to the tree's circulation, permanently remove the cause, clean up the bark, and lime-wash. There is not much danger of saphrophytic decay affecting the tree after its circulation has been restored, as some think, but it nevertheless is as well to remove any rotten wood which may have occurred, and depend on the lime-wash to disinfect it. As the descending sap of the tree is manufactured in the leaf from the ascending sap and carbon taken from the air by respiration, it is wise to defoliate or severely top-prune to decrease the amount of descending sap if the trunk of the tree is so badly hurt that there is not sufficient bark left to carry the sap to the roots. This is particularly advisable in early spring. In the spring and early summer the effort of the tree is to extend root and establish rootlets in the soil. These require carbon, and the tree endeavors to supply the want of the root system by absorbing carbonic acid from the air to compound with the sap or food coming up from the soil. The sap thus manufactured in the leaf passes on the under side of the root to the outer bark, of which it is a practical extension, and thence the nourishing of the roots is effected.

## Cereal Crops.

### THE DECLINE OF CALIFORNIA WHEAT LANDS.

To the Editor: A few years ago the New York Tribune, in a series of articles on the professions, published an interesting one on farming as a profession, written by Prof. L. H. Bailey, of Cornell University. Among other statements, he said: "The abandonment of the poorer class of Eastern farms was a great blessing to agriculture, although this was not recognized at the time. A new kind of farm life is rapidly developing. It is largely a reflection from the West. . . . In the great agricultural West farming is so extensive and so profitable that agricultural sentiment well might dominate the country."

But there seems to be a "reversal of form" since the publication of that article. Western farming does not pay as it once did, and the old Eastern and Southern States are again offering good openings.

The Hon. J. J. Hill has repeatedly pointed out the necessity of improving the methods of farming in the Western States, the value of crop rotation and renewal of soil fertility, and in an address before the Conference of Governors recently held in Washington, he severely condemned the waste of plant food elements by the common farm practice.

According to Circular No. 12, issued by the California State Board of Trade, there were cultivated in this State in 1902, 2,052,679 acres of wheat, but at that date the average yield per acre was only 10.9 bushels. Since then the yield has so decreased that in recent years the millers have found it necessary to import from other States large quantities of wheat to be used with the home-grown product to maintain the supply of flour and to increase the gluten content. The millers claim that for some years California wheat has gradually deteriorated in regard to gluten so that the importations referred to were necessary. So marked has this become that the Governor has appointed a committee, consisting of parties representing different grain growing districts, to devise some means for improving these conditions. The University of California is doing a large amount of preliminary work to overcome the present difficulty.

The gradual decrease of the average yield of wheat per acre, which has become a matter of common observation, is due to several causes, the principal of which are degeneracy in seed and the continued cropping of the same land without restoring to the soil the elements of fertility that have been removed. Every bushel of wheat removes from the soil a certain number of pounds of the three prime elements of plant food, that is, nitrogen, phosphoric acid, and potash, and continuous cropping will in time exhaust the most fertile soil. The farmer who hopes for large yields will follow Mr. Hill's advice and fertilize more liberally and more intelligently.

The nitrogen can largely be supplied by a rotation of crops which will permit the turning under of leguminous crops. The diminishment of the supply of available potash is one reason for the decreased yield of wheat, and also decrease in gluten content. Some will say: "An analysis of California wheat lands shows an abundance of potash." Probably there is truth in this, but while the chemist in his analytical work may find potash, who can say what percentage of it is available to a growing plant? Evidently a very small amount.

A circular distributed throughout the State by a commercial firm advocates the use of land plaster, which is simply sulphate of lime, and it is claimed that the lime in this material takes the place of potash in certain chemical compounds which exist in the soils, thus liberating the potash and placing it at the disposal of the plants. Applying land plaster (which contains none of the three elements of plant food) to a worn soil is like applying a whip to a tired horse. It is a stimulant that may have an effect for a short time, but the ultimate results will be complete exhaustion and ruination. Superphosphates are, of course, necessary, but they should be reinforced by at least 8% potash.

If the West does not care to have the old East-



ern and Southern States claim the offspring of those who opened up this new and glorious country, her farmers will have to take energetic steps to increase the productiveness and quality of her staple products.

D. I. DUNCAN.

San Francisco.

## The Field.

### BARLEY FOR DRY FARMING.

"Dry farming will guarantee every barley crop in California," said Fred L. Boroff, manager of the Porter ranch, San Fernando valley, recently to the Oxnard Courier.

"I have begun to cut my barley at a time when other ranchers are gazing at their little green shoots and wondering whether they will land a crop."

Mr. Boroff had the proofs of his assertions with him. These were in the form of tall, flat-headed barley, planted in October and November. Out on the ranch Mr. Boroff's men began cutting the crops recently, while other ranchers will not perform similar work until the latter part of May or early in June. Dry farming is the secret, according to the rancher.

"I don't want to keep a good thing to myself, and therefore will give other ranchers the secret of my success," said he. "First, I plant early, before the rains are in sight. This work should begin by October 1, so as to get all the grain into the ground by December 1. I first plow ten inches deep. This can be done only with a disk plow. Then disk and harrow. I use a double-disc harrow for the purpose. Then I drill and plant two and one-half inches below the surface. The grain will show in warm weather in about five days. I use 120 pounds of seed to the acre. Under the process it is equal to 16 pounds broadcast."

"Planting in this way insures a fine crop with but five inches of early rain. The growing sections always get this amount of moisture. This process will bring good crops anywhere in southern California where the ground is favorable for grain growing."

"Last year I experimented with the process, planting 1000 acres of ground. It averaged me more than two tons of barley hay an acre, and some places went as high as three tons. The average crop is about one ton an acre."

"This season I planted 17,000 acres of ground to barley, and my men are cutting a portion of the crop today."

The barley exhibited, planted October 1, was four and one-half feet in height, the heads being very large. That planted November 15 was six inches taller. The Porter ranch is located in San Fernando valley, 22 miles from Los Angeles.

Manager Boroff gives all credit for his success to the dry-farming system. He declares that any "decent" land will give the required results.

### SPRAYING TO KILL DODDER.

Spraying with a solution of sulphate of iron is a means of destroying dodder on clover which has proved successful in Germany. Dr. Hiltner, director of the Munich Agricultural Botanical Institute, reports (Prak. Blätter für Pflanzenbau, April, 1908) that in 1906 a plot was sown with red clover seed containing 2000 seeds of dodder (*Cuscuta arvensis*, an American species) in 100 grammes (3½ ounces). The dodder developed luxuriantly and infested the whole crop. In August it was sprayed with an 18 per cent solution of sulphate of iron, with the result that the clover had so black an appearance that one might have thought it was ruined. After a short while, however, it sprouted again, and grew at least as well as the portion which was left unsprayed. The latter was ultimately still more checked in its growth by the spreading dodder. The dodder entirely disappeared from the sprayed plot, though it afterward made its appearance to a small extent in consequence of fresh infection from the adjacent plot.

In a similar experiment in 1905 the solution was applied in two strengths, 15 and 18 per cent. In this case, however, the clover did not recover after the application of the stronger solution, and

although experience in the destruction of charlock shows that clover is generally able to withstand spraying with iron sulphate. Dr. Hiltner thinks it unnecessary to exceed a strength of 15 per cent. The same treatment is applicable to the destruction of the common clover dodder (*Cuscuta trifolii*). The spraying must be done with a sprayer, so that the liquid falls with some force on the ground and reaches the threads of dodder which are attached to the stalks of the clover beneath the surface. An application with a watering can did not prove successful. According to an account in the Agricultural Journal of the Cape of Good Hope, February, 1908, the use of arsenite of soda has been found satisfactory for the destruction of dodder in lucerne in the Cape Colony. The solution recommended is one-half pound arsenite of soda to five gallons water. It is stated that there is no fear of killing the alfalfa, and if properly sprayed, one application will suffice.

## Patrons of Husbandry.

### SONOMA POMONA GRANGE MEETING.

To the Editor: On Saturday, August 15, the county Grange met at Two Rock, calling out a large representation from different parts of the county. Part of our journey was by the electric road connecting Santa Rosa with Petaluma, which gave us the opportunity to see the rich berry and fruit country around Sebastopol. At this point the direction was changed, and eight miles more took us to Meacham station, seven miles from Petaluma. This road runs two freight cars a day, taking up berries and other fruit.

At Meacham, where conveyances awaited us, the aspect of the country changes. Low rolling hills, now looking bare and brown, afford pasture for cattle and sheep. The only trees are long lines of eucalyptus, planted chiefly for windbreaks. The Meacham estate contains many thousands of acres. It is five miles long in one direction.

Now we are in the region of the immense poultry ranches, among them our genial driver has one lying partly in Marin county. He points out to us some of the largest. In one that we pass there are 7000 of the white-feathered beauties scattered over the hillsides. We were told of one farther on that claims 14,000, more or less, though the owner may not know the exact number within a few hundred.

At the end of our four-mile drive we find a well built hall with a pleasant assembly room, beautifully decorated with flowers and fruit.

Brother Talbot, Master of the County Grange, is an excellent presiding officer, and business goes on with dispatch. After the formal proceedings are out of the way Bro. N. A. Griffith, Master of Green Valley Grange, gives us a most interesting address, tracing the causes of certain moral movements going on at the present day. Brother Wingate gave a cheery and optimistic talk on "What the Grange Should Do for the County," calling out much interest and several other speakers taking part in the discussion. Songs and music enlivened the session. Then came the dinner! One cannot keep silence on that, though it seemed to silence some of our most ready speakers when called upon in the early afternoon. Not the roast pig of the South, not the baked beans of Boston, nor the famed bluepoints of Baltimore could compare with the chicken pie of Two Rock.

At the afternoon session Brother and Sister Church were elected alternate delegates to the State Grange at Sacramento.

At the station we see an interesting landmark, a redwood post, within an enclosure, bearing a tablet with the inscription, "H. Meacham cut this post in 1853. It served as a gatepost for fifty years." A silent witness to the durability of our California redwood.

Again the trolley and the train and our journey ended after a round trip of 88 miles. Does it pay for farmers to meet together to talk over matters of common interest, to become better acquainted, to find out what good neighbors they have in their own county? I think it does.

Geyserville.

G. S. HURWOOD.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.                                       |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                          |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                           |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                          |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc.                                   |
| 13 Cultivation.  | 32 The Banana, Loquat, Persimmon, Pineapple, Avocado, etc. |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                   |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                  |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                |
| 17 The Apricot.  | 36 Injurious Insects.                                      |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                            |
| 19 The Peach.  | 38 Injurious Animals and Birds.                            |
|  | 39 Protection from Winds and Frosts.                       |
|  | 40 Utilization of Fruit Wastes.                            |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½ × 10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

Ventura county's output of dried apricots will be about 1500 tons.

Some sections of the San Joaquin valley report the apparent disappearance of pear blight.

An effort will be made next year to limit the acreage of melons of the Imperial valley to 3500 acres.

Orange buyers are reported as being in the field at Rialto trying to buy up the crop for next season.

The annual run of apricots by the Santa Clara valley canneries was the greatest in their history.

The walnut crop in the Rivera section, Los Angeles county, is estimated at 30 per cent over that of last year.

The peach growers of Hemet are in luck this year. They have a large crop and are getting good prices for it.

Fresno county watermelons have been greatly reduced in output by the prevalence of blight, which has done vast injury.

The annual meeting of the San Fernando Fruit Growers' Association will be held next Monday, the 31st. A big lunch and good speeches are on the program.

The Redlands Citrograph says that about all of the apricot orchards in the Highland section have been dug out to make room for more citrus groves, the latter being more profitable.

In San Diego county, the banner lemon county of the United States, is located the largest lemon orchard in the world—60,000 trees—and the fruit excels in quality the famous product of Sicily.

The navel orange crop in the Lindsay district, from all present indications, will be a good one. Many of the trees are heavily laden, while others have a small amount of fruit, but as a whole there will be a good crop.

Returns received from three cars of oranges shipped by the San Fernando Orange Growers' Association were \$5 for choice and \$4.50 for standards per box. This is well up to the top price received by any section the past season.

Present indications at Gridley point to a good orange crop during the coming year. The various growers report that the trees are well laden and that the fruit is of good size. Indications also point to the fact that the season will be earlier than usual.

Woodworth & Trueblood, owners of Midvale vineyard, near Gridley, are about the only fortunate growers in the district. They have a contract with the California Winery of Sacramento for their crop at \$11 per ton f.o.b. cars on a siding near their place. The contract has been in force for four years.

Prospects are that Yolo county will have a bumper grape crop this year, and it is probable that the prices will be fair. The grapes of all varieties are now in excellent shape. As the sugar came into the grapes early and they are protected by heavy foliage, the fruit was not hurt to any alarming extent by the heat.

There is hardly any crop of fruit grown in Tehama county that has made as good a record from year to year as the fig crop. Orchards for years have averaged over \$150 per acre, and the average is getting higher as the trees grow older. During the last year there have been several hundred acres planted, and more will be set out next season.

The Florida Orange Growers Co. report the coming crop as not being over 5 per cent, more or less, than last season. Grape fruit 2 will run fully one-third

heavier. Last year's crop of oranges and grape fruit was 3,106,093 boxes. This company estimates that if the fruit is not rushed on the market this winter that the growers will receive about \$2 per box.

The vineyard planted by Mr. Chapman of Fowler, Fresno county, which has never been irrigated, is doing well. Mr. Chapman is considered to be the pioneer in this plan of growing trees and vines, but a number of other people in this section are now following suit, and for the most part are successful. The theory is to keep everlastingly cultivating, and by this means hold the moisture near the surface.

The Migliavacca Wine Co. has begun crushing Zinfandel grapes at its large cellar in Napa. For some time the plant will be busy handling grapes from the vicinity of Dunnigan and Capay, Yolo county. Napa county grapes will be ripe within three weeks and will then be handled by the Migliavacca winery and that of the California Wine Association. There will be a large crop of grapes in Napa county this year, and indications are that the quality will be good. The acreage in bearing vineyards in Napa valley this year is larger than for ten years. Resistant vines are proving a success in warding off attacks of phylloxera and pests. It is estimated that Napa county grapes will bring \$10 to \$12 a ton.

### AGRICULTURE.

H. H. Hitchcock has ten acres in onions near Salinas that are yielding 200 sacks to the acre.

The cucumber crop of B. Gibby, of Biggs, is a fine one, and will yield six tons of pickles.

Three thousand bales of hay have been put up by one hay-baling firm in the Perris valley already this season.

Preparations are under way at the State Farm for the short courses in agriculture, which will begin October 12.

The first cutting of alfalfa hay from seeding this season has been made by J. N. Prude of Biggs. It was some 2½ feet high, yielding 1½ tons to the acre.

The largest crop of wheat produced in California was 1,707,500 tons, in 1880, selling at \$1.80 per cental. The highest price was \$5 per cental, in 1864, and the lowest in 1895, of about 80c. per cental.

Black oats, which are bringing from 1¼ to 2 cents a pound, are going to prove a profitable crop this year. The yield in the Pajaro valley, says the Pajaronian, is going to be usually good, and the quality clean and firm.

Frank Duarte of Merced commenced the shipping of sweet potatoes in carload lots. From a car sent to Tacoma he realized \$909, and the proceeds of a car sent to Portland were \$846. These were the first carload lots sent out this season.

Yolo county grain growers will probably reap richer returns on their crops this year than last. Both the wheat and barley crops are of about the same proportions as in 1907, but the ruling prices are better than were obtained a year ago.

It is reported that the Spreckels Sugar Co. has recently leased Caterina ranch, near Gonzales, for a term of ten years. It will be used for the growing of beets. The section adjacent to King City has proved its ability to grow beets successfully during the present year.

Peter Danuser has just completed the work of harvesting and baling about 80 tons of tule grass on his farm near Suisun. He has contracted to sell the entire lot to a San Francisco crockery company for \$8.50 per ton. The company utilizes the grass for packing crockery for shipment, which purpose it serves admirably.

A number of the bean growers of Sut-

ter county say that while their late vines look healthy and are blooming luxuriantly, the blooms are dropping, and the prospects are that there will be a short bean crop. The early beans will make a fair yield, but the dry and excessively hot weather has worked to the injury of the late crop.

Frank Chiles, of Yolo county, is harvesting a 120-acre field of sugar beets. They go from 15 to 20 tons to the acre, and are being shipped by rail to the sugar factory at Hamilton. The test of these beets shows from 18 to 23 per cent in sugar. Four dollars is paid for 14 per cent beets and 25 cents a ton for each 1 per cent above that. Thus 18 per cent brings \$5 and 23 per cent brings \$6.25.

F. F. Stiler, Horticultural Commissioner at Chico, has addressed the following note to the people of Chico: "The citizens of Chico and the vicinity are requested to lend their aid in ridding the community of thistles. Each property owner is requested to dig up the thistles. Burning them off does little good, as it does not destroy the roots. Thistles are fast over-running this section, and they should be exterminated. Your co-operation in this matter will be appreciated."

Lawson & Caldwell moved their threshing machine into the Ukiah valley and will thresh all the grain there and in Coyote valley. They have completed the work of threshing the Anderson valley crop, which amounted to 18,000 bushels. Mr. Lawson estimates the output to be threshed at 20,000 bushels. Time was when the grain output in Ukiah valley amounted to over 120,000 bushels. Hops, fruit and grapes have gradually taken the place of grain.

There has been complaint from grain growers at Salinas that cars are not being supplied fast enough to handle the shipments. The trouble appears to be that the grain buyers are not bidding readily for the crop, fearing that it will be necessary to hold the grain, on account of the scarcity of cars. Station Agent Kelly states that although there is a shortage, about 20 carloads of grain are moved each day, which is about the average of previous seasons.

### LIVE STOCK.

A Gridley vineyardist is considering the matter of feeding his grape crop to hogs, and is looking for data that will inform him how much weight the grapes will put on a porker in a given length of time.

Six hundred acres of land adjoining the town of Winchester, in Riverside county, is being divided into small tracts and will be improved for chicken ranches. The intention is to try to make this the center of the chicken industry in southern California.

P. Connolly of Livermore purchased 25 head of pure bred Shropshire bucks, from which he expected much in improving his flocks. About three weeks ago seven of the number were killed by dogs, and last week 14 more were killed, leaving only four of the original number.

P. J. Blim, manager of a Petaluma store, shipped 552 cases of eggs to Alaska. It will be seen that 19,872 dozen eggs is a big shipment. The eggs are for Fairbanks, St. Michaels, Circle City and other cities of Alaska. Several weeks ago the same firm shipped 1000 cases to Fairbanks, and large orders for far-away points are being filled continually. The eggs are packed in special cases, which are labeled and roped.

A report from Petaluma states that a consignment of 1,400 cases of eggs were recently shipped direct from Petaluma to Fairbanks, Alaska. The report further states that the eggs are all fresh and laid within three days before being shipped.

Locally it has been known for some time that one of the large San Francisco firms expected to make heavy shipments direct from their Petaluma branch to Alaska, but the truth in the statement as to the age of the eggs has been carelessly handled, as one dealer put it.

### MISCELLANEOUS.

California is the largest honey shipper of any State in the Union.

Potatoes are being bought in the upper Sacramento valley at 75 cents per hundred.

The sugar campaign at Oxnard is going along very nicely, the average per cent of sugar content in the beets received being 19 and purity 78.

The Protective Organization of Wine Growers has decided to send lecturers through the country preaching the gospel of the grape and temperate use of wine.

The pit-cracker plant installed at Winters is in operation. Apricot pits are being shipped in from all portions of the State to be cracked, and the plant will operate well into the winter.

T. D. Walker of the American Hop & Barley Co. reports the hop crop on the company's ranch near Nord to be the best in recent years, and the quality superior to that of any previous season.

The Upper Lake canneries have been delayed by the shortage of string beans this year. The heat has blighted most of the first beans, so that it was necessary to wait for another crop to come on.

A wine and grape company with a capitalization of \$150,000, composed of Los Angeles men, has been incorporated in San Bernardino county. The company propose to grow grapes, make wine, run hotels and wineries.

In the Horst Bros. hop yards near Wheatland there are now at work sixteen hop picking machines, taking the place and doing the work of about 400 men and women. The machines will pick 10,000 pounds of hops per day.

Coyotes are committing depredations among the pigs and chickens of Capay valley. It is stated one Capay farmer caught 13 in two weeks. They seem to be increasing in number, notwithstanding the persistent hunt that is kept up for them.

F. Chumacre, of the Pacific Vinegar & Pickle Works of Hayward is visiting the growers of cucumbers in the northern part of the State who are shipping their product to the factory. He is looking for a site for a salting plant to be established next season.

More than 100 of Napa county's leading vineyardists assembled in mass meeting at St. Helena and permanently organized the Napa County Grape Growers' Association. The new organization starts with nearly seventy members, representing in the neighborhood of 3000 acres of vines.

There is much speculation among the hop growers of Sonoma as to what will be the outcome of this year's crop. Things look well for a good crop, but the prices are worrying the growers. A few contracts were made at 9 cents a pound. Most of the growers have not contracted as yet. The market remains uncertain. Owing to conditions it is not known what move the Pacific Coast Hop Growers' Association will take.

One of the biggest irrigation projects in the northern part of the State has passed the theoretical stage and is now an assured fact. What is known as the Feather River Canal Co. has let a contract to construct a canal from a point on the Feather river three miles below Oroville, through southern Butte and into Glenn county. Later the canal system will be extended into Sutter and Colusa, and about 400,000 acres will be irrigated.



## Live Stock and Dairy.

### SHORT-HORN SALES.

Written for the PACIFIC RURAL PRESS  
By E. W. MAJOR, University of California.

In September Woodland will be the scene of two Short-horn sales that will afford breeders and purchasers a grand opportunity for the purchase of stock.

Mrs. W. B. Gibson and Mr. T. B. Gibson, of the Rose Lawn herd, will offer 70 head, a part of their herd, of Short-horn cattle, for sale, Friday, September 11. A catalogue of this herd sale has not yet come to hand, so it is impossible to give a description of the animals offered. The writer will have something more to say on this subject in the next issue.

Mr. H. P. Eakle, Jr., will offer his entire herd of cattle for sale on September 12. The reason for the dispersal is not that this breeder has become dissatisfied with the prospects in the breeding of pure-bred stock, but because of continued ill-health he is unable to give the business the attention it demands. This herd is recognized as one of the best on the Pacific Coast, as for a number of years its owner has been a close student of the breed and a most discriminating purchaser. Few breeders have been more differentiating in their selections and, at the same time, more liberal in their patronage at the sale-rings. All California breeders must regret that this dispersal follows so soon after the decision of Messrs. Rush and Pierce to sell out the Humboldt herd. At the same time, beginners must not be discouraged by these incidents, as in both cases the reasons are to be found in the private circumstances of the breeders, and not from a lack of faith in the business.

This will undoubtedly be a great opportunity for men who wish to join the breeding fraternity on the Coast. Among the bulls in the sale are Barmpton Hero one of the herd sires, bred by C. C. Norton of Corning, Iowa, sired by Banker's Victor 168457, out of Barmpton Spray, by Bapton Admiral 157704, tracing to Imp. Barmpton Primrose, he has proved to be an excellent breeder. Anyone in doubt as to his merit as a sire need only to inspect his get included in the sale (bulls as well as heifers) to be convinced of his unusual value. As a show bull he stood at the head of the junior yearling class at the Lewis and Clark Exposition and was seriously considered for junior champion in reserve at the same show. He has been frequently shown since, being first in class each time save once, when he was placed second. A number of the offerings have been bred to this bull, and the balance of serviceable age to Right Choice 282951, bred by Geo. P. Bellows.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

sired by Good Choice 227852, tracing to Imp. Arbutus by Roan Gauntlet 45276. This unusually good animal was two years old August 7, 1908.

Another bull of serviceable age is probably one of the best sons of Barmpton Hero, Village Hero 283713, bred and owned by Emma Eakle.

Another good one is Barmpton Royal, a half-brother to Barmpton Hero, their dams being the same, sired by Scotch Light, he by Young Commodore out of Imp. Winning Witch.

In addition to these Eagle and Dunlap offer 36 bulls that were selected by Dunlap from prominent breeders in the East. These bulls are thoroughly acclimated, of serviceable age and have not been pampered in any way, having had no grain since reaching the Coast, but having gained simply pasture and alfalfa.

Among the females Mr. Eakle offers are Bampton Spray, by Imp. Bampton Admiral, bred by C. C. Norton. This is a cow that demands attention as a breeding cow and is of the show-yard type. She is of very pleasing conformation, brimful of vigor and constitution, almost a perfect head and horn, with large eyes and breezy countenance. She has proved herself an excellent breeder in her sons, Barmpton Hero and Barmpton Royal.

Another choicely bred Scotch cow is Sinnissippi Rose, bred by Col. Lowden, sired by Ceremonious Archer. She was the first-prize two-year-old at the State Fair last fall, and has been pronounced by Mr. Geo. P. Bellows, who is one of the best known breeders and judges in the country, as one of the great cows of the United States.

Other choice ones are Lady Gloster 2d, Village Maid 36th, and Lady Miranda 2d. Space forbids entering into extended descriptions of these animals. Sufficient to say that they will be the cream of Short-horn breeding from beginning to end.

### DAIRY STOCK FOR UNIVERSITY FARM.

The large barn at the University Farm is now nearing completion, and preparations are being made to install a dairy herd. Owing to the small amount of money that is available for the purchase of live stock, it will not be possible to secure as large a representation of the different classes of stock as is desirable. The dairy animals that are being purchased at the present time comprise first class representatives of the following breeds: Holsteins, Jerseys and Short-horns. The department expects to ship a few of the Ayrshires, now kept at Berkeley, to the farm, in order that specimens of this breed may be available for classroom demonstration. So far no Guernseys have been secured, for the reason that this breed has not been kept to any great extent in California, and it is almost impossible to secure first-class specimens without going East, and our funds will not allow of this during the present year.

In addition to the milking Short-horns in the dairy herd, we shall have a few Short-horns of the beef type, and, if possible, a few Herefords, although it is likely that we shall have to wait for the latter for another year.

If funds hold out we shall purchase representatives of the three breeds of swine most commonly bred in California—Poland-China, Berkshire, and Duroc-Jersey. For this year our stock of sheep will have to be small, probably limited to a few Merinos and a small flock of Shropshires. The live stock men of the State will without question make an earnest effort to have sufficient money appropriated at the coming legislature so that we may be able to have as good a collection of live stock as is owned by any agricultural college.—E. W. M.

### THE CALIFORNIA LIVE STOCK BREEDERS' ASSOCIATION.

The above named association will hold its annual meeting in the Agricultural Pavilion September 1, at 8 o'clock p. m., and it is hoped that the attendance will be large.

There are a number of questions that the stockmen ought to take up and discuss, and unless they get together they will find that it is exceedingly difficult to accomplish results. It was largely through the efforts of this association that the appropriations for the University Farm were secured, and this institution needs their help as much as ever.

One of the features of the program will be an address by Dr. Charles Keane, the State Veterinarian, on "The Control and Eradication of Infectious Diseases of Live Stock." Dr. Keane has been doing a great work in the eradication of the Texas fever tick, and also on the sheep scab. There is no doubt that other infectious diseases, particularly tuberculosis, will have to receive the attention of the stock breeders. If we do not take them up others will, and probably their methods will not be as satisfactory, either to us or to the ultimate eradication of the disease, as would be methods devised after joint discussion between live stock men and veterinarians. Among other addresses we expect to have reports from Mr. T. B. Gibson and Mr. H. P. Eakle, Jr., on their visits to a number of the leading agricultural colleges of the Middle West. Mr. George A. Smith of Corcoran will discuss American bred versus Island bred Jerseys. Mr. Smith is one of the leading Jersey breeders, and has had considerable experience with both types, so will undoubtedly present facts of interest to all breeders.—E. W. M.

### THE PREVENTION OF TUBERCULOSIS IN DAIRY.

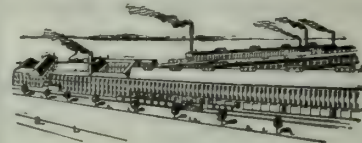
Mr. Sidney Villar, F.R.C.V.S., consulting veterinary surgeon of the British Dairy Farmers' Association, read a paper on this subject at a recent conference under the auspices of the association. As it is desirable in this pressing matter to have all the points of view and suggested policies, we extract the following:

**ENTRANCE OF THE DISEASE.**—In by far the greater proportion of diseased cattle the bacillus has gained its first entrance by the mouth; that is, the animal has taken it in with its food or water. Congenital tuberculosis in cattle, and by that is meant a calf affected with the disease when it is born, is extremely rare. In the abattoir of Edinburgh only one case was found in five years, although about 6000 carcasses of young calves are examined each year; we can go further even than this and state that tuberculosis is rarely found in calves under six months old. Having gained access by the mouth or nostrils, the bacillus may become located and grow in almost any part of the body; we find no indications of its presence in the lungs, bowels, glands (or kernels), liver, udder, spleen, around the heart, in the uterus or calf-bed, and even in the joints and bones.

**LOCATION OF THE DISEASE.**—But in cattle which are young and strong, and particularly in those where there is no family predisposition to tuberculosis, the animal's strength of constitution may overcome the activities of the bacillus, and it will recover from the disease. There is no doubt that an animal may, and in many cases does, make such a recovery. In others the disease becomes latent or hidden in the body, the animal showing no indication of being diseased; but some unfavorable occurrence, such as taking a chill, having a bad time in calving, retention of the after-birth or excessive

## EXCLUSIVE Tubular ADVANTAGES No. 9

The Largest Separator  
Factory in the World  
Is Back of the Tubular.



This means that when you buy a Tubular you get the highest type of machine the most successful manufacturers can turn out—a separator so superior to others that the demand has made necessary the largest factory of its kind in the world to supply it.

You get a machine that has been selected by the greatest number of separator buyers—hence the greatest demand.

You get a machine built by the most skilled separator builders—better material and better workmanship than in other separators.

Then why buy the second best or inferior makes? Get the machine that is good enough to be guaranteed to leave 50 per cent. less butter fat in the milk than any other on the market or no sale. We have been making Tubulars 28 years—that's why we can make them enough better to offer them on such a strong guarantee.

A postal brings our catalog No. 131 containing in full this remarkable guarantee and explaining the reasons why the Tubular has no equal. Send for it today.

The SHARPLES SEPARATOR CO.  
West Chester, Penna.

Toronto, Can. San Francisco, Cal. Chicago, Ill.

## FOR SALE

(Third Annual Sale.)

### 70 HEAD OF SHORT-HORN CATTLE

— OF THE —

### ROSELAWN HERD

— ON —

September 11, 1908, at 12:30 O'clock

At the Old Home, 1 mile south of  
Woodland, Yolo County, Cal.

Write for Catalogue. Free Buss.

GEO. P. BELLOWES, Auctioneer, Marysville, Mo.

MRS. W. B. & T. B. GIBSON.

H. B. Eakle sells 66 head the following day.

### SHORT-HORN SALE

At Woodland, Cal., Saturday, September 12

66 head of registered Short-horns at public sale.

23 head of cows and heifers

43 head of bulls.

Buses will meet all trains. Lunch served. Sale to begin 12:30 p. m.

Write for descriptive catalogue.

Catalogue ready August 20.

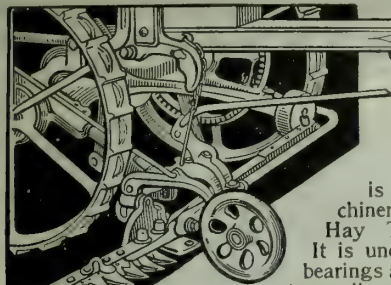
Geo. P. Bellows, Marysville, Mo.,  
Auctioneer.

R. M. DUNLAP. H. P. EAKLE, Jr.

milking promoted by the inordinate use of brewers' or distillery grains and other milk-stimulating methods of feeding, will cause the animal's constitution to become weak, and enable the disease germs to get the upper hand; they will then rapidly multiply, the centers of the disease in the body will increase in numbers, and the cow will become feverish and evidently ill, developing what is known as clinical tuberculosis.

**CLINICAL TUBERCULOSIS.**—This is always accompanied by loss of flesh, frequently with rapid breathing and coughing, and later on with diarrhea, and it may be with discharge from the breeding organs or with swelling of the throat or udder. In an animal in this conditions the lungs, bowels, or breeding organs, or it may be all of them, will be involved in the disease, and the germs of tuberculosis





## Ruddy Harvester Oil

is a superior lubricant for heavy farm machinery and for use on Harvesting Machines, Hay Tedders, Mowers, Feed Cutters, etc. It is unequalled especially if bearings are loose or worn. It acts equally well on light machines, saving constant attention to parts and reduces renewals to a minimum. RUDDY HARVESTER OIL has no acids to cause injury and is but slightly affected by extremes of temperature. A team will work longer and easier when it is used, because of the lessened friction. It will not run off the bearings and never gums or turns rancid. Dealers in farm supplies have it in one and five gallon cans, half-barrels and barrels.

All dealers in farm supplies sell it.  
STANDARD OIL COMPANY  
(Incorporated)



## HOG FEED FOR SALE

Barley from the wrecked steamer "Anubis."

This barley has been wet with salt water but is drying out rapidly. It is in good condition and improving daily.

For sale in quantities of not less than 15 tons.

FOR PARTICULARS APPLY TO

**G. W. McNEAR**

210 Battery St. - - - San Francisco.

will be given off from these diseased parts in the act of coughing, with the diarrhea, in the discharges from the breeding organs, and in some cases in the milk. Sick cows with such symptoms are manufacturing tubercle germs, which they distribute all round them, contaminating drinking water and fodder, and even the air itself. To such diseased animals the spread of tuberculosis among a herd is due, and, bearing in mind that the swallowing or breathing in of germs so set free is the only method by which a healthy animal becomes affected with tuberculosis, it is obvious that the first and most important consideration in the prevention of the spread of the disease to healthy cattle is the destruction of all animals which are disseminating the disease germs. A cow affected with clinical tuberculosis should be got out of the herd, isolated, or destroyed, with the same amount of dispatch that we would remove a glandered horse from a stud.

The cow keeper may have taken steps to secure the proper lighting, ventilation, cleansing, draining, water supply, and air space in his cowshed, but as long as he permits a cow clinically affected or visibly ill with tuberculosis to remain in it, even for a few hours, he will never get tuberculosis out of his herd.

Besides absolute recovery or the development of fatal clinical tuberculosis, there is a third course which this disease often takes in the animal's body. In many cows, indeed, in most cows, which are well cared for, not excessive milkers, and which are lucky enough to escape the ordinary accidents of life, the latent or hidden disease, although always present, does not take on activity or develop during several years, and the cow is fatted off or dies from some other disease without any evidence of tuberculosis being observed during her life, unless its existence has been discovered by the use of the tuberculin test.

DISINFECTION.—Having got rid of the clinically diseased cow, the next step for the prevention of the spread of the disease is to thoroughly disinfect the cowshed. All food which the sick animal

may have breathed upon, and all her bedding and dung, should be burned. The mangers, both inside and out, the wooden partitions, the walls, and the floor should be lime-whited with hot lime, containing a pint of crude carbolic acid to each pailful of limewash. In the case of iron or glazed mangers or partitions, thorough washing with boiling water and dousing with strong carbolic solution must be insisted upon. After this is done, expose the building or stall as much as possible to the open air for some days before it is again occupied. In passing, it may be remarked that a common drinking place for all the cows of a herd, unless it is a running stream, is a source of danger, as the water may be contaminated by a diseased animal; cases are on record, also, where the herbage of a small field has become so contaminated by a sick cow as to infect other animals grazing in the same enclosure. The next point for the suppression of the disease is to deal with the cows which have been exposed to infection by the clinically diseased cow.

TESTING WITH TUBERCULIN.—All cows which have been in contact, and this means all animals in the same shed or field, should be tested with tuberculin, and a private mark put on the horn or ear or all which react to the test. The ideal course to pursue would then be to permanently remove all the cattle which did not react to a healthy shed or pasture, but this would often be attended with almost unsurmountable difficulties; failing this, if the number of reacting cattle is small (unfortunately it is usually quite 30 per cent, and in very large herds an even higher percentage), they may be removed, allowing only those that pass the test to remain. In most cases, however, the healthy and reacting must, from force of circumstances, remain together in the same shed or pasture, but the owner, having his private mark on the horn or ear of reactors, knowing that these cows may become a danger at any time, must always be suspicious of them, and be on the lookout for any sign of illness, loss of condition, or cough, and at once isolate the animal, cleanse and dis-

infect her standing and immediate surroundings, and await developments. It is advisable to repeat the first testing with tuberculin after an interval of three months. In all respects, except increased surveillance, the non-reacting and reacting cows should be treated alike. The milk of reactors which do not show clinical symptoms of the disease can be used with absolute safety for both man and beast. New animals should be put in another shed, or the original shed partitioned off, and they should be placed only with cows that have satisfactorily passed the test, for, as we have seen, the spread and continuance of the disease depend upon putting susceptible young cattle into infected herds and healthy heifers among diseased cows.

SUMMARY.—To sum up, I maintain: 1. That clinically diseased cows should be isolated and slaughtered. 2. That in contact cows should be tested and watched with great care. 3. That healthy young animals should not be put into sheds where the disease is known to exist. If all clinically tuberculous cows are quickly slaughtered, and efficient disinfection carried out, we shall within two or three years have an extraordinary diminution in the number of cows which react to the tuberculin test; instead of 30 per cent of the cows in a shed, it will nearly approach only 3 percent. There will never be any cases of tuberculous udders to notify, because affected cows will be destroyed before the disease reaches the udder. For a cow keeper to carry out my suggestion he would need great determination, and must be prepared to expend much time and trouble, and, above all, it will entail considerable expense. If the eradication of this disease in cattle is necessary for the public good, it is only just that compensation should be paid out of public funds for slaughtered animals, for the cost of disinfection, and for the supply of tuberculin. For such payment out of public funds legislation would be necessary, and it is a fundamental point which must always be borne in mind that no scheme of legislation for the eradication of any cattle disease is of any use which does not secure the willing co-operation of agriculturists. Another point which must not be forgotten is that, although cattle tuberculosis is most prevalent in dairy cows, the disease is not by any means confined to this class of cattle; young store stock, steers, dry cows and bulls all sometimes develop clinical tuberculosis, and become a danger to healthy cattle. So that for the eradication of tuberculosis in dairy cows, legislation, if confined to cows alone, would be insufficient; all other classes of cattle must be included. I respectfully suggest that the proper course to adopt would be to schedule clinical tuberculosis in all classes of cattle under the Diseases of Animals Act. This could be done by the board of agriculture making a clinical tuberculosis order on somewhat similar lines to their glanders order, which came into force on January 1 of this year. Such order provides for some compensation being paid for all diseased animals that are slaughtered, and for the full value of the animal being paid if, on post-mortem

## DE LAVAL CREAM SEPARATORS

The World's Standard

New Improved Machines



FIRST—CHEAPEST—BEST

Send for new 1908 Catalogue

**THE DE LAVAL SEPARATOR CO.**

CHICAGO NEW YORK SAN FRANCISCO

## MORE MILK—MORE MEAT



I can positively testify to the merits of Lilly's Best Fly Killer. This is the first year that I have not had to fight grub in my cattle. I used it at first last summer having little faith, but the results quickly converted me. My cattle gave more milk, and kept in better flesh on less feed as a result, and I kept them in the stable all night.  
A. F. CHAPMAN, Monahan, Wash.  
For Sale by Dealers

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

examination, it is found to be free from the disease.

The Maxon-Nowlin Co. is the name of a firm that is about to establish an intensive dairy business near Selma, Cal., where they have secured 1,400 acres of land which is to be put into alfalfa. One large herd has already been purchased in Riverside county and shipped to the new place.

J. I. Mendenhall, of Williams, sold a cow recently that when placed on the scales raised the beam to 2070 pounds. The animal had been running with other cattle on the range, and men competent to judge said that had the cow been stalled at least 200 pounds would have been added to her weight.

Sheep men in Sutter county report that they have three clips of wool on hand that they are unable to sell. Many have commenced to take off the fall clip.

## Horse Owners! Use GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.



# THE FEED QUESTION



**A. R. COULSON**

Known as the chicken doctor and the poultry feed man.

Past president of the Coulson Poultry & Stock Food Co., Petaluma, Cal.; also Coulson Stock Food Co., Kansas City, Mo.

Originator of his mixed poultry feeds, of which a million dollars' worth has already been sold.

General Manager of Western Feed Co., Inc., San Francisco, Cal.



HAULING LOADS OF EGG MAKER.

## The vital question, FEED.

So many poultrymen go broke these times on account of high price of feed. This will be all the better for those that remain in the business, for EGGS WILL BE HIGHER than ever this year.

### EGGS 70 CENTS PER DOZEN.

Eggs will go as high as 70 cents per dozen in San Francisco this year. Those who feed their laying hens right will MAKE A BARREL OF MONEY. Those who are so close that they will not feed their hens the proper feed will lose so much money that they will be forced to go out of the poultry business.

### MAKE YOUR HENS LAY.

If you have hens, make them lay; and to make them lay you have to FEED THEM RIGHT; that's all there is to it. Hens will make as many EGGS according to the quality of the food you give them.

It is a deep study, this feeding problem is. It means the difference between failure and success to all of us.

### SEVEN YEARS OF SUCCESS.

Feed your hens the EGG MAKER, and also the mixed grains feed called SCRATCH FEED, and you are sure of successful results. For seven years A. R. COULSON, known as the chicken doctor, has been STUDYING and IMPROVING the composition of the feeds that will give the BEST RESULTS and MOST PROFITABLE RETURNS TO THE FEEDER. The poultrymen who are intelligent and wise will most assuredly make use of the feeds put on the Market by the WESTERN FEED CO., the original A. R. COULSON, formerly of Petaluma, Manager.

Send for free sample, circulars, and prices, etc., on quantity you usually purchase.

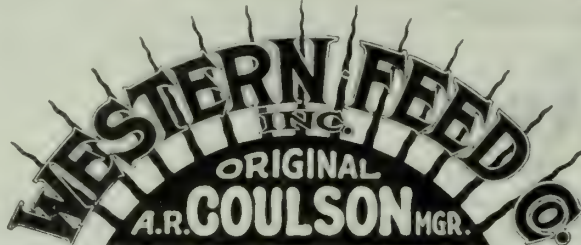
### THE EGG MAKER:

The Feed that Makes Eggs.

### THE CHICK SAVER:

A Special Dry-Mixed Chick Feed.

### SCRATCH FEED.



MANUFACTURERS OF AND WHOLESALE DEALERS IN

**POULTRY FEEDS, REMEDIES, SUPPLIES, Etc.**

365 to 371 McALLISTER STREET,  
SAN FRANCISCO, CAL.

TELEPHONE  
Market 784

### THE CHICK GROWER:

A Feed for Growing Chicks.

### CONDITION POWDERS:

And All Poultry Remedies.

### BIRD SEED.

## The Poultry Yard.

### OUR "LACK OF EFFORT."

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

It is quite in order for the visitor from the East who handles a poultry quilt to accuse Californians of a "lack of effort" when he puts it mildly, otherwise he calls it downright laziness, in not supplying our own market in poultry products. It is usually the man who makes his living off the poultry raiser, not the one who makes it off of poultry, who is astonished at our lack of effort along these lines; our stupidity in not seeing a golden opportunity; our stupidity in not working it for all it's worth. The practical poultryman knows that when eggs sell for 50 cents a dozen it has cost somewhere near that price to produce them; that when they are shipped from the interior or the Middle West the conditions in those sections are such that they can be produced at a cost that will admit of selling them at a discount of some 15 cents per dozen as against our home "extras." He does not consider the people of those sections smart nor the Californians lazy because of the fact. There is much of a sameness in the citizens of this Republic, and we of California are as quick to see an opportunity and as ready to seize a good thing when it comes our way as the people east of us.

The truth of the matter is that the cost of production is higher with us, and the consequent risk in the business is greater when one makes it a sole dependence for a livelihood. Neighbor to the writer is a family not long from the farming districts of Arkansas. Said the lady: "Really, our poultry didn't seem to cost us anything. Corn was plenty, and grain

and fruits always scattered about; and clover and grasses and grasshoppers and bugs galore; all the fowls had to do was to chase about and pick up. And eggs! Many a time have I loaded the express wagon with tubs of eggs and crates of fryers and drove to market with them—and brought them back again; simply couldn't sell them at any price." With us the average cost of producing a dozen eggs ranges from 10 to 12 cents, under judicious handling, for feed alone. Is it lack of effort on our part, or the bursting corn-cribs of the Middle West which keeps the carloads of its poultry products rolling into our markets?

The same critic who ascribes the sin to us opines that it is poor policy to sell our wheat in Europe and buy our eggs from Kansas. The man who raises the wheat has a different viewpoint. He gets a good price for his grain when it is grown and ready and he needs the money—at least he doesn't care to wait another season to realize on it by putting it into the hen, as recommended by the critic. The fowl might die or the coyote get away with her; then where would be his wheat? And suppose we should make poultry raising our chief business until our market quotations were too low to invite the overplus from the Middle West, who would be the richer? Certainly not our poultry raiser, for the cost of feed would not be lessened, only the value of poultry products, which would result in his complete undoing. In spite of caviler and critic, such matters adjust themselves to right proportions, and there is much truth in the doctrine, "What is, is right"—at least for the time being.

We have an attractive and growing market for poultry products, and there are many conditions here which make the industry peculiarly inviting. As Mr. Adams of the "Chronicle" expresses it:

"Somehow the poultry industry seems to take greater hold on the heart and imagination of this State than anywhere else I know of, unless it may be Rhode Island." An industry is helped, not hindered, by recognized facts. As poultry raisers we have two serious difficulties with which to contend. The first is disease arising from colds, owing to climatic conditions, which was considered in the RURAL PRESS of August 15. The second is the high price of feed of all kinds. Next week we will discuss this difficulty and ways of meeting it.

### Questions and Answers.

SERIOUS TROUBLE.—"Inquirer," of La Mesa, again writing to the RURAL PRESS, says, "Your postal received. I have tried your remedy, but still the chicks are dropping off. At first they stand about with their mouths open like a man gasping; then their eyes get to running. I have not a large number; some 50 best full-blood Orpingtons. If you could help me our your assistance would be greatly valued. Is there any danger from eating too many ripe tomatoes? They will eat them constantly if they have the chance."

Our inquirer gives too meagre a description of his fowls' symptoms to be quite sure of their special ailment. From the above I would say it might be gapes, but in his former note he said large and small were effected alike, and gapes do not usually seriously affect chicks after six weeks old. Whether it be gapes or some like disease, it is well to treat as follows: Either kill the diseased ones and burn their bodies, or place them by themselves far from the well ones, and doctor by dipping the end of a feather in a mixture of one spoonful of turpentine to four of sweet oil and dropping three or four drops into the throat. Remove the well chicks to fresh ground and new coops; burn all boxes, coops and trash in the

old quarters; spray houses and runs with a strong solution of carbolic acid and follow with a dressing of quick-lime. Feed only in clean troughs, after which hang them up. Do not let grain and green feed lie among the dropping. Gapes is caused by chicks eating their food out of the filth; or by old runs infected by the gape worms through long use and filthy conditions.

Examine the mouths and throats. If there are whitish or yellowish spots, it is diphtheria. This disease sometimes effects the face and eyes of the fowls, like ulcers. Follow the same treatment as in gapes and in addition make a swab of cotton batten and swab the throat and affected parts with hydrogen peroxide. This disease is very contagious and dangerous. Even the person who is careless in handling fowls with bad cases of

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

### BIHN BROS.

Petaluma, Cal.



it is liable to contract it. The safest treatment is the hatchet and cremation, with thorough cleaning and disinfecting the premises. A few ripe tomatoes are all right for the fowls, but would not give many or too often. Always keep the runs and small yards well spaded, and frequently mix air-slaked lime with the soil.

**FULL AND WINTER PULLETS.**—"Novice" writes: "I think of starting into poultry this fall, in which case I shall be a frequent inquirer. At present would like to ask: 1. Is Castro valley a good location for poultry farming? 2. Are fall and winter hatched pullets all right for next summer and fall layers?"

1. A very good location. It is in fact quite a poultry center, and though it does not come near Petaluma in the number of its feathered inhabitants, it boasts some of the finest birds and most noted yards in the State. Feed rates are usually lower to the poultryman in such poultry centers, and there are many advantages to be had through a community of interest.

2. The fall and winter hatched pullets will moult just the same as the old hens. They are the most unprofitable of hatches; being set when eggs are highest, and their fertility and hatchability likely to be at the lowest. For best results do not begin hatching before February.

## Apiculture.

### THE TRANSFERRING OF BEES.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

Having received several inquiries, among them a very timely one in regard to transferring bees, I will lay aside the continuation of the subject of "How to Re-queen" for a later issue.

Our friend and reader who prompts our subject for the week writes as follows: "Having noticed one or two articles of yours, recently published in the PACIFIC RURAL PRESS, I have thought that perhaps I might get a word of advice from you concerning a hive of bees that I have. These bees are a swarm that I captured just outside my tent while camping at Tahoe. They are in an ordinary wooden box, without removable frames or other refinements, and my problem is as to how to get them into a modern hive and get some good out of them."

The transferring of bees should never be undertaken late in the fall, as the bees would not have time or honey sources to recover from their disturbed condition before the inclement weather of the winter months. About the Bay region, in which our inquirer is located, or in any

other region where there is no late summer or autumn yield of honey, bees should not be transferred unless freely fed to enable them to repair their damaged combs and also to insure winter stores. A colony which has stood through the spring and summer is usually well filled with honey, which makes transferring in the late summer or fall doubly hard and dangerous, since the exposing of honey at this time of the year is liable to lead to robbing if there are other bees in the vicinity, which is usually the case. Then, too, in the case of a strong colony, the matter of brood is to be considered, and commonly a considerable brood would have to be cut into in transferring in the summer time.

It has been our experience that, all in all, the early spring of the year is the best time to transfer bees. At this season there are fewer bees, less brood and a minimum of honey in the colony. On a bright spring day the box hive to be transferred should be inverted, and all openings and crevices except at the bottom (now become the top) closed. A frame hive, or simply a box, may then be placed over the bottom and all openings boarded up. Then, by a light, rapid and continuous drumming, with a stick or hammer handle on the box-hive, at first close to the ground and then gradually higher, the bees may be driven into the box hive on top. A little smoke blown in from the bottom close to the ground will serve to start the bees along a little more rapidly. Smoke in excess should not be used, as this will confuse the bees and is liable to start them running back. In a short time the bees will have started, an indication of which is a loud buzzing. It will not be long before all the bees will be up, and then the top box or hive may be set down on the hive stand and the empty box hive removed to a closed room, where the combs can be cut and fitted into frames.

Since brood should not be left out of the hive long (a few hours at ordinary room temperature being safe enough), the brood combs should be cut out immediately. To hold the combs in place in the frames thin strips of wood may be used. Two of these strips, notched at the ends, may be wired together at one end, with space enough between them to admit the frame, and then, after the insertion of the frame, with the comb in position, they may be wired above. In this manner a support of the comb is provided until the bees can fasten the combs in. This will take only a few days, and then the strips can be removed. In fitting in the pieces of comb, better results are obtained if the pieces are placed in the frame in the same relative position in which they were built, and they should fit snugly, to insure more rapid fastening. Several sets of strips may be used, and their efficiency increased by cutting them a little long and then slanting them. Also, long and slender wire nails may be utilized to hold the smaller patches of comb, inserting the nails into these bits through awl holes in the frame bars.

Combs from transferred colonies are patchy at best, and are better soon replaced by full sheets of foundation, as soon as the condition of the colonies will permit it. But the transferred combs are serviceable until the brood emerges and the contained honey is utilized. To prevent further deposits of eggs, the combs it is desired to remove should be worked toward the outside, and when removed whatever honey is contained in them can be uncapped, and the bees of a weak colony will remove it, even when a good honey flow is on. These old combs may then be utilized for wax.

### Answers to Questions.

**CARNIOLANS.**—Dr. L. C. Maynard of Los Angeles inquires: "I write you to inquire

# ALFALFA

Summer and early Fall seeding of Alfalfa will be successful if the plant is given a quick, steady, early start by the proper use of Potash.

Weeds are reduced to the minimum, and winter-killing is practically out of the question where Potash is used to invigorate the young plant and set the crop.

## Potash Grows Alfalfa

Send for pamphlets containing facts about soil, crops, manures and fertilizers. Mailed free.

GERMAN KALI WORKS, 93 Nassau Street, New York  
Atlanta, Ga.—1224 Candler Building Chicago—Monadnock Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

SEND FOR CAT. No. 148 IT TELLS ALL  
KING OF THEM ALL RELIABLE DURABLE U. CREAM SEPARATOR S. CLEANSABLE PROFITABLE ASK THE USERS  
VERMONT FARM MACHINE CO., BELLINGSFALLS, VT.

where we can get 50 to 100 Carniolan queens, untested, at a low price, as we would like to increase our stock of bees."

The number of Carniolan queen breeders is not as extensive in this country as the value of this race would warrant. In this our Austrian and German cousins are ahead of us. Yet there are a few American breeders. We take pleasure in referring to our own advertisers listing Carniolans, since we have with us the original importer of this variety and one who is an authority upon the race in question.

**CYPRANS.**—Mr. John L. Yancy, of Pickett, Wis., has recently become interested in the variety problem. He writes in part: "I have become very much interested in what you say about the Cyprians; so much so that I would be very much pleased to get a few queens this fall if possible."

In general we would say that for the beginner, as Mr. Yancy is, some one of the more easily handled varieties would be as a rule better to start with. Mr. Yancy is, however, familiar with the traits of the Cyprians and seems attracted by their indomitable energy. It is too bad that there are not more of this most valuable variety of bees kept—at least in their crosses with the more easily handled varieties, the Carniolans or Caucasians. We do not find them among our own advertisers, nor are they offered in any of the more distinctive bee journals. We wish that our queen breeders across the mountains to the east might let us know if they have them for the market. We would refer Mr. Yancy to our own breeding column as the most probable place to secure them, and would suggest that he take the matter up with our advertisers, as they can at least let him know if they can be had.

The Imperial Valley Bee-Keepers' Association have shipped nine cars of honey since June 1, the price received for the last two cars being 5½ cents per pound.

**QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS.** Home-bred, \$1.00 each; five at 80 cents each; Imported, \$4.00 each. **FRANK BENTON**, Box 17, Washington, D. C.

## BOSTROM'S IMPROVED FARM LEVEL

Cheapest and Best Level yet Invented for Farm Use.  
Used for Irrigation and Drainage Work

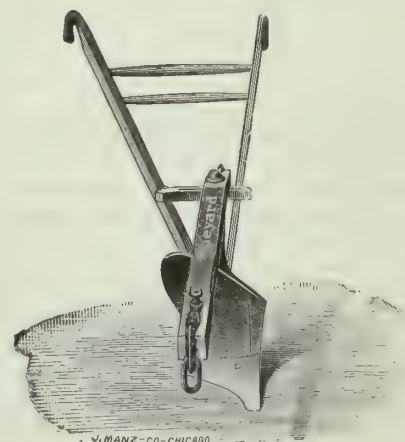
Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

## The "South Bend"



## THE BEST CHILLED PLOW IN THE WORLD

Made in all sizes and in patterns especially designed for the Pacific Coast. Perfect fitting duplicate parts always in stock.

### PACIFIC IMPLEMENT COMPANY

153 Kansas Street San Francisco, Cal.

BOWMAN CARRIAGE COMPANY  
1111 J St., Sacramento.

## SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

**WANTED**—A position as foreman or manager of orchard or ranch property, by a progressive young married man. Good recommendations. Address R. E. O., Rural Press.

**EXPERIENCED** orange manager wants permanent position. Advertiser a married man, aged 33; strong, energetic, reliable. Well up in all branches of his business, and general farming, capable of taking entire charge of large property. References. Address D. F. P., care Pacific Rural Press.

**Harness With "Life" in it**  
A pliable strap is a strong strap. You will hold the horse all right if you have softened and toughened the whole harness with  
**EUREKA Harness Oil**  
Unequaled as a leather preservative. Prevents cracking and rotting. Gives a fine finish. An application now and then saves the harness—pays the owner. Ask for Eureka Harness Oil. Made by  
**STANDARD OIL CO. (Incorporated)**



## The Home Circle.

### Somebody's Mother.

The woman was old and ragged and gray, And bent with the chill of the winter's day:

The street was wet with a recent snow, And the woman's feet were aged and slow. She stood at the crossing and waited long, Alone, uncared for, amid the throng Of human beings who passed her by, Nor heeded the glance of her anxious eye. Down the street, with laughter and shout, Glad in the freedom of school let out, Come the boys, like a flock of sheep, Hailing the snow piled white and deep. Past the woman, so old and gray, Hastened the children on their way, Nor offered a helping hand to her, So meek, so timid, afraid to stir Lest the carriage wheels or horses' feet Should crowd her down in the slippery street.

At last came one of the merry troop, The gayest laddie of all the group. He paused beside her and whispered low, "I'll help you across if you wish to go." Her aged hand on his strong young arm She placed. And so without hurt or harm He guided her trembling feet along, Proud that his own were firm and strong. Then back again to his friends he went, His young heart happy and well content. "She's somebody's mother, boys, you know,

For all she's aged and poor and slow; And I hope some fellow will lend a hand

To help my mother, you understand, If ever she's poor and old and gray, When her own dear son is far away." And "somebody's mother" bowed low her head

In her home that night, and the prayer she said

Was, "God be kind to that noble boy Who is somebody's son, and pride, and joy."

—J. E. Brooks.

### Irma's Conquest.

"Aunt Mary, it's useless for you to urge me to marry John Cranford. I don't love him, and the very thought of such an alliance is distasteful to me.

"Do let us drop this subject of matrimony. I love papa and you, and what more could a reasonably intelligent girl ask for than love from the dear ones at home; and besides, I have my own ideas of marriage. My knight errant will come some day, and then—"

"Irma, it would be strange if you respected my views in this matter, for since your return from school your mind seems filled with opposition to my every wish."

"Now, Auntie, you would think it absurd if I did not have a few mature ideas. I left home a little girl, and now that I have laid my pinafores aside, I feel quite grown up."

Mrs. Morgan waited somewhat impatiently until her niece was through and then said: "I feel that I have done my duty when I say that with your expensive habits, if you marry a poor man you will live to regret your decision in declining the attentions of the wealthiest man in the village."

Mrs. Morgan was holding her embroidery frame so as to screen her face from the heat of the cheerful fire that was burning in the large open fireplace in the parlor of Colonel King's home on the memorable evening.

Irma glanced at her respected relative, and smiled as she said: "Yes, I know I am a nuisance with my many queer ideas. Perhaps I may be that dreadful 'old maid' that we so frequently hear of. And honestly, Auntie, I would rather earn my own living than live in a palace with one whom I did not respect or love."

Mrs. Morgan arose from her chair. There was an angry flush on her

cheek, and in an excited voice she proceeded to depict the advantages of wealth and the social position that would be gained by a marriage with the gentleman in question. And in very strong language she compared the life of self-denial incumbent upon the couple who attempted a voyage upon the sea of matrimony without a financial anchor.

Irma laughed merrily as her aunt stopped at the door and, as a final shot, said: "I am sure that Jack Balcom is too wise to ask a penniless young lady to marry him. She might be silly enough to think he was in earnest, and the consequences would be somewhat embarrassing to him were she to accept." With these words the door slammed, and the irate dame stood outside in the hall for a moment, undecided whether to retreat gracefully or to return and accept defeat. She would like to know the effect of her last remark. Indeed, the words had penetrated deeply, and hot tears rolled down Irma's cheeks as she arose and walked to the window overlooking the street. Impossible Jack loved her—'twas true he had never so expressed himself—but he could not—would not trifle with her.

Indignation was written on her face as she left the parlor and sought the privacy of her own room.

Could it be true? She had hoped for an avowal of the love that she knew existed. Surely it was almost an unnecessary speech, for she felt—why, she knew positively that he loved her. Could it be that he delayed his avowal of affection for the reason mentioned by Mrs. Morgan? Irma knew that Jack was working hard, and was ambitious to reach the topmost round in the ladder of success. That she would be a poor man's wife did not deter her from giving her entire heart into Jack's keeping.

'Twas true years might elapse ere they could be united. There was no need for haste, nor was there any reason why they could not continue in their own quiet way. There was an unbounded pleasure in their companionship, and the frequency of his society made life one sweet dream of "what might be." How could the future be otherwise than rosy? Irma knew that determination would force for him the recognition that was due to intellect and honest aspirations. And yet this question—"why had he not declared his love?"

A summons to the parlor was answered in a slow, measured step. Her suspicions were aroused, and she resolved to use discretion in her manner of greeting Jack.

When she entered the parlor her relative was on the alert, and was very much gratified when Irma's flushed face told her that the seed she had planted was well rooted.

Irma walked sedately to her accustomed place near the table, where Mrs. Morgan was serving tea.

She nodded pleasantly to Jack, who was in the middle of a discussion with Mrs. Morgan upon the absurdity of young people marrying without abundant means so as to be able to take up the trials of life in a comfortable way.

Jack outdistanced Mrs. Morgan in his condemnation of the man who would attempt to persist in a young lady to leave a home of luxury for one of privation and sacrifice. He did not display any feeling that would leave Irma to think that he ever dreamed of such a step as the one under discussion. Consequently

her heart was overflowing as she listened to his denunciation of the very thing that she had dreamed of.

Mrs. Morgan glibly remarked that some girls were romantic, and it was "difficult to convince them of the many pitfalls by the wayside."

Irma's lips curled scornfully as she silently sipped her tea.

How could her warm girlish heart detect the tone of sarcasm so skillfully concealed by Jack, in his endeavor to learn of the position he occupied in the estimation of the relatives of the girl whom he adored and fully determined that very evening to ask her to marry him. Irma dropped her head for a moment, then arose and, going to the piano, the strains of "Laugh and the World Laughs With You" floated out in a clear, well trained voice, and ere the song was ended pride had conquered, and Irma was her usual winsome self for the remainder of the tea hour. Jack wondered at her coolness, for the beating of his heart, as he afterward told her, could be heard all over the room.

Mrs. Morgan soon retired to gloat over the success of her little stratagem, for had she not made Jack virtually acknowledge his views on the subject of a moneyless marriage, and were his ideas not identical with the statement she had made to Irma a few hours previous? She knew well that Irma's pride would forbid the betrayal of any feeling along the line of thwarted hopes. And she chuckled as she crossed the hall to tell her brother that the matter was settled satisfactorily. Irma was bending over and examining a little plant on the table, and as she turned she stood face to face with Jack, who had quietly stepped up behind her.

In that moment her tell-tale eyes revealed all. Instantly Jack seized her hand and was pouring words of endearment into her ears.

She blushing replied: "Yes, Jack, but how about that poverty you discussed so consistently with Auntie a few moments ago?"

"Irma, you certainly did not expect me to make love to your Auntie, did you?"

"Oh, Jack, what will Auntie say?"

"Lord only knows, Irma! You stand by me, for in union there is strength, and I shall need lots of that commodity when I tell her the girl I love loves me, regardless of my poverty."

### A Convenient Poultice.

When for any reason a poultice is necessary, one made of potatoes is excellent, as it retains the heat so long; moreover, it is very simply made.

Make two square bags of muslin of convenient size, according to the part afflicted; half fill these bags with potatoes that have been freshly peeled, and put them on to boil.

When tender, mash the potatoes in the bag and apply it to the patient, using it as hot as it can be stood without blistering.

While the other is cooking, crush the potatoes in the second bag and have it ready to use when the first is taken off. This should be returned to the boiling water to heat up again.

### Prunes on Toast.

To the Editor: That eternal breakfast question, as set forth in the PACIFIC RURAL PRESS, on page 105 of the August 15 issue, should not be

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

### San Francisco Business College

733 Fillmore St., San Francisco, Cal.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.

1105-6 Merchants' Exchange Bldg., San Francisco. Established 1860.

such a bugbear, if one is willing to be educated to an easy and simple way of doing things. Fresh fruit is not always to be had, but the luscious prunes are. For an ideal breakfast try a dish of your favorite cereal, toast, prunes and a cup of coffee. If these are properly prepared one will not easily tire of such a breakfast. If you are like the goose that desired to know how long he could stand on one foot, you will try it.

W. M. HERROLD.

San Jose.

### Faith and Works.

The author of "Seventy Years Young," Mrs. Emily P. Bishop, declares that it is as easy to do as to wish to do, and quotes this incident in illustration:

A little girl's brother set a trap to catch birds. She knew it was wrong, cruel, against the laws of kindness, altogether inexcusable, from her point of view.

She wept at first; then a little later her mother noticed that she had become cheerful once more, and inquired as to the cause.

"What did you do?" asked her mother.

"I prayed for my brother to be made a better boy."

"What else?"

"I prayed that the trap would not catch any little birds."

"What else?"

"Then I went out and kicked the old trap all to pieces."

When an old man sits neglected and looks into the fire, he thinks more truths about life than any book contains.



THE NAME STANDS FOR EXCELLENCE.

**HEALD'S BUSINESS COLLEGE**

E. P. HEALD, President, San Francisco.

Under the same management since it was established in 1863.

The stability and reputation of this School, and our ability to pay the best salaries, secure the services of the most able and skilful teachers.

We are in our own new building, planned and built for our school. It is equipped with everything needed by modern high-grade Business and Engineering Schools.

San Francisco is the best place, because San Francisco furnishes the positions, and the training is of the Heald quality.

**DEPARTMENTS: COMMERCIAL, SHORTHAND, ENGINEERING (Civil, Mechanical, Electrical, Mining, Steam, Gas and Automobile), TELEGRAPH.**

Write, naming the course you want.

**E. P. HEALD, President,**  
425 McALLISTER ST.

LEARN

**Plumbing, Electricity, Bricklaying or Plastering**

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Positions Secured.

Day and Night Classes.—You can enter at any time.

Our Scholars are from 15 to 50 years old.—No previous knowledge required.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco, Cal.

**Men Are Queer Ducks.**

A young lady not far distant, who wrote the following was certainly about right when she said:

Men are queer ducks! Would not there be a roar, when they went home to their meal, if they had to climb upon a high stool in front of the table on which there is no cloth, and eat their meals in this fashion? Yet the majority of men when they go to a restaurant to eat, will pick out the highest stool and the feed board with no cloth on it, in preference to a comfortable chair and a cloth-covered table.

A man will borrow a chew of tobacco and the most of them will set their teeth into the plug right over where some other man gnawed off a chew. But offer him a piece of pie at home, from which his wife or one of the children had taken a bite, and he will holler his head off.

At home he will not drink out of a cup, from which some of the family had been drinking. Just call him out into the back stall of the livery stable, put out a bottle and he will stick the bottle half way down his throat, to get to good swig after a dozen fellows have had the neck of the same bottle in their mouth. Man is a queer duck, I think.

**The Charlemagne Rose Tree.**

The most venerable rose tree in existence is said to bloom against the ancient church of Hildesheim in Germany. Notwithstanding the many parties which at different times have been in the ascendancy, they all seem to have respected and tended the rose tree, which it is said was planted by Charlemagne. The trunk is now almost as big as a man's body. There are five principal limbs trained against the church, the tree being protected by iron railings inclosing an area of about 20 square feet. The rude German soldiers in early ages tended the tree, Catholics and Protestants, in turn masters of the town, drained the ground, the soldiers of Turenne fastened up the branches with clamps and those of Napoleon, a century and a half later, erected the railings.

**Pith, Point and Pathos.**

If men had no enemies to get even with the idea of hell would never have come into being.

The chief trouble genius has is in making the ordinary mortals turn in and support it.

The man who has had the most trouble living generally worries most about dying.

It makes a woman mighty mad if her husband will not tell her just how he marked his ballot.

Men worry about the voice of conscience because they fear it may speak loud enough for the grand jury to hear.

Troubles stay longest where they are most hospitably entertained by the host.

Remorse lasts only as long as it takes the desire for pleasure to get brave enough to risk another head-ache.

No man ever gets wisdom until just about the time he has to begin wondering whether he'll leave enough to pay the undertaker.

No man ever looked at a baby without wondering what in the world makes women want to kiss it.

Pastor Rosegger of Gratz said that he visited a school one day where Bible instruction was a part of the daily course, and, in order to test the children's knowledge, asked some questions. One class of little girls looked particularly bright, and he asked the tallest one, "What sin did Adam commit?" "He ate forbidden fruit." "Right. Who tempted Adam?" "Eve." "Not really Eve, but the serpent. And how was Adam punished?" The girl hesitated and looked confused. A little eight year old girl raised her hand, and said, "Please, pastor, I know." "Well, tell us. How was Adam punished?" "He had to marry Eve."

Citiman — You ought to know something about flora and that sort of thing. Tell me what is a forget-me-not?

Subbubs — Why, it's a piece of string that your wife ties around your finger when you go in town on an errand.

**Domestic Recipes.**

**TO COOK TENDERLOIN.**—Take a nice tenderloin, cut in two-inch squares, strike with flat side of hatchet or cleaver, salt, pepper, and fry a nice brown in one tablespoon of butter and one of lard.

**INFERIOR BACON.**—Bacon of an inferior quality can be made most delicious by slicing, covering with cold water, allowed to boil two minutes, drained, and fried a golden brown. Buy in the strip and slice when desired, as it is much more economical.

**SMOTHERED STEAK.**—Peel onions, slice one-eighth of an inch thick, place in a pan with a large piece of butter, set in oven for about 15 minutes. While these are cooking put a porterhouse steak about one inch thick in a skillet in the suet cut from the steak. Brown nicely on both sides. Place in a pan and set in the oven. Put the onions in the skillet and fry until brown. Place steak on a platter and cover with the onions.

**HUNGARIAN GOULASH.**—Fry two onions in two tablespoonfuls of butter or lard, for a minute, put in one teaspoonful of imported Hungarian paprika, two of salt, and before the onions get brown put in two pounds of round steak, cut thick, in dice shapes, stir well and cover. Stew for about one hour, adding a little hot water by and by to keep it from burning; then before the meat is quite cooked put in about six potatoes, also cut in dice; cover with boiling water, season more if necessary, with salt and paprika, cover and finish boiling.

**ROAST LEG OF PORK.**—With a sharp knife score the skin in narrow strips; rub in some powdered sage. Raise the skin at the knuckle and put in a stuffing of minced onion and sage, bread crumbs, salt, pepper and beaten yolk of egg. Fasten it down with buttered string. You may make a deep incision in the meat at the large end of the leg and stuff it; also pressing in the filling. Rub a little sweet oil all over the skin with a goose feather, to make it crisp and a nice brown. A leg of pork takes three or four hours to roast. Moisten it with sweet oil or butter, put in cloth and rub over the skin. Skim the fat carefully from gravy and then thicken it with flour. Apple sauce, mashed potatoes and mashed turnips will go finely with it.

**Grass Fires Started by Eagles.**

A number of grass fires which have raged over the hills about Bakersfield, have been started by birds, principally eagles, coming in contact with heavily charged wires of the power company, and dropping to the ground with flaming feathers, says the Visalia Delta.

The last fire of this sort was started last Thursday evening but a few hundred feet from Rose Station, one of the stations on the power line. An eagle was seen to be hovering over the line and it suddenly made a downward swoop, with evident intention of alighting on one of the trees. The outstretched wings, however, touched more than one wire, and in an instant it burst into flame and dropped with blazing feathers into the high, dry grass beneath the line. Instantly fire was caught up and in the face of a swift wind spread rapidly and about 3000 acres were burned over before the flames could be controlled. Three fires are known to have been caused in this manner this year and at least two last season.

**Why Did They Laugh?**

A man who was offering gratuitous information at a country fair was disparaging the show of cattle.

"Call these here prize cattle?" he scornfully asked. "Why, these ain't nothin' to what our folks raised. You may not think it, but my father raised the biggest calf of any man around our parts."

"I can very well believe it," observed a bystander. And the boaster wondered why everybody laughed.

**Large Land Sale****The John Crouch Lands**

**Situated in Colusa, Glenn, Butte and Lassen Counties.**

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

**Crimson Winter Rhubarb**

**\$1.50 per Doz. \$6 per 100. \$40 per 1000**

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

**Strawberry Plants.**

Strong one-year-old plants; will bear a crop this fall, if irrigated, and a full crop next season. **Brandywines, \$2.50 per 1000; Excelsior, Klondike, A-1, and Midnight, \$3.00.** Other varieties later. Our new catalog containing full description of our small fruit plants will be out in September. G. H. HOPKINS & SON, Burbank, Cal.

**Navels, Valencias, Eureka Lemons**

Orange seed-bed stock. Orders booked for delivery now for season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

**Almond Hullers**

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
337 Pacific Bldg., Fourth and Market Sts. San Francisco.

**FARM CONVENIENCES.**—A practical handbook for the farm, describing and illustrating all manner of home-made aids to farm work. A manual of what to do and how to do it. It contains simple and clear descriptions of labor-saving devices for all departments of farm work and abounds in important hints and suggestions to aid farmers in the construction of these labor-saving devices, none of which are patented, and all farmers can readily make most of them for themselves. Illustrated. 5 by 7 inches. 240 pages. Cloth. Price, postpaid.....\$1.00



## THE MARKETS.

San Francisco, August 26, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

Wheat remains at the same figures that have been asked for the last two weeks, and holders are inclined to firmness. The movement is accordingly light, on milling grades at least, as some of the northern mills are cutting prices, and the local mills are limiting their operations. Buyers are taking some interest in the market, however, and any reduction would bring a lively movement. The growers all over the Coast are inclined to hold back for higher figures.

California White Australian	1.75 @ 1.80
California Club	1.67 1/2 @ 1.70
California Milling	1.70 @ 1.72 1/2
California lower grades	1.45 @ 1.60
Northern Club	1.67 1/2 @ 1.70
Northern Bluestem	1.75 @ 1.80
Northern Red	1.65 @ 1.80
Turkey Red	1.75 @ 1.80

## BARLEY.

The only change in price is on Chevalier, which is in fair demand at an advance. Feed, brewing and shipping grades are rather quiet in this market, though there is a fair shipping demand in other parts of the State. Supplies here are liberal, and prices in general incline to weakness.

Brewing and shipping	1.40 @ 1.42 1/2
Chevalier	1.60 @ 1.62 1/2
Good to Choice Feed, per ctl.	1.32 1/2 @ 1.35
Common feed	1.39 @

## OATS.

The oat market is quite strong, and there is a good demand for the better grades. Stocks of most varieties, however, are so light that there is not much movement. White and gray oats are in less demand than other varieties, though grays show an advance. All grades of reds are higher, and there is plenty of inquiry, especially for seed, but offerings are small. Stocks of black oats are fairly large, and the movement is active at former prices.

Choice white, per ctl.	1.57 1/2 @ 1.60
No. 1, white	1.50 @ 1.55
Gray	1.45 @ 1.60
Red, choice	1.65 @ 1.80
Red, feed	1.50 @ 1.60
Black, new	2.00 @ 2.50

## CORN.

There has been some change in prices since last week, all Western grades being slightly lower. The prices, however, are still too high for any great activity on this market, and there have been no transactions of any moment. There are very few spot offerings.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	1.85
White	Nominal
Western State Yellow	1.85
White, in bulk	1.79
Mixed, in bulk	1.77
Brown Egyptian	Nominal
White Egyptian	Nominal

## RYE.

There is some rye on the market, but there is no particular demand for it. Some holders are asking only \$1.40, while others hold for \$1.45.

California new, to arrive	1.40 @ 1.45
---------------------------	-------------

## BEANS.

Quotations are unchanged since last report. The market for spot goods is quiet, but there is some shipping movement which may improve during September. Some parties now estimate the coming crop of Limas at about 80 per cent of the average, while others count on a full crop. The white bean acreage in the East is a full one. Conditions vary, but not more than an average crop is expected. The quotations on Eastern futures indicate an expectation of a short crop. October Michigan beans are quoted at \$2.10 per bushel, or \$3.30 per cental, f.o.b. Michigan. The Eastern acreage in red kidneys is smaller than usual, and stocks here are low. New Garvanzos are coming into market, but are neglected, and there is an easier feeling in Favas. Old cranberry beans are closely cleaned up.

Bayos, per ctl.	3.00 @ 3.25
Blackeyes	3.25 @ 3.50
Butter	4.50 @
Cranberry Beans	2.75 @ 3.10
Garvanzos	2.50 @ 3.00
Horse Beans	2.00 @ 2.50
Small White	4.60 @ 4.75
Large White	4.50 @ 4.60
Limas	4.80 @ 4.90

Pea	4.60 @ 4.75
Pink	3.25 @ 3.35
Red	3.25 @ 3.75
Red Kidneys	2.75 @ 3.00

## SEEDS.

The seed market in general is still dull, and there is hardly enough business in some varieties to establish prices very definitely. There is, however, more inquiry than last month along some lines. Alfalfa is neglected. The alfalfa seed crop in the Southwest has been damaged to some extent by unfavorable weather.

Alfalfa per lb.	17 1/2 @ 20 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	4 1/2 @
Flaxseed	3 @
Hemp	4 1/2 @ 4 3/4 c
Millet	2 1/2 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

Flour prices locally are unchanged, but there has been some reduction at Northern mills on account of competition. The shipping business has been moderately active for the last few weeks, both here and in the North. Kansas and Dakota flours are also lower. The local inquiry is fully up to the average.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

## HAY.

There has been a big jump in the receipts of hay this week, the total advancing from 3180 last week to 4350 this week. Dealers report that the market has weakened greatly under the weight of these arrivals, but the quoted prices show but little change. Probably the bulk of the transactions are at the lower figures, but some hay is still sold at the top quotations. No great amount of business is being done in any line, holders still being quite firm in their ideas and most consumers evidently feeling that prices will, at the worst, not be higher later on. Some alfalfa is being bought all the time, and this line is fairly firm, in spite of heavy arrivals. The export trade shows no tendency to improve, and no important moves in this line are anticipated.

Choice Wheat, per ton	\$16.00 @ 17.50
Other Grades Wheat	11.00 @ 15.50
Wheat and Oat	11.00 @ 16.00
Tame Oat	11.00 @ 15.50
Wild Oat	10.00 @ 13.50
Alfalfa	9.50 @ 13.50
Stock	8.50 @ 10.00
Straw, per bale	45 @ 75c

## MILLSTUFFS.

Prices on millstuffs show no further change this week, everything being steadily held. The market is comparatively quiet at present, with no pressing demand, and stocks sufficient for all requirements.

Alfalfa Meal (carload lots)	
per ton	\$22.00 @
Jobbing	23.00 @
Bran, ton—	
White	29.50 @ 30.50
Red	28.00 @ 29.50
Broom Corn Feed, per ctl.	90c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00 @
Jobbing	26.00 @
Corn Meal	38.00 @
Cracked Corn	40.00 @
Mealalfa	22.00 @
Jobbing	23.00 @
Middlings	32.50 @ 35.00
Mixed Feeds	23.00 @ 28.00
Oil Cake Meal, per ton	36.75 @ 38.25
Rolled Barley	30.00 @ 31.00
Shorts	30.00 @ 31.50

## VEGETABLES.

The shipping demand for onions is less active than last week, and with heavy arrivals supplies are rapidly accumulating, causing a sharp decline. Garlic remains quite firm. Green corn is fairly strong at an advance, with a brisk demand for choice stock, but nearly everything in miscellaneous lines is weak, as the market is heavily stocked, and little interest is taken in general offerings. Tomatoes are again very cheap, and green peas, peppers and cucumbers are lower. A lot of marrowfat squash has been offering at 1 cent per pound, but has so far failed to move at the price asked.

Garlic, per lb., new	6 @ 7c
Green Peas, lb.	2 1/2 @ 4c
String beans, lb.	3 @ 5c
Cabbage, per ctl.	75 @
Onions—	
New Yellow ctl.	60 @ 75c
Summer Squash, large box	40 @ 65c

Tomatoes, box	50 @ \$1.25
Turnips, sack	50 @ 75c
Green Peppers, box	30 @ 65c
Cucumbers, box	35 @ 50c
Green corn, sack	\$1.50 @ 2.25
Egg Plant, box	60 @ 75c
Cauliflower, doz.	40 @ 50c
Okra, box	50 @ 60c

## POULTRY.

The poultry market shows considerable improvement this week, with more activity and better prices on all the leading lines. While three cars of Eastern stock have arrived, supplies of California chickens are only moderate, and dealers look for a good market at satisfactory prices for all varieties of desirable stock. Large young stock and large fat hens are especially in demand. Prices on turkeys are still held, the market for small birds being a shade easier, but stronger for large stock, both hens and gobblers being in good demand.

Broilers	\$3.50 @ 4.00
Small Broilers	2.50 @ 3.50
Fryers	4.60 @ 5.50
Hens, extra	7.00 @ 8.00
Hens, per doz.	5.00 @ 6.00
Small Hens	4.00 @ 5.00
Old Roosters	3.50 @ 4.50
Young Roosters	5.50 @ 6.50
Young Roosters, full grown	7.00 @ 8.00
Pigeons	1.25 @
Squabs	1.50 @ 1.75
Ducks	3.50 @ 6.00
Geese	1.50 @ 1.75
Goslings, per pair	1.75 @ 2.00
Spring Turkey, lb.	22 @ 24c
Gobblers, live	20 @ 21c
Hen Turkeys, live	20 @ 21c

## BUTTER.

Butter prices have been unsettled all week, the bear element on the exchange having things their own way most of the time, with 23 cents as the lowest quotation on extras. Several dealers have been short of this grade for the last day or two, however, and heavy buying has advanced the price to 26 1/2 cents, steady. The local demand has been good most of the week, though the advance may cause less inquiry. First and second are lower, and weak at that. Eastern extras are offering, but meet with little demand.

Cal. (extras) per lb.	26 1/2 c
First	23 c
Second	22 c
Third	20 c
Eastern extras	24 c
Fresh Packing Stock, No. 1	20 1/2 c
Fresh Packing Stock, No. 2	19 c

## EGGS.

An abrupt end has come to the rise in eggs, fresh extras now being weak at lower prices. Stock continues rather scarce in this grade, as heavy shipments are being made to Alaska from producing sections, but the high prices now asked at retail are turning most of the demand toward low grade, storage and Eastern stock, all but local storage being firm at the old prices. There is now a good inquiry for Eastern eggs.

California (extra) per doz.	35 c
First	32 1/2 c
Second	26 1/2 c
Third	22 c
Eastern Selected	25 c
Eastern first	23 c
Eastern second	21 c
Storage, Cal., extras	29 c

## CHEESE.

Cheese is still in a poor condition, everything on the list being weak. Local fancy flats are lower, but other varieties show no change. The movement is limited, buyers are taking little interest, and nearly all the dealers are carrying large supplies.

Fancy California Flats, per lb.	11 c
First	10 1/2 c
New Young Americas, Fancy	13 c
Oregon Flats	13 c
Oregon Y. A.	14 1/2 c

## POTATOES.

River potatoes remain firm at the old prices, the bulk of the stock being disposed of in other markets, and there is no over-supply here. While Salinas Burbanks still meet with a large demand for local use, the supply is now ample, and prices show some reduction. This market is overstocked with sweet potatoes, which are weak at lower prices, and are being pressed for sale, with little success.

New Whites	75 @ \$1.00
Salinas Burbank	\$1.35 @ 1.50
Sweet Potatoes, lb.	1 1/2 @ 2c

## FRESH FRUITS.

The fresh fruit market is in a weak condition for most seasonable descriptions, as the market has been overloaded for several days, and the retail trade is

taking little interest. Apples are well sustained, with more strength in the lower grades, and some varieties or berries are fairly firm. Pears are lower again, and peaches and plums also show a decline. Both nutmegs and cantaloupes are dull and weak, with heavy supplies. Grapes, with the exception of seedless, are also weak, with little inquiry. A few lots of Tokays are now offering, but there is no strong demand for them.

Apples, fancy	85c @ \$1.00
Apples, common	40 @ 75c
Strawberries—	
Large varieties, chest	\$6.00 @ 9.00
Blackberries, chest	2.00 @ 4.00
Raspberries	6.00 @ 9.00
Huckleberries, lb.	10 @ 12 1/2 c
Plums, crate	25 @ 50c
Peaches, box	35 @ 50c
Figs, box	50 @ 75
Nutmeg Melons, box	30 @ 75
Cantaloupes, crate	1.25 @ 2.00
Watermelons, doz	1.00 @ 2.00
Grapes, crate, Seedless	50 @ 1.00
Muscats	50 @ 75c
Black	40 @ 60c
Tokays	75 @ 1.00
Fountainbleau	40 @ 50c
Pears, Bartlett, box	50 @ 75c
Quinces, box	70 @ 90c

## CITRUS FRUITS.

Supplies of oranges are now liberal, and as they move slowly there are offerings at a further reduction. Both choice and fancy grades of lemons are also lower, following a decline at shipping points, and the movement is accordingly a little better.

Choice Lemons	\$2.00 @ 2.50
Fancy Lemons	3.50 @ 4.00
Standard	1.00 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	2.50 @ 3.50
Grape Fruit	3.25 @ 3.75

## DRIED FRUITS.

The market on most varieties of dried fruits is characterized by dullness this week, both here and in the East, as buyers in general are unwilling to meet the recent advance. It is also stated by some packers that the California contract is preventing a larger movement at the principal Eastern markets. At the present range of prices, some of the local buyers are also holding off. There has been no further advance since last week. Spot prunes are a strong feature, and all offerings meet with a lively interest. The prices below are asked by Coast packers. Apricots are being bought up at prices ranging all the way from 6 to 8 cents, with some growers holding for more. About 5 to 5 1/2 cents is the prevailing price for peaches. Raisins are very dull, and many of the growers are holding for very high prices, while packers are slow to meet the prevailing price of 4 cents for new crop. With 3 1/4 cents offered and refused for old crop, the prospects are considered good for an advance.

Evaporated Apples	4 1/2 @ 6c
Figs, black	2 1/2 @
Figs, white	2 1/2 @
Apricots, new crop	6 1/2 @ 10c
Peaches, new crop	5 @ 7c
Prunes, 4-size basis	3 1/2 @ 4 1/2 c
Pears, new crop	5 @ 6 1/2 c

## RAISINS.

2 Crown	4 1/2 c @
3 Crown	4 1/2 c @
4 Crown	5 1/2 c @
Seeded, per lb.	7 @
Seedless Sultanias	4 1/2 @
London Layers, per box	\$1.25 @ 1.35

## NEW CROP.

Loose Muscatels, 4 crown	5 1/2 @
3 Crown	5 1/2 @
2 Crown	4 1/2 @ 4 1/2 c
Thompson seedless	4 1/2 @
Seedless	6 @ 6 1/2 c
Clusters—Imperial	\$2.25 @ 2.40
Dehesa	1.75 @ 1.90
Fancy	1.30 @ 1.40
London Layers	1.25 @ 1.50

## NUTS.

A large walnut crop is predicted in some localities, but nothing definite is known as to new-crop prices. Almonds are now being gathered, and several large lots have been bought during the week. The prices received by growers are 9 to 10 1/2 cents, with possibly 11 cents as the top figure.

Almonds, Nonpareils	11 1/2 @
I X L	10 1/2 @
Ne Plus Ultra	10 @
Drakes	9 1/2 @
Languedoc	9 @
Hardshell	@
Walnuts, Softshell No. 1	13 @
Softshell, No. 2	10 @
Italian Chestnuts	10 @ 12 1/2 c

## HONEY.

The bulk of the extracted honey has



been shipped to market from most of the producing centers, a comparatively small amount coming to this market. Growers are getting very good prices, white stock bringing at least 5 1/4 cents, and water white up to 6 1/2 cents. Comb honey brings the grower about 11 to 13 cents. Locally, there is a good demand for white and light amber, but lower grades are neglected.

Water White, Comb lb.....	16 @ 17 c
White .....	15 @
Water-white, extracted .....	8 @ 8 1/2 c
Light Amber .....	7 @ 7 1/2 c
Dark Amber.....	5 1/2 @ 5 1/2 c
Candied.....	5 1/2 @ 5 1/2 c

WOOL.

The wool market is unchanged, the prices quoted being practically nominal, as there is no movement of any consequence at present. Interest in California wools in the East is very slight.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15 1/2 c

HOPS.

There is little new in the hop situation, as growers are now gathering the crop, and buyers are not taking any strong interest. While some encouragement is found in the small crop on the Coast, advices from Europe indicate a heavy yield, which will have a depressing effect.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

MEAT.

Quotations on dressed meats stand about as before, but several descriptions are inclined to weakness. Sheep and lambs are plentiful, and the prices are not strongly held, while dressed beef shows rather less firmness than a week

Beef: Steers, per lb.....	6 @ 6 1/2 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	5 1/2 @ 7 c
Small.....	7 1/2 @ 9 1/2 c
Mutton: Wethers.....	6 1/2 @ 8 c
Ewes.....	6 @ 7 c
Lambs.....	8 @ 9 c
Hogs, dressed.....	7 1/2 @ 9 1/2 c

LIVESTOCK

Steers, No. 1.....	3 1/2 @ 4 c
No. 2.....	3 1/2 c
No. 3.....	2 1/2 @ 3 c
Cows and Heifers, No. 1.....	3 @
No. 2.....	2 1/2 @
Bulls and Stags.....	1 1/2 @ 1 1/2 c
Calves, Light.....	4 1/2 @ 4 1/2 c
Medium.....	4 @
Heavy.....	3 1/2 @
Sheep, Wethers.....	4 @
Ewes.....	3 1/2 @
Spring Lambs, lb.....	4 1/2 @ 4 1/2 c
Hogs, 100 to 150 lbs.....	6 1/2 @
150 to 250 lbs.....	6 1/2 c
250 to 325 lb.....	6 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Aug. 24, 1908.—The Valencia deal is running slow and the lemon market is entirely off. The Exchange claims to be still holding for \$3.00 f.o.b. for Valencias, but others are letting go of their holdings as fast as possible at about 25c. less. This will probably be the figure for the greater part of the month of September, and then it is in order to look for a gradual raise in prices until the customary high closing prices are realized. Last year late Valencias went as high as \$10 a box, and in seasons past they have gone even higher than this. However, this is usually on the celebrated Old Mission brands, and other fruit has to take a place somewhat lower on the scale.

Weather is reported cool in the East, and lemon prices have taken a tumble in consequence. Fruit that was selling a week ago at \$4.00 to \$4.50 is now being quoted at this end for \$3.00 to \$3.50, and buyers apparently not over eager at that price.

There were some very good sales in the Eastern auctions on Monday, the best grades of Valencias being strong when of the right sizes. In New York City, Brown's Cerrito brand brought \$4.70 per box, and Blue Seal was a close second at \$4.65. Several brands brought over \$4.00, and nothing went below \$3.00 except one lot of standard grade fruit. In Philadelphia the La Mesa brand, shipped from

Riverside by the Exchange, brought \$4.10. In Boston, Royal Knight, an Exchange brand from Redlands, sold for \$4.40, and Blue Seal was high at \$4.15 in Pittsburg. The prices in the Western markets were low, nothing going to \$4.00.

Last week's shipments of oranges amounted to 170 cars, and of this amount the California Fruit Growers' Exchange has 125. Three more weeks at this rate would clean up all the fruit in California, but it is probable that the output will grow lighter as the days go by.

Lemon shipments during the same time ran to 80 cars, and up to and including Sunday of this week, 4319 cars of lemons have been shipped. The orange shipments to date have been 23,800 cars, against 23,587 cars a year ago. There are not many over 400 cars of oranges and about 700 cars of lemons now left in California.

SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Aug. 25, 1908.—The deciduous market at the present is very unsettled. Peaches are selling at low values in some of the auctions, and the range of prices yesterday was: Late Crawford, 65c. to \$1.00; Elbertas, 65c. to \$1.20; Susquehannas, 60 to 75c.; Clings, 80 to 90c. Sales f.o.b. have been made on a basis of 50 to 55c.

Plums are selling at high figures, owing to the light supply en route. Chicago averaged today: Bradshaws, 75c. to \$1.25; Eggs, 80c. to \$1.20; Kelseys, \$1.15 to \$1.45; Wicksons, 90c. to \$1.30; Giants, \$1.00 to \$1.30.

There has not been any improvement in the pear situation. Bartletts are selling at \$1.30 to \$2.15 in Chicago. A few f.o.b. sales have been made at \$1.00 to \$1.10.

Malagas are going at present at \$1.00 to \$1.15, plain pack; \$1.10 to \$1.35, bunch pack; and \$1.45 to \$2.00, clusters. A few f.o.b. sales have been made on a basis of 75c., plain pack, and 85c., bunch pack. Shipments of Malagas the past week have been very light, and the packing houses at Fresno have shut down for the present.

About 10 cars of Tokays have been shipped from Florin, and the first cars are due in the auctions this week. Good prices are expected.

It was decided by the Lodi growers not to ship any Tokays from that section until the first of September, consequently the first cars will leave on that date. Several cars of black grapes have been shipped from that section, and they will probably sell at about 50 to 60c. f.o.b.

The immediate future on peaches is not very promising, and it is just a question as to what price Tokays will realize.

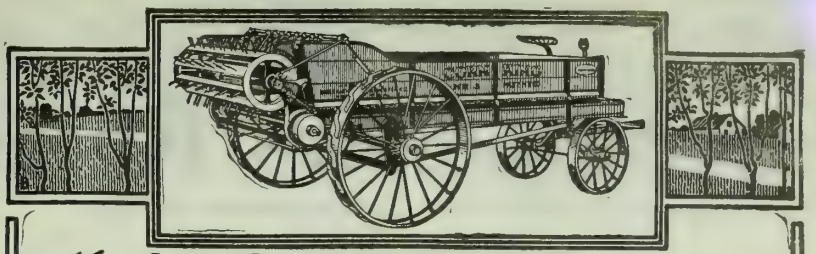
Comparative shipments to August 19, for the seasons 1907 and 1908, are as follows: 1907, 2934 cars; 1908, 5154 cars.

WINE GRAPES IN CONTRA COSTA COUNTY.

To the Editor: Being a regular subscriber to your paper and being interested in the diffusion of knowledge of the prospects and conditions of growing crops, I write to inform your readers that the wine grape crop in this, the central part of Contra Costa county, is very short this year. In fact, there will be very little, if any, more than half a crop. This conclusion is the result of careful investigation in the Concord, Clayton and Walnut Creek sections—the largest wine producing sections of this county. I have interviewed a score or more of wine grape growers in these districts and many of them report a half crop or less; a few of them two-thirds or three-quarters, and some almost a failure. I hope you will give this space in your paper and that it will draw out reports from other wine growing districts of the State in order that the grape growers and wine makers may form an intelligent estimate of the output of the maturing wine grape crop. J. F. BUSEY.

Concord, August 24, 1908.

The hop growers, owing to extremely low prices, may not gather more than one-half of the crop this season, hoping to advance prices by shutting off production.



Make the manure bring you \$4 a ton

Thousands of Successful Farmers Are Doing It

There is no charm or secret about it. You simply spread it with a machine, and thus make it go twice as far, get twice as much good from it on the first crop, do your land more permanent good, and save half the time and labor of handling.

Manure is generally estimated to be worth \$2.00 a ton handled the old way. There is no doubt that it is worth twice as much to the farmer who spreads with a machine.

Three of the most practical and valuable machines manufactured for farm use today are the Corn King, Cloverleaf, and Kemp 20th Century manure spreaders. They are each made in a number of sizes.

These machines differ somewhat in construction and operation, but all three are right working and of great durability.

They are proven machines. They embody the best mechanical ideas, the materials used in construction are the best for the purpose, they are made as simple as possible, and they handle manure in all

conditions to the perfect satisfaction of users. Proof of all this is to be found in the record each machine has made in the field.

Is it not to your interest to own and use one of these spreaders on your farm?

Figure out for yourself and you must agree that it will be a paying investment, even if you do not have over twenty-five loads of manure to spread in a year.

You can't help but be pleased with the work, the easy handling, the light draft and the substantial making which saves you the annoyance of breakage and repairs.

Call and see these spreaders with the local International agent. He will gladly point out to you the superior features of these machines, as well as supply you with catalog, colored hanger or other information.

If you cannot do this, write nearest branch office for catalog.

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA

(Incorporated)

Chicago, U. S. A.

PUBLISHER'S DEPARTMENT.

The California Nursery Co., at Niles, has recently added to its irrigation system. The pumps adopted are of the latest and up-to-date improvements, having balance rings, and being attached to engine by silent chain. Engine and pump will be placed in pit together. The Krogh Pump Co. furnished the pumps and all necessary adjustments, the engines being purchased from the Doak Engine Co.

An advertisement in our stock department will be of interest to hog raisers especially. The recent wreck of the ship Anubis off the coast near Santa Barbara is the cause of this barley being damaged by sea water. Mr. McNear has about 1000 tons of barley, which is being dried and will make excellent feed. This is a fine chance to buy good feed cheap.

A new liner advertising department has been started with this issue of the RURAL PRESS, that of situations and help wanted. The rate for advertising in this column is one cent a word, no advertisement taken for less than 25 cents per week. If you are out of work or want help, you are invited to use this department. Two capable young men are advertising for situations this week.

The Coyne National Trade School of San Francisco advertise in the RURAL PRESS for students to learn trades. They make a specialty of teaching plastering, bricklaying, plumbing and electricity. All of these are good paying trades, and the new way to learn a trade is through the trade schools, instead of the old apprentice system. The money spent in learning a trade is repaid many fold in a short time to the young man who will apply himself.

At this time when feed is high, the question of economy in handling chickens is a very live one. The question is partially answered by the Western Feed Co. of San Francisco in their large ad. in this issue. This is a new company with an old head, and many of our poultry readers will be pleased to do business again with Mr. Coulson.

The Pacific Implement Co. of San Francisco will again use the columns of the RURAL PRESS the coming winter in setting forth the merits of their farm implements. This company is one of the largest and best on the coast and our readers who intend doing business with them are assured of good treatment.

The Winters Express states that the M. O. Wyatt Co. has bought the Ish Lone Oak Dairy, near there and consolidated the two plants.

INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	—
Beckman, Geo. V.....	136
Bihn Bros.....	138
Bird & Co., J. A. & W.....	—
Benton, Frank.....	139
Blake, Moffitt & Towne.....	144
Bray Brothers.....	144
Breeders' Directory.....	136, 138
Clark Wise & Co.....	—
Coyne National Trade School.....	141
Croley, George H.....	138
Cutter Laboratory, The.....	137
De Laval Dairy Supply Co.....	137, 144
Dewey, Strong & Co.....	140
Dietz Company, R. E.....	144
Disbrow, F. H.....	141
Driver, E. S.....	136
Dunlap, R. M.....	136
Eakle, H. P., Jr.....	136
Fresno Agricultural Works.....	—
German Kall Works.....	139
Gibson, Mrs. W. B. & T. B.....	136
Hamlin, Miss Sarah D.....	140
Hart, Ed.....	138
Healds Business College.....	141
Hopkins & Son, G. H.....	141
Howard Cattle Co.....	136
International Harvester Co.....	143
Jackson & Co., T. W.....	144
Kendall, Dr. B. J., Co.....	—
Krogh Mfg. Co.....	144
Lawrence-Williams Co.....	121
Lilly Co., Chas. H.....	137
Lister, Henry B.....	141
Lynch, John.....	136
McNear, G. W.....	137
Meacham, Frank A.....	—
Mountain Copper Co.....	144
Murphy, P. H.....	136
National Wood Pipe Co.....	144
Oakland Poultry Yards.....	138
Pacific Implement Co.....	139
Palace Hardware Co.....	139
Pear Blight Remedy Co.....	144
Rix, O. A.....	141
Robinson, John R.....	141
Roeding, Geo. C.....	136
San Francisco Business College.....	140
Sharples Separator Co.....	136
Shorthorn Sales.....	136
Silva & Bergthold Co.....	144
Simmons Hardware Co.....	—
Situations and Help Wanted.....	143
Smith, Francis.....	—
Southern Pacific Railway.....	144
Standard Oil Co.....	137, 139
Stowe, C. A.....	136
Sullivan, W.....	136
Teague, R. M.....	—
Temple Pump Co.....	—
Tower Co., A. J.....	—
Tuttle's Ellixir Co.....	—
Vermont Farm Machine Co.....	139
Wagner, J. B.....	141
Waite, Thos.....	136
Western Feed Co.....	138
Western Gas & Power Co.....	144
Wilson, R. F.....	144
Windeler, Geo.....	144



TELL THE FOLK AT HOME

THERE WILL BE

# Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

## SOME RATES:

Sioux City	-	-	-	\$31.95	New Orleans	-	-	-	\$35.50
Council Bluffs	-	-	-	30.00	Peoria	-	-	-	36.75
Omaha	-	-	-	30.00	Pittsburg	-	-	-	47.00
St. Joseph	-	-	-	30.00	Memphis	-	-	-	36.70
Kansas City	-	-	-	30.00	Bloomington	-	-	-	36.75
Leavenworth	-	-	-	30.00	St. Paul	-	-	-	36.75
Denver	-	-	-	30.00	Minneapolis	-	-	-	36.75
Houston	-	-	-	30.00	Chicago	-	-	-	38.00
St. Louis	-	-	-	35.50	New York	-	-	-	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

## Southern Pacific

### All Soils Alike to Wood Pipe



The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

### Western Gas and Power Company OAKLAND, CAL.



WINE TANK.

### Tanks Tanks

WINDELER'S PLANING MILL  
AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

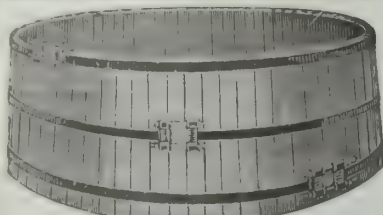
GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

R. F. WILSON,

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.



## SUPERPHOSPHATES

(PHOSPHORIC ACID.)

NITRATE OF SODA. SULPHATE OF POTASH.

## MIXED FERTILIZERS,

SUITABLE FOR EVERY CROP GROWN UNDER THE SUN, SOLD BY

**The Mountain Copper Company, Ltd.**

150 PINE STREET, SAN FRANCISCO.

## PEAR-BLIGHT

We can CURE IT

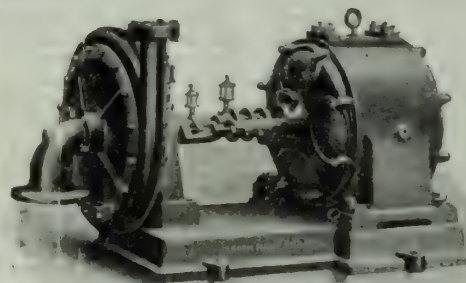
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

**Krogh Man'f'g. Co.**

127 to 133 Beale St., San Francisco, Cal.

Send for new catalogue No. 50  
just issued.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco

"THE OLD RELIABLE"



THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St., San Francisco, Cal.

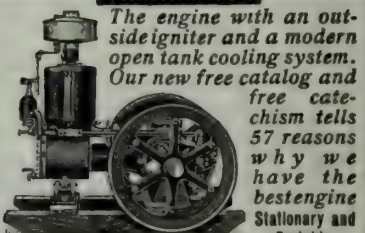
Buyers of Grain and Beans.

Members Merchants Exchange.

Established in 1856. Correspondence invited.

## Stickney Gasoline Engines

ARE THE BEST



SEND FOR FREE CATALOG 1 1/2 to 18 H. P.

We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**

SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Paper Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 10.

SAN FRANCISCO, SATURDAY, SEPTEMBER 5, 1908.

Thirty-eighth Year.

## California Short-horns.

Two well planned Short-horn sales on succeeding days at Woodland, in Yolo county, where the breeding interest and enterprise have succeeded from distinguished fathers to honorable sons, is an honorable record for a young State like California. The fact that such sales are becoming stated events in the herds of California indicates that our Short-horn men are up to date in methods and find encouragement in working toward stated annual sales which should become characteristic of all leading breeders of live stock in this State. The fact that the Short-horn breeders have struck this gait first is indicative of the great place which this breed has always occupied in the live stock history of California—a prominence which is now becoming greater than ever because they seem to be displacing other beef breeds which have risen to temporary popularity during the last decade or two, and are thus reasserting their supremacy.

This supremacy of the Short-horn is, of course, a far wider affair than the foregoing remark might indicate, because California is only reflecting in her experience the world-wide conclusion. The Short-horn has done more for the elevation of California cattle than any other breed. It came first of the improved breeds and it has always remained first, though others have become more or

They came before the judges by hundreds, far transcending any other breed in this respect, and they carried off the grand championship of the

reds than usual on show in the classes for bulls, and not many more among the females. Most of the entries forward were roans, and at times it



"VILLAGE BLOSSOM," A YOUNGSTER OF THE EAKLE HERD.

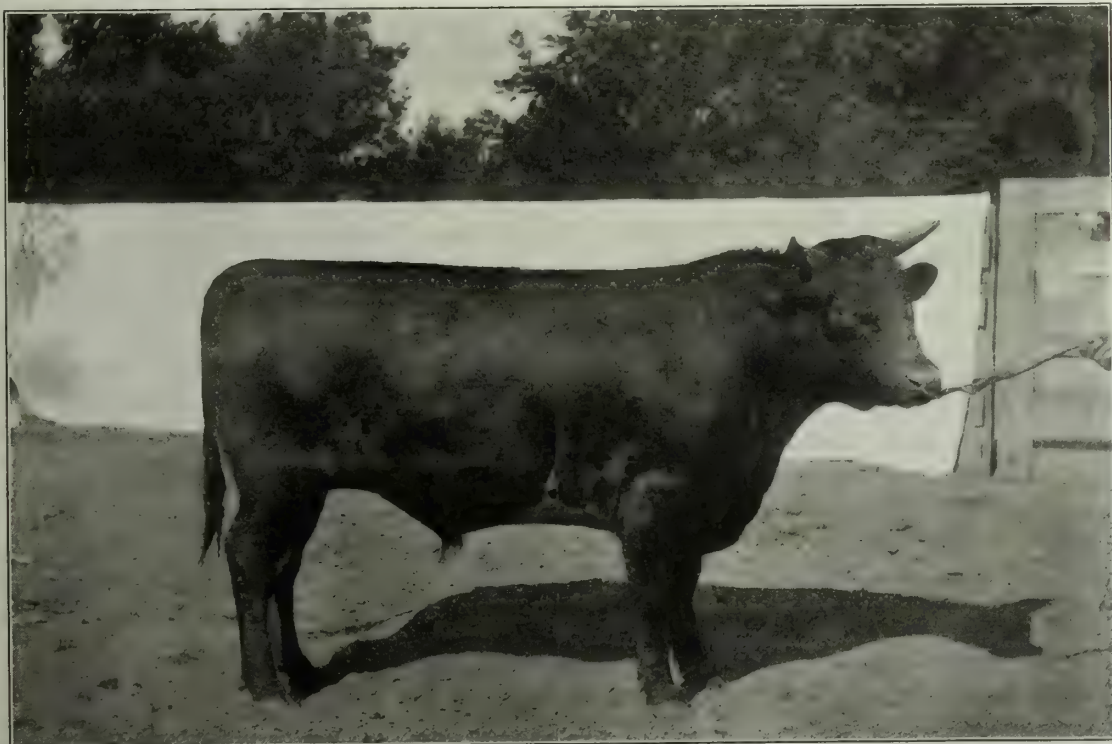
show in the section for fat bullocks. It was veritably a Short-horn year at the big exhibition at the Chicago stock yards."

looked as though the whites outnumbered the reds, though this condition is not borne out by a tabulation of the colors given in the catalogue. In the official list the color is not given in many instances. Of the animals the colors of which are mentioned 123 were roan, 63 red, 25 white, and 17 red-and-white. The color scheme was therefore greatly different to what it was a few years ago." Thus surely we advance in real value rather than in fancy points. There is, of course, no implied criticism of the reds, or reflection of the taste of those who enjoy them, but simply a declaration that there is something vastly more than color in the Short-horn.

Last week Prof. Major gave some notes on the cattle which will be offered at the Eakle dispersion sale in Woodland on September 12, and this page is adorned with two representative animals of the stock offered at this sale by Messrs. Dunlap and Eakle. On the day preceding, that is, on September 11, there will be a sale on the old Gibson Home Farm, one mile south of Woodland, of 70 head from the celebrated Roselawn herd of Mrs. W. B. Gibson and her son, Mr. T. B. Gibson. This is the third annual sale of the Gibsons, and Professor Major has prepared for us the following appreciative notes:

"The late Mr. W. B. Gibson was among the earliest breeders of Short-horns in the State, and his son has followed in his father's footsteps in using nothing but choice ones in the herd. Among the many good bulls in the sale are Barmpton Lad, got by Ramsden Lad, and out of that good show and breeding cow, Barmpton Spray. The sire,

(Continued on Page 154.)



"VILLAGE HERO," SON OF "BARMSTON HERO," OWNED BY MISS EMMA EAKLE.

less prominent. The provocation to this generalization is found in a recent remark in the Breeders' Gazette: "One of the most important features of the lately held International Live Stock Exposition was the superlative exhibit of Short-horns.

There is another point which has been strongly contended for in California, and that the chief value of the Short-horn was not in being red. This point is also made at the Chicago show, for the Gazette continues: "There were fewer straight



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor  
FRANK HONEYWELL - - - Business Manager

## The Week.

Some weeks ago we indulged in the prophecy that, from the way some counties were gaining in valuation, the total gain of the State in a year might be a hundred millions. We were too cautious. The actual gain, as now reported from Sacramento, is about one hundred and thirteen millions more value in California in March, 1908, than in March of 1907. This advance, in view of the azure financial feeling and the influence which the blues when abroad in a community have upon the people, even including the county assessors, clearly indicates that the figures are conservative and safe, and that there has really been a much greater advance in population, investment and construction of all kinds than the figures measure. The irresistible conclusion is that the financial panic, flurry, stringency, or whatever other ill name it needs, is not in our industries but in ourselves, and if it were not so fashionable to be gloomy all through a presidential election year, we should have as free a spirit in our business as in our pastimes.

There is a corollary to this proposition of increased valuation which will particularly delight the agricultural mind, and that is the prospect of unusually low taxes this year. The total assessable property of the State is nearly two billions: to be exact, it is \$1,991,554,603. The administration of State affairs, the economy of the last legislature, and the increased income from corporation fees, motor licenses, etc., all join with the increased valuation to enable the State Board of Equalization to declare a State tax rate of forty cents on the hundred dollars, which is the lowest rate in the history of the State, except in one instance, when the rate was fixed for political effect at 38.2 cents, and ran the State into debt. The way things are now proceeding, it looks as though the State could provide itself with things wise and necessary to its advancement and yet keep the tax rate at a gratifyingly low figure. Such a State is worth living in, investing in, and working for!

It is particularly fortunate that this is the case, because not all undertakings are paying out as they should this year. Most crops are selling well, it is true, but fruit is not living up to its record, and some lines of live stock are not as productive as they ought to be. Most of these low limits can be explained, and they are chargeable to conditions which are temporary and likely to rise quickly by reaction. When it comes to prices of things which usually sell well for future consumption, we are certainly affected by the listlessness which is born of the stringency and of the election. Whatever recompense can be had from the advance when these depressions pass is the proper comfort and encouragement—though it may not arrive in some cases until another crop is gathered. The fact that such a condition is exceptional and not general throughout the State is found in the fact that wages are still high and

help scarce. No doubt considerable perishable produce will be lost because it actually cannot be handled with low prices and high wages. When men have to be sought for at a wage of \$2 per day and more for common farm labor, there cannot be any general hard times. Some of our town school boards are postponing the opening of the schools until the middle of September, in order that the large number of children employed in cutting and packing fruits may continue in their employment. In the Chico district all available women and children have been employed for many weeks, and in some instances Japanese, Chinese, and even Hindoos have been pressed into service to care for the ripe fruit and prevent a total loss. California agriculture certainly needs a larger labor supply at more reasonable rates, and less shifty in its disposition. Producers could endure temporary depression of prices much better if they had such a labor supply. The present supply is too often so ineffective that neither employer nor employee can make anything—and the latter does not seem to care. He is the most independent person in the State.

But we shall doubtless pull through this trouble some way, as we have time and again during the last thirty years. It looks as though prices for produce, which are now low, would come up to grade before long. One of the Chicago national banks has issued a circular, based upon information received from about 4000 correspondents in the Middle West, claiming that trade in all commodities which pass into ordinary consumption will be normal—in fact, rather lively—this fall, owing to the general depletion of retail stocks throughout the country and the necessity of stocking up, in view of the satisfactory purchasing ability of the farmers. The author of the report finds that the farmers of the country are now its most prosperous class. Their incomes have not been impaired, as they were after the panic of 1893; their mortgage indebtedness is easy to carry, and so far as goods sold direct to farmers is concerned, there is no reason why merchants should not stock up heavily. And the purchases of the farmers will set the industries going. This is the reason why Mr. Harriman, according to current reports, has gone to ordering rolling stock for his roads in a lively, expansive way. The idle cars of six months ago are about all moving now, and the railways bid fair to be blocked with produce awaiting shipment, as they were two years ago. And the farmer and his crops are at the bottom of all this. If he does not get his share of the prosperity which he produces, it is probably his own fault. If he gets pinched between the buyers on the one hand and the laborers on the other, it is probably because he is not wise enough or strong enough to escape. He can be strong enough by being wise enough, and he can help himself by helping others of his own point of view and industry. It is easy to say this; it is easy to see that help will not come from any other source, but it is very hard to realize the results except in small instances, which we have already preached upon to the limit of the reader's patience.

There is one agency which can, however, help notably to this end, because it is a national organization of farmers, established upon sound and broad principles, with more than a third of a century's honorable and successful experience to build upon. It has proceeded in a quiet way toward definite ends, and has never lost courage or force, though half a dozen get-rich-quick organizations, established upon claptrap and fallacy, or to serve some selfish ambition, have flourished, faded and died since it was organized. The Pat-

rons of Husbandry has lived and succeeded because it contended for the social and political recognition of the farming classes, and because it contended that such recognition was to be attained by educational lines. The general public must be taught that agriculture is a high calling, because it is established upon science as is no other industrial calling of mankind. The farmer must be taught this fact also, and the further fact that his own elevation and success depend upon qualifying himself to build upon science and upon attaining self-consciousness from that point of view. When these two ends are reached the public respects the farmer and the farmer respects himself, and action proceeding therefrom will bring the farmer into proper relation with all other classes and within reach of what properly belong to him in the rewards of human activity. The Grange order has striven for just this, and has accomplished wonders in the development of agricultural education, agricultural influence in public affairs, and in the recognition of the true nature of agriculture as a science and as an art. If the Grange had now in its age and wisdom the energy and membership which it had a quarter of a century ago, it could quickly attain the ends which are now clearly seen to be essential. It is the duty of the rising generation of young farmers to throw their strength into the organization and employ it for the work which should now be done, just as their fathers did when they were young, forceful and hopeful. The foundations are well laid: who will build thereon?

It is interesting that the hotel men are waking up to the desirability of placing before their guests better fruits and vegetables, and they are thinking about direct trade with producers in rather a pointed way. It is interesting because hotel men generally know how to do things, and if they really wish to deal with producers they will find a way. Last week there was a meeting of the Hotel Men's Association in this city, at which the most important thing done was the endorsement of plans for the encouragement of free markets in San Francisco. The hotel men are in favor of free markets because they will afford better opportunity for them to procure good fruit and vegetables at a reasonable cost, and will tend to raise the standard of the fruits which appear on their tables by bringing the purchasers directly in touch with the producers. Other meetings will be held and action had toward realizing the benefits thus outlined. It is perfectly feasible to accomplish what is aimed at, and it will have the general effect of raising the quality of fruits and vegetables sold in San Francisco, especially of fruits. For years the great fruit sections of the State have found nothing favoring their shipments to this city. The city has been content to receive anything which was cheap, because that gave re-handlers a chance to multiply profits. If San Francisco buyers will take the best and pay a fair price for it, and come through the fences so that such produce can be delivered to them, the metropolis will become of some account as a fruit market, and it will be of advantage to the whole State, in one way or another, that this should be attained.

The poultry producers of Sonoma county are coming through with their co-operative enterprise, as is shown by the fact that the Sonoma County Co-operative Poultry Association determined to incorporate for 45 years, and that the name of the corporation should remain unchanged. Santa Rosa was chosen as the principal place of business.

There is another good thing in the selling line:



The Chamber of Commerce of San Francisco has received from C. F. Larrabee, Acting Commissioner of Indian Affairs, proposals for supplies for the Indian service for the fiscal year ending June 30, 1909, to be delivered at San Francisco, Kansas City, Sioux City, St. Louis, St. Paul, Omaha, Chicago or New York. The proposals call for many articles which can be furnished by California to better advantage than by any other section of the country. The following articles are among those that are wanted: 132,400 pounds dried apples, 113,900 pounds dried peaches, 187,400 pounds dried prunes, 5680 dozen cans tomatoes. Sealed proposals must reach the office of the Commissioner of Indian Affairs, Washington, D. C., not later than 2 p. m., Thursday, September 24, 1908, when they will be opened in public. Copies of the proposal may be obtained at the office of the Chamber of Commerce in this city.

## Queries and Replies.

### A Rude Awakening.

To the Editor: Can you kindly tell me of whom I can get practical information as to what to do with 30 acres of apricots and 20 acres of olives in one of your southern coast counties. There is no water on the tract, and whether it is likely to be obtained I do not know. The apricots have never returned anything for the outlay. The olives made small return two years ago. The trees are 10 years old or more, have never been pruned and are affected by the black scale and smut. There is no one in the vicinity to whom I can write to get information or advice, so far as I know. I am a clergyman and hoped to make a home in California, and also hoped the land in question would be adequate for support when unable to preach.—Owner, Illinois.

No one can give an intelligent opinion of the property you speak of without careful examination of it and its environment. No publication will allow you at a distance to ascertain the facts which you should know. There have been altogether too many absentee investments in California property by those who had no data for forming intelligent judgment, and no voice in the management of the enterprises which may have been planted thereon. Sometimes the land on which these enterprises have been planted has been very bad; sometimes good enough, and the failure has come from lack of intelligence and good faith in the management. These are some of the things which one can tell only by personal investigation. From what you say about the trees being left to themselves for ten years, we conclude that it is very doubtful whether you have anything left which is worth looking for.

### That Old Egyptian Again.

To the Editor: I have been reading a great story about a so-called Alaska wheat grown by a party in Idaho. Can I trouble you for a little further information? Has our experimenter farm been trying it this year? How soon do you expect to be able to make a report upon it? How soon may we common farmers expect to be able to buy a little sample of it?—Farmer, San Luis Obispo.

As we have already stated in these columns, the old, seven-headed Egyptian, or Miracle, wheat which has just been re-discovered and boomed by the Idaho parties was introduced into California nearly thirty years ago, tried fully, and abandoned as undesirable. There is no use paying any attention to the proposition. It is simply a case in which the boomers were smarter than the publishers. The latter did not recognize the subject they had to deal with, and the result is they have given a vast amount of free advertising to a vari-

ety of wheat which, in this State at least, is worth no further consideration. We are advised by the Oregon Station that the report that they had purchased seed at a fabulous price is incorrect. They write that they also have been growing this variety for a number of years and found it undesirable.

### The Silo.

To the Editor: I wish to preserve a quantity of corn fodder I have growing, and have been told that a silo could be dug in the ground and slightly timbered. The ground slopes to the south and is loose and gravelly. I should be glad to have your opinion.—L. A. H., Guerneville.

It certainly can be done that way, if it is otherwise desirable. That is the way it was first done, and the word silo means a pit. But there are many drawbacks to putting down corn fodder in a pit. It is hard to make it air-tight and escape moulding. It is likely to get full of water and spoil that way. But if you escape these troubles, think of the work of shoveling it out of the pit, for silage is heavy. For these and other reasons above-ground receptacles quickly displaced the pits which were first used in Europe. But you can do it below ground if you get everything just right. Of course the fodder must be green enough and be cut in small pieces so that it will pack down tight and exclude air.

### Canaigre.

To the Editor: I am a regular reader of your valuable paper. Will you kindly state in an early issue what canaigre is? Where does it grow, and how may it be identified? Has it a more common name? These inquiries are the result of a paragraph on page 99 of the issue of August 15.—L. D. T., Upland.

Canaigre is sometimes called "tanner's dock" because the root contains tannin and is used in making leather. Its real name is *Rumex hymenosepalus*. If you are familiar with the weeds called "docks" you will recognize canaigre at sight. It has the common dock way of growing and has considerable reddish color in its leaf stems and ribs. If you find such a plant growing wild on the arid lands in southern California, and it has a thick fleshy root, the chances are that you are up against canaigre.

### Manure for Wheat.

To the Editor: What is the best known fertilizer for wheat, to be used on land not worn out, but for the purpose of increasing yield? How will ordinary stable manure do? Our soil here is a light sandy soil, part of it formerly the river bottom.—Farmer, San Diego.

Stable manure is a complete fertilizer, and is, therefore, fitted to stimulate growth and production, and is not likely to be applied in excess because the supply of it, compared with the area to be treated, is always rather small in California. You must look out, however, on light soils in regions of limited moisture, to use the manure early in the rainy season, so that it may have all the opportunity possible for decomposition. Otherwise it is likely to make the soil too loose and to permit evaporation to such an extent that the first crop grown upon it may be even less than upon unmanured land. This is one of the dangers in using coarse material on light, dry lands in California.

### Who Knows Ailanthus Sprouts?

To the Editor: Can you suggest a method by which I can kill the *Ailanthus glandulosa*, also known as "tree of heaven" or "Chinese locust"? I have cut it down and grubbed out the roots with much care several times. It continues to come up,

and runs along under the ground with much persistence, coming to the surface and growing upward every little way. How can I kill it?—L. C., San Jose.

We know of no way of eradicating the tree except by constantly grubbing and pulling out as much root as possible whenever the shoots appear. You might try pouring a teaspoonful of gasoline at the base of the shoots. This kills some plants, and is just now quite popular. What it will do with the *ailanthus* can only be told by trial. Who knows a good way?

### Soil Analysis.

To the Editor: Kindly inform me if you have any books on chemical analysis of soils; something that would enable me to make my own analysis. I have taken elementary chemistry, but never went further.—Enquirer, Oakland.

There are only advanced chemical treatises on the analysis of soils, because it is a difficult chemical process, which can hardly be undertaken to advantage without two years or more of training and experience in a well equipped laboratory. The determinations are too elaborate and delicate in a quantitative way to admit of amateur handling. What a chemical analysis of soils signifies is, of course, another proposition, and is found in very readily available form in Dr. Hilgard's book on "Soils," which can be purchased, postpaid, for \$4, from the PACIFIC RURAL PRESS. There is much in it, of course, of a purely technical character, but his descriptions and conclusions are so clear that the lay reader is both gratified and edified.

### Preserving Specimens for Exhibition.

To the Editor: Would you be so kind as to let us know what the fluid is that you use in preserving fruits in glass jars, as is usually on exhibition at the various chambers of commerce, as we wish to put in an exhibit ourselves, and would like to have the best formula for that purpose?—Reader, San Francisco.

You probably overlooked the full assortment of recipes for doing this which we published on page 68 of the PACIFIC RURAL PRESS of August 1. We must acknowledge, however, that the putting up of fruit for exhibition satisfactorily is rather more a matter of experience and judgment than of recipe, and if you wish to install an exhibit with the least chance of disappointment, we believe you would do well to make arrangements with an expert like Mr. Nichols, fruit-processor for the Oakland Chamber of Commerce and for the State Agricultural Society, to do the work for you. His success can be observed in the large exhibit of fruits which will be installed at the State Fair this week, put up in preparation for the Alaska-Yukon Exposition, which comes later. The State Board of Trade in the Ferry building has also skillful processors whom you might easily consult.

### Plums and Prunes.

To the Editor: Does the Tragedy prune bear well and regularly, as a rule, throughout the San Joaquin valley? Would Kelsey and Tragedy prunes on myrabolan root, which we much prefer, be likely to produce fruit smaller in size than if on peach or other roots?—Planter, Fresno.

The Tragedy prune is complained of as a shy bearer in some districts, but its bearing is generally improved by the proximity of other plums or prunes which will act as cross-pollinators. The Japanese plums are generally reduced somewhat in growth by working on the myrabolan, but there is usually no difficulty about the size of the fruit providing proper thinning is done. Suitable size will, in fact, depend more on thinning than upon the root.



## Horticulture.

### BUILDING NEW TYPES OF STRAWBERRIES AT ETTERSBURG.—III.

Written for the PACIFIC RURAL PRESS

By ALBERT F. ETTER, Briceland, Humboldt County.

**Beach Strawberries.**—*Fragaria chiloensis* is the botanical name of our Pacific Coast beach strawberry. There appears to be several types of it. The Peruvian beach berry is very different from the Point Arena type, and our Humboldt type is unlike the Point Arena type. I admired their heavy, leathery, drouth-resisting foliage and very strong, deep-penetrating roots. However, they are a small plant and produce only a few small berries. Many of the plants are purely male and never fruit.

The Rose Ettersburg, crossed with the Cape Mendocino beach berry, produced some very extraordinary progeny. Giants in size of plant and profuse bloomers, but, like their father's side of the house, they were all sterile. They neared perfection in every character, but they produced no fruit. The offspring of another trial, which fruited for the first time this season, however, is exceedingly fruitful and makes a fine red berry for every blossom. These are the typical Rose Ettersburg-Cape Mendocino beach berries. Of great substance, having so much sugar as to candy into miniature figs if left to cure on the plants. It is No. 95.

A combination of Rose Ettersburg-California No. 3 and Rose Ettersburg-Cape Mendocino beach has produced some extraordinary plants and fruit. Yet you will remember that the male parent was almost entirely sterile and the mother was of little value for its fruit.

No. 118 of the above cross is a general blend of all its ancestors, and for productiveness, flavor and all around quality it has few equals. It is of a clear, deep, bright red, and red to the center.

No. 93 is another of this line of breeding. It is unique among strawberries, and is of such leathery foliage that the sun seems to have no terrors for it. It is very productive, and has berries of good size and of brilliant red, turning to dark cherry-red as it over-matures. It is solid but nearly all juice. The unique character is the flavor. It tastes more like a Black Tartarian cherry, either fresh or cooked, than like a strawberry. I trust, however, that it is hardly necessary for me to make a comment, as did a certain writer in writing of Burbank's Bartlett plum, when he said, "the strange part of it was that the plum had no trace of Bartlett pear blood" in its makeup! This "No. 93" is all pure strawberry.

No. 84 is another of the above breeding, and perhaps the most remarkable strawberry plant I ever produced. A giant among giants, with massive, dark green glossy and leathery foliage, it seems to bask in the sunshine like a cactus plant.

Less than three feet from this plant are vigorous seedlings of the Wm. Belt, of pure Eastern blood, that are burning out in the hot weather we have had now for a month past, while No. 84 is as fresh and strong-growing as if it was irrigated. Odd among beach hybrids, it produces few runners. It blooms two weeks later than any other berry I have, and blooms through a long period. The fruit is as large as Rose Ettersburg, as red as blood, and so full of juice that if a portion be bitten off a berry, the fruit will drip like a very juicy plum. It is so delicate that one cannot touch it without marring it. The flavor of it is, as one man put it, so very fine that cream and sugar would spoil both the beauty and flavor of the berry, which should be eaten directly from the plants. If I know what I am doing among strawberries, No. 84 has a big future before it in the strawberry-breeding world.

No. 101 is a full sister to No. 84, but it is an ornery sort of a plant, with a great tendency to produce runners. It is not likely to attract admirers until its fruit is sampled. The fruit, which is abundant and of a light red color, is a honey berry for sweetness.

Marshall X Rose Ettersburg-Cape Mendocino beach has produced some delightful results, which are productive in berries and drouth-resistant in foliage. In texture the fruit is like No. 93 and No. 84, and as regular in form as anything could be. The color is remarkable—a brilliant, glisten-

ing, deep-blood red. When held in the sunlight there is a glow reflected from beneath the surface—something I never expected to see so well developed in a strawberry. Couple the above sort of a berry with a fine, clear-cut, deep-green calyx and stem, and you couldn't expect a more pleasing effect to make your mouth water. The numbers of the above line are No. 81, 83, 102, 103 and 104.

Crescent X Rose Ettersburg-Cape Mendocino beach made a splendid combination in No. 70. It is of good size, red and juicy, but rather firm and solid in texture, like all typical Chiloensis hybrids, they being not vesicular, as is the flesh of the ordinary strawberry. The berries of No. 70 are of long life after maturity, and they are produced abundantly, over 70 ripe berries being counted on the plant at one time. It is very drouth-resistant, and lots of runners and vigor. It has plenty of acid, and a Beach-Crescent flavor.

### BUDDING WALNUT TREES.

Written for the PACIFIC RURAL PRESS

By J. B. NEFF, of Anaheim.

The budding of nursery stock walnut trees has been practiced with varying degrees of success for several years, and some work has been done on old trees with the view of changing them to better and more productive varieties. The greater part of the nursery budding has been done in the southern part of the State, and almost all of the top budding in the counties bordering on San Francisco bay.

Mr. Pennington of Vacaville has been very successful in budding by cutting buds in the regular shield form, about  $1\frac{1}{4}$  inches long, cut from branches  $\frac{1}{2}$  to  $\frac{3}{4}$  inch in diameter, so as to get wide buds with but little wood left in them. He also prefers to have stocks large, and considers a stock  $1\frac{1}{2}$  inches in diameter not too large. He uses ordinary budding twine for tying, but does not use wax to cover the incisions. Says it is best to put off budding as late as it is possible to get a good flow of sap, as then the weather is likely to be cooler, which is an important factor, and the growing season is about finished, which will allow the twine to be left in place all winter, which he considers advisable.

When doing the work Mr. Pennington prepares the incision to receive the bud and puts it in place, tying at once. No special preparation of the budding wood is made, except that mature buds are taken. About 90 per cent of the buds placed are said to grow.

Old trees can be prepared for budding by cutting back during the preceding winter, so as to induce the growth of young wood, or if grafting has been done and part has failed, the buds can be placed in the shoots.

The shield buds are also used by Mr. Keith of Selma, who has made further experiments in preparing the buds before they are cut from the wood. This is done by cutting the leaf stem off at about two or three inches from the wood two or three weeks before the bud is needed. This leaf pruning is supposed to ripen the stem and cause it to fall, leaving the bud smooth and easily tied. It also serves the double purpose of preventing evaporation through the leaf stem, which is very severe on a newly placed bud if the weather should be hot with dry winds. The bud is cut  $1\frac{1}{2}$  inches long, the longer half of the bark being above the bud. The wood is either cut deep, or the bark is cut so as to form an oval of considerable width, and peeled from the wood, in this way differing from the ordinary shield bud, which has some wood left under the bud. The buds are forced well down under the bark of the stock, tied with soft twine, and all the cuts waxed with soft wax well pressed in. Care is taken that the bud is clear. The branches are cut above the buds the following February and waxed over. A shade was placed over the buds at Selma, but this is not necessary unless there should be excessively hot weather.

Successful budding has been done by using plate buds, or ring buds, where the cutting was done by a specially made knife, made by taking two knife blades with a block of wood between and riveting the whole securely. In this way the bud will exactly fit where the bark was taken from the stock.

The success of budding depends on having the stock and bud both in vigorous growth and in

keeping them in that condition until the proper union has been made. Weather conditions also affect the setting of buds, since a much larger percentage will grow if the next succeeding days are cool. The twine used should be soft cotton and as large as 12 threads budding twine. The tying should be firm enough to exclude all air from between the bud and stock, but not tight enough to crush the bud.

### HOW A BUTTE COUNTY WALNUT GROWER OPERATES.

E. A. Epperson, of Durham, writes to the Alta Californian regarding his experience in growing walnuts in that section. He says:

Perhaps it will be of interest to some of our readers if I call attention to the value, quick growth and bearing qualities of the French walnuts, the Franquette and Mayette. Both are claimed to be nuts that originated some two hundred years ago in France, by the men whose names they bear.

The Mayette is a rapid grower and a regular bearer. The shells of the nuts are very soft. The foliage is dense, thereby making a good protection for the green nuts during hot weather. This variety is late in putting forth leaves in the spring and is therefore seldom if ever injured by the late frosts.

The Franquette in many ways is similar to the Mayette, with the exception that it is not so rapid in growth, and the shells of the nuts are not as soft. This hardness of the shells is an advantage when shipping. The meats of the two varieties are similar, both being very plump, of a sweet flavor and white in color.

I have a tree of the Mayette variety that was planted in 1890. It commenced bearing five years later, and the last four years gained from 10 to 15 pounds each season. Last year 85 pounds of the nuts were gathered, and this year there will be 100 pounds or more. The tree has a spread of 35 feet, and is 16 inches in diameter 18 inches from the ground.

To obtain the best results in growing walnuts, plant the California black walnut. Plant them three inches deep, with the point of the nut down. Put five or six nuts in one place, and when they have grown two seasons, remove all but the largest. When the little trees are about one inch in diameter, or during the third or fourth season, they should be budded. Best results are obtained by budding from the 15th to the 20th of August. Cut the buds from the season's growth close to the point where the growth begins, and get the buds with small leaves. Use a clean, sharp knife, and work as quickly as possible. Cut the bud from the limb, remove all the wood and put in place. Tie with tape one-fourth of an inch wide. After the buds have grown fast remove the tape and let them grow until next season. Then cut the branch off just above the bud.

During the first season care should be taken that the wind does not break the branch off. It is sometimes necessary to tie them to some support during the first season. The trees should be planted at least 40 feet apart, and 60 feet is even better, as they continue to grow and spread for many years.

**Pickling Walnuts.**—It is too late to pickle green walnuts this year, but this recipe may be useful next summer: Procure walnuts young; be careful they are not woody; prick well with a sharp fork, prepare strong brine (4 pounds salt to 1 gallon of water), steep the walnuts nine days, changing every third day, draw off, place in sun until perfectly black (takes about two days), have ready dry jars, into which place the walnuts. Then boil for ten minutes sufficient vinegar to cover them, with the spices named, and then pour hot over the walnuts until completely covered. To each quart of malt vinegar allow 2 ounces of whole pepper, 1 ounce of allspice, 1 ounce bruised root ginger. Put up in jars, screw the jar covers down and keep for one month in a dry place. They will keep good from three to five years. Some add a few Shalot onions to the vinegar when boiling it.

### A BLACKBERRY TANGLE.

An English horticultural writer waxes somewhat facetious when he says: "One of your great men tells me that a blackberry is red when it is



green, while another authority tells me that a blackberry is still green when it is red. This would not seem so strange were it not that my friend and brother botanist of California, Mr. Green, tells me that Dr. Asa Gray says in his book that a blackberry is not a berry, but is a multiple fruit. Now, if a blackberry which is not a blackberry is still red when it is green, and Mr. Gray, according to Mr. Green, says a blackberry is not a blackberry, will you kindly tell me then what is a blackberry? Taking the word of my friend Mr. White, who raises Black Leghorns, we will assume that a blackberry, which, as Mr. Green has already said that Mr. Gray said was not a berry, is a double-yolked egg or the chicken produced from this egg. Of course, then, this chicken would be a multiple fruit, which then corresponds exactly with what Mr. Green said Mr. Gray said about a blackberry not being a blackberry, even though still green when red. Now Mr. White says he produces his multiple fruit from layers, and Mr. Green also says that Mr. Gray says we can produce blackberries, which are not blackberries, from layers also and that these layers also scratch, showing a great resemblance between them, thus reducing them to the same family of plants."

### PRIZES FOR CALIFORNIANS.

Among the States west of the Mississippi, California led in horticultural awards at the exposition held at Jamestown, Va., with Louisiana second and Missouri third. As was to be expected, the States nearest the exposition had larger lists of prizes, but even they did not greatly outrival California. The following list shows the winners of gold, silver, and bronze medals in California: Gold medals—Chamber of commerce of Los Angeles, collection of peanuts and fruits preserved in liquid; Los Nietos Ranchito Walnut Growers' Association of Rivera, English walnuts; J. H. F. Farchow of San Gabriel, Valencia oranges; California Fruit Growers' Exchange of Los Angeles, Washington navel oranges, Eureka lemons, Eureka pomelos; A. Martin of Little Rock, Bartlett pears; Rivers Bros. of Los Angeles, grapes; Los Angeles county, continuous display of fruits and vegetables; W. S. Dietrick of San Diego (Julian), apples, 21 varieties; F. L. Shaw of Julian, apples; B. F. Miller of Julian, apples; H. R. Wilcox of Julian, apples; Chester Gunn of Julian, apples; Edwin W. Beaver of Fullerton, Showne peanuts. Silver medals—A. A. Gast of Fruitland, fruits; George C. Roeding of Fresno, plums. Bronze medals—J. B. Wagner of Pasadena, Wagner's winter rhubarb.

## Citrus Fruits.

### DEEP ORCHARD PLOWING.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

Within the past five or six years the advocates of deep plowing of citrus orchards have been very active in catching the mind of the average grower and shaping it to their theories. All theories, new and old, when presented demand consideration, and when demonstrated are either facts or fallacies. The theory of deep plowing, as put forward, has been that it would break up the soil to a greater depth, loosen and aerate it, enhance the better distribution of water, drive the roots deeper so that they would have new soil and better protection, make deeper cultivation more practical, and generally tend to better conditions.

Against this it was argued by the critics of the orchard deep-plowing theory that soils differed too distinctly in physical structure and character to allow the theory to be safe for general practice; that the depth to which a soil should be broken up depended upon its depth of loam; that it could be loosened and loamed to the greatest practical depth by the use of cover crops; that it had been already proved by exhaustive experiments for more than ten years that the surface rootlets of trees could not be driven deeper by plowing, but that they would simply occupy the depth of the loam; that the deep plowing cut off great quantities of valuable feeding roots, and if it reached

down to the depth of the loam, practically all the feeding rootlets of the tree were cut off by the plow; that even on soils where deep plowing was moderately practical, owing to the great depth of inherited loam, the season for such plowing must receive careful consideration, that the trees be not injured; for instance, if a considerable area of the rootlet system was cut off early and a frost followed, the damage to the tree by freezing would be greater and the recovery less certain, while if the plowing was put off too late, the tree could not establish new rootlets in time to serve the purposes of full crop production. The suggested protection of the rootlets, it was argued, was an imaginary need which did not arise if correct and sufficient methods of irrigation and cultivation were practiced.

While a general survey of the soils in the citrus belt showed that the depth of loam was often deeper than a plow could be driven, yet a more intimate knowledge of the soils of the orchards in detail modified this showing almost to the point of challenge. In the soils showing one foot and less of inherent loam the deep plowing proved vicious and wholly impractical, and already growers are questioning the advantage of it in soils having a loam depth of even two and three feet. In the shallower soils the damage to the trees has been in importantly lessened crop production, and considerable evidence is being urged that this is also, though to a less extent, true on the deeper soils. It is being pointed out that deep loam soils usually aerate well, owing to their texture, unless they are drowned by water so as to force the air out.

It is considered good in broad annual crop farming to turn up an inch or less of subsoil from beneath the loam each year, or at every fall plowing, so that by manuring the loam may be deepened gradually to the depth of practical plow run. How to effect a similar result in orchards has been a problem which seems now solved. The importance of deepening a shallow loam is undoubted, but to do it with the plow means the annual destruction of the surface rootlet system, which has yet to be shown as advantageous or natural in tree culture.

The cover crop has solved the problem of the deepening of the loam in orchards. If a suitable plant is used (in the citrus belt the vetch has proved itself the best plant), not only can the loam be deepened by its numberless deep reaching roots, but the inherited loam can be kept in almost a virgin condition indefinitely. This does away with deep plowing, or even plowing at all, as the green hay of the vetch can be thoroughly worked into the surface soil to make it a mulch easily pulverized and kept loose, while the hairy root system decomposes to its full depth, adding to the organic matter of the soil to form loam.

In mentioning the vetch as the proved cover crop of the citrus belt on this coast, it may be observed we speak of its numberless mass of hair-like roots which extend down into the soil. This is of great importance when considering this subject, as there is a distinct advantage in these root characteristics. Other plants of the legume family, to which the vetch belongs, such as the varieties of field peas, make larger and longer roots than is usual with the vetch, reaching down into the subsoil for water to satisfy their broader leaf and heavier stalk. These long and larger roots of the peas are not nearly so numerous as the vetch hairy roots, and they effect no important advantage by their deep ramifying, because, while it is practical to add to the depth of the loam by inches and fractions thereof, it is absurdly impractical to undertake the loaming of several feet of soil. Another great advantage of the vetch cover crop is that it eliminates the expense of stable or yard manures, the most important value of which is the making or preserving of rich loam. Such manures are essential to broad farming, where the cover crop cannot be utilized in the same way as in orchard work.

The natural sequence of what we have said is the discussion of deep or shallow cultivation, but it is a subject calling for more space than the present article should occupy, and in consequence is postponed for future consideration.

### The Main Point in Cover Crops.

A study of the various addresses at meetings of growers, and the prevailing type of articles and other communications in the horticultural press,

as against research into the practical conditions on the ranches, strengthens a conviction that has been shaping itself, that the main point of value of the cover crop receives too little attention from its advocates. Great stress is invariably laid on the leguminous plants, and wonderful arrays of figures are produced to emphasize their fertilizing value. These statements are at least theoretically correct, and it is true that the legumes practically enrich the soil in nitrogen, obtained from the atmospheric air, as no other cover crop plants can.

The main point of value in the cover crop is in its enrichment of the soil in vegetable organic matter, which softens, loosens and mulches the soil, so as to make it freer for the development of plant roots, easier worked, more sponge-like to absorb and hold water, and more easily permeable by air. It was a like action that made our virgin soils, and in the use of the cover crop we are but copying nature. That the rotting of the cover crop in the surface soils, and of the roots farther down, furnishes a double and even more extended purpose, is of undoubted importance, but we deprecate the putting forward of the direct or indirect plant food value of the cover crop as of first importance.

The object of all this writing and talking about cover crops is not to display our technical knowledge, but to help the grower to farm his soil to obtain the best results from his standard crops, his fruit trees. Therefore, in impressing the cover crop lesson upon him we should come at it in the most direct way, and show that the very initial point in soil culture is the mulching of the surface, and the organizing of the loam strata with organic matter. The chemical effects which follow cover cropping an orchard will be certain, and will not be augmented by such bacterial and chemical knowledge as we now possess.

## The Vineyard.

### SULPHURING VINES.

Written for the PACIFIC RURAL PRESS  
By MR. F. T. BIOLETTI.

A grape grower makes the following inquiries of the PRESS:

1. Is sulphuring vines in blossom desirable?
2. Does sulphuring the vines when in blossom ever "burn" the vine?
3. Is the Chasselas Fontainebleau particularly susceptible to sulphur burning, and is it an uncertain and irregular bearer?

It is the generally received opinion, supported by experimental evidence, that sulphuring with a machine which puffs or blows the sulphur onto the vine when in blossom is favorable to the setting of the fruit.

Sulphur will burn the leaves of the vine if it is put on in very hot weather. A temperature of much over 100° Fahrenheit in the shade is dangerous. Few vines are injured below 105°F. (shade temperature), but when the air reaches 110°F. or over many vines may be seriously injured. Eastern varieties, such as Isabella, are particularly susceptible to this injury.

I have never noticed that Chasselas is more susceptible to sulphur burning than other varieties. It is very seldom that dangerously high temperatures occur so early as the blossoming time, and where the sulphuring is done properly and in time this is usually the last sulphuring that is needed, except in very foggy districts.

The use of a proper machine cannot be too urgently recommended. By its use not only is the sulphuring done so thoroughly that the dangerous late summer sulphurings can usually be omitted, but, when they are necessary, the danger of sulphur burning is much less. The large amount of sulphur used with bags, can or similar devices for applying the sulphur makes the danger of burning much greater.

The Chasselas is a rather regular bearer in most localities. It is, however, subject to what the French call "millerandage," which means that many of the berries remain very small and seedless, due probably to imperfect pollinization. It is not often that this seriously diminishes the crop, and it is probable that sulphuring during blossoming would be helpful.



# NOTES AT THE STATE FAIR.

## A Fine Display in Which All Parts of the State Participate.

The success of the Alaska-Yukon Exposition casts its shadow before in the extent and variety of the State Fair which is on at Sacramento this week. California proposes to do herself credit at the great Pacific Coast exposition which will be held in Seattle from June to October of next year, and for which the legislature of 1907 provided \$100,000, the money to be expended under the direct supervision of Governor Gillett and thus avoiding extravagance which is sometimes incurred with a board of commissioners. Mr. J. A. Filcher, secretary of the State Board of Agriculture, is the executive officer of the California Seattle display, and is assembling much of the material which he will use next year at this year's State Fair. In this way the bulk of the exhibit will be ready for early installation in the California building which will be erected at Seattle. The whole arrangement seems very wise and business-like, and, as suggested at first, the success at Se-

of the Capitol, which is several hundred feet distant, in the same park. The pavilion is not striking in architectural beauty, but it is capacious and has served a good purpose. The Capitol Park is one of the handsomest ornamental grounds in the State, and has one of the best collections of exotic trees, which are fortunately correctly labeled, and serves as an arboretum of much interest.

The Fair Grounds proper are at a considerable distance from the Pavilion, but readily accessible by trolley cars. The grounds are being provided with new exhibition buildings as their cost is available, and bid fair to be in time one of the best live stock display places in the West.

One of the most striking popular displays of the fair was the "ribbon parade," in which over 100 decorated vehicles, drawn by more than 300 animals, passed twice before the thousands of delighted spectators in the grandstand and created much loudly expressed enthusiasm.

vegetables and palms.

Tehama was especially strong on peaches, grain and mineral waters.

Alameda was strong on vegetables, fruits and flowers.

Monterey had a good apple exhibit.

The city of Chico made an excellent showing of fruits and grasses for Butte county.

The College of Agriculture made a splendid display of cereals, of grapes, and of eucalyptus wood and manufactures thereof.

**At the Fair Grounds.**—The chicken pavilion had over 1000 birds, and while the moulting season is in evidence, yet many handsome birds of the leading varieties were there. Hanford sent over a carload of its feathered beauties, and birds came from as far east as New Jersey. Names of exhibitors were withheld until after the judging, and the rush to see where the prizes went was very interesting.

In the cattle division the Jerseys were in force, there being about 65 head entered. The breeders who are enthusiasts have brought their best to enter competition. We noticed that Guy H. Miller of Modesto, Geo. A. Smith of Corcoran, the estate of Thos. Waite of Perkins, N. H. Locke of Lockeford, and J. W. Clark of Auburn were all on hand and ready to back their favorite breed.

The Stanford herd of Holsteins, from Vina, was worth going a long way to see, and Fred H. Burke could not remain away from the scene of his old victories.

Mrs. Jennie Strader of Ceres had a fine lot of Dutch Belted cattle.

The only display of Brown Swiss was made by B. P. Inman of Junction City, Oregon.

Polled Durhams were shown by E. F. Klenimeyer of Los Angeles.

Some fine Devons were shown by Geo. F. Simeral of Macleay, Oregon.

In Short-horns there was a goodly number shown by Mrs. Lizzie H. Glide of Sacramento, Judge Carroll Cook of San Francisco, T. B. Gibson of Woodland and P. H. Murphy of Perkins.

In the five-day milking contest, Guy H. Miller of Modesto had the largest string entered. Others contesting were the estate of Thos. Waite of Perkins and F. H. Burke of San Jose.

A large number of sheep and goats were shown by the estate of Thos. Waite of Perkins, Bailey & Sons of San Jose, T. B. Gibson of Woodland and G. K. Swingle of Davis.

In the swine department there was a very large number shown, principally Berkshires, though Poland-Chinas showed up well. Here again the estate of Thos. Waite had a large number, as had G. A. Murphy of Perkins and Carroll Cook of San Francisco. M. Bassett of Hanford, T. B. Gibson of Woodland and W. R. McCas-

lin of Sacramento also had fine Poland-Chinas.

The lover of fine horses found his favorite there, from thoroughbreds and standard trotters down through the list of harness, draft and coach, hackneys and work teams, saddle horses, Shetland ponies, mules and donkeys. California can always put up a good display of horses, and the showing made this year was not disappointing.

## Sylviculture.

### STRAIGHT EUCALYPTUS TIMBER.

To the Editor: The question of the crookedness of eucalyptus rostrata and many other species of the family is obviated by close planting and by heading back. Further, your interesting correspondent, Mr. Stratton, who has perhaps had a longer experience in commercial eucalyptus growing than anyone else in California, in speaking of the habits of these trees, was referring to Sonoma county. We all know that environment influences habit, if it does not entirely form it. Therefore, in the first place, following nature's suggestions, timber trees are planted as close together as possible in order to encourage a straight growth and the shedding of lateral branches be-



AGRICULTURAL PAVILION TAKEN FROM THE DOME OF THE STATE CAPITOL, SACRAMENTO.

attle is foreshadowed by the success at Sacramento.

President Rush, Secretary Filcher and the board of directors generally have been busy at this year's fair for months, and the result is indicated by current comments of visitors. One of them said: "Every promise made by the board of directors of the State Agricultural Society relative to the State Fair for 1908 has been redeemed, and in many respects the exhibition exceeds the promises made. In place of a mediocre or half-developed display in the pavilion this year, every department is fully filled, ready for the opening night."

The attendance of 3500 people on the opening night is a sufficient indication of popular interest in the undertaking, which naturally increased as the days advanced. No pains were spared to make the pavilion attractive. The interior decorative scheme was very good. Flags of all nations and many yards of red, white and blue bunting were draped from all sides and form a rainbow of color overhead. The booths were all tastefully set up and decorated, and the scene presented was very pleasing.

Our distant readers who may not have visited the State Capital will be interested in the picture which appears upon this page. It represents the rear view of the pavilion as seen from the dome

It is impossible to describe in detail the wealth of varied materials which entered into both the park and pavilion displays. Some of the premium awards, which will be published later, will help us give credit to whom credit is due for contributing to such a showing of California's greatness and variety. A few notes of exhibits which happened to attract the attention of our representative may be found interesting:

**In the Pavilion.**—The agricultural displays were nearly all made by counties, and these were very fine.

Sacramento county had good displays of grains, fruits, potted plants, jellies, etc.

Los Angeles county, as was to be expected, was strong on citrus fruits and walnuts, but had also some fine peaches and grapes.

The Turlock district, in Stanislaus county, made a display to be proud of, in the way of vegetables, fruits and grains, besides a miniature irrigation system.

Napa county was strong on mineral water and fruits and vegetables.

Sonoma county brought forward those products that have made it famous, viz., hops, wine, canned goods, and Burbank's spineless cactus, but the chickens weren't there. The visitor had to go to the poultry house at the Park for them.

Sutter county brought forth its best fruits, corn,



fore they have grown enough to form knots. In Germany forest trees are planted 2x2 feet apart in good land, and 4x4 feet in light soil or on hillside. The "survival of the fittest" is believed in, the weaker trees being gradually cut out to leave room for those naturally more robust. Summer rains make this very close planting possible. In California we plant wide enough apart to allow space for cultivating for two or three years, say 6x6 feet.

In the second place, as is always recommended with plantations of catalpa, locust, etc., the young trees are cut back severely after standing two or three years, so that the growth will be clean, straight and vigorous. And, third, the rostrata, or almost any species of eucalyptus adapted to the conditions, is a very different tree planted in the Sacramento and San Joaquin valleys than it is about Petaluma. Heat, rich soil and abundance of water form a combination which soon make giant eucalyptus.

I mention these things because some might think that the remarks alluded to in the *RURAL PRESS* of August 21 referred to California generally, with its many "climates," although Mr. Stratton plainly stated that it was from his own experience in Sonoma county that his conclusions were drawn. In Tasmania, Australia, and in New Zealand, wherever the eucalyptus become giants, they are invariably in most situations along river bottoms. There are, however, many species which stand very low temperatures and grow at an elevation of 3,000 feet to 6,000 feet. Among these are *E. uringera*, *E. coccifera*, *E. muellerii*, *E. Siberiana*, etc., all of which, and many others, we have growing in our plantations. Some of these are reported to have withstood zero weather.

If the searcher after knowledge on this very interesting subject will visit the plantations and avenues about San Mateo and Burlingame he will see many species of eucalyptus, though mainly globulus, or blue gum, which were planted nearly 40 years ago—some even more—and which have been headed back while still young. The result is a straight, clean growth, of all varieties alike, of from 50 to over 100 feet, of five, seven or more poles, like the masts of a ship, to every tree.

Environment and treatment will make of eucalyptus a dwarf, crooked, scrub tree, or one having a tall, straight bole, useful in the highest degree as a timber tree.

LEONARD COATES.

Morgan Hill.

[This is very interesting. No doubt readers would be pleased to have Mr. Coates give us more in detail the process of cutting back as applied to the eucalyptus tree.—EDITOR.]

## Cereal Crops.

### FROM HEAD TO MOUTH IN 22 MINUTES.

Biscuits made from flour, of which the plump heads of grain nodded lazily in the morning sun 22 minutes before, is a performance recorded in Waitsburg, Wash., south of Spokane. It is believed to be a world's record. The wheat was cut on a hillside farm owned by N. B. Atkinson, president of the Washington State Farmers' Educational and Co-operative Union, two miles from town, was ground into flour at the Preston-Parton mill and baked by A. Beck. Fifty residents of the town, including Mayor R. M. Breeze, R. M. Ormsbee, formerly prosecuting attorney for Walla Walla county; E. L. Wheeler, editor of the Waitsburg Times, and P. B. Morrow, general merchant, were present. The three last named were official timekeepers. The various stages of the operation of converting standing grain into biscuits, and the time, follow:

9:03—Ripe wheat standing in the field.

9:04—First head clipped from the straw by the heading machine.

9:08—Grain started into the cylinder of the threshing machine.

9:11—Four sacks threshed, sacked, sewed and loaded onto automobile.

9:14—Grain received at mill, two miles from field, weighed and dropped into the receiving hopper; four sacks weighed 535 pounds.

9:19—First flour appeared at packer, having

traveled 640 feet in the machinery. A. Beck, baker, began mixing flour, baking powder and water into dough.

9:21—Molded dough in pans placed in oven.

9:23—Two sacks of flour ground, sacked and sewed, ready for market.

9:26—Biscuits taken from oven, buttered and distributed among witnesses.

Waitsburg, the scene of the performance, is one of the pioneer wheat-shipping points in the Spokane country, and has shipped 20,000,000 bushels of grain since 1864.

## The Field.

### WHO WILL SHOW CALIFORNIA BARLEY AND HOPS?

To celebrate the occasion of the semi-jubilee of the Brewers' College and Institute for Experimental Research, the society connected therewith has resolved to hold this year, instead of the usual annual German Hop and Barley Exhibition, an international exhibition. This exhibition will last from October 10 to 18, inclusive.

In case some enterprising California grower or some of our boards of trade may desire to show California products in contrast with the world's work in barley and hops, we give the following details from the circulars which we have received from the management.

All samples of barley and hops must form part of the 1908 crop, and must be certified to have been grown by the exhibitor himself. The number of exhibition samples which may be entered from any country or territory must not exceed forty for hops and forty for barley. This limitation, however, is not applicable to collective exhibits. Any such limitation must be applied uniformly for each country or territory. The entrance fee for each sample is 2 marks, and must be sent, postage prepaid, together with the notice of entry. In cases where the fee has not been received in time, the entry will be considered null and void.

Notice of entering samples for exhibition can only be given by filling up the entry form which is supplied by the management upon application to the address which we give at the close of this article.

Intimation of the intention to exhibit or compete for prizes must reach the exhibition committee by September 17 at the latest. Intimations received later will be disregarded.

All objects intended for exhibition must be sent free of freight or postage charges, and must reach the exhibition committee by September 26 at the very latest. Should any exhibits arrive after that date, they will not be considered as entitled to a place in the exhibition, or in the competition. In the case of samples in the competitive classes, the allotment of space and the setting up of the exhibits is free of charge.

The barley samples must not be hand-picked, but machine sorted in the usual way, nor may they be sulphured or otherwise preserved.

The hop samples must neither be sulphurized nor otherwise preserved, except in the case of those which have been sent by sea, that is, those from America, Great Britain and Ireland. In such cases this fact must be expressly stated.

For each sample entered for exhibition a special form (to be had from the exhibition authorities) must be filled up and sent, at the same time as the sample, to the exhibition committee. Where no such form has been duly filled up, the respective samples cannot be taken into consideration in the award of prizes.

All enquiries, communications and remittances connected with the exhibition should be forwarded to the address of the Verein Versuchs- und Lehranstalt für Brauerei, Institut für Gärungsgewerbe, Seestrass, Berlin N. 65, Germany. Copies of the regulations, entry forms and all information required can be had on application to this address.

### FARMERS' INSTITUTE.

The first Farmers' Institutes of the fall season in southern California will be held in Orange county as follows: Smeltzer, Sept. 21 and 22; Tustin, Sept. 23 and 24; LaHabra, Sept. 25 and 26. J. B. Neff of Anaheim will conduct them.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor *PACIFIC RURAL PRESS*; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.   |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                            |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                             |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                            |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc. Persimmon, Pineapple, Avocado, etc. |
| 13 Cultivation.  | 32 The Banana, Loquat.                                       |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                     |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                    |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                  |
| 17 The Apricot.  | 36 Injurious Insects.  |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                              |
| 19 The Peach.  | 38 Injurious Animals and Birds.                              |
|  | 39 Protection from Winds and Frosts.                         |
|  | 40 Utilization of Fruit Wastes.                              |

*California Fruits and How to Grow Them* has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

There are from 500 to 600 acres of Calimyrna figs about Ceres and Modesto.

Grape growers in the vicinity of Galt have organized for mutual protection.

Almonds bring from 9½ to 10½ cents per pound at Gridley, and growers are holding for better prices.

The apple crop in the Yucaipa valley, near Redlands, will be very large this year, and the quality excellent.

The El Monte Walnut Growers have installed one of the new bleaching plants recently invented by Prof. Stabler of Los Angeles.

A tract of land lying between Pomona and Ontario, consisting of over 400 acres, has been sold and will be laid out in small orange grove tracts.

M. P. Troxler of Hanford, in speaking of his small Muir peach orchard, 4¼ acres, said that 11 tons of dried fruit will be sold therefrom this year.

From 115 Crawford trees, six years old, Mr. Bowman of Ceres, Stanislaus county, sold \$270.49 worth of peaches, most of them to the local cannery. This is on the basis of \$20 per ton.

Smyrna or Calimyrna figs are being shipped from Ceres to the bay markets, and are bringing good prices, crates of 20 chests realizing \$5 net. These chests weigh about three pounds each.

The Heffner orchard, near Gridley, will produce this year about 900 tons of fruit, mostly peaches and pears. None of the output has been dried and none sold to the canneries, everything being packed and shipped to Eastern markets.

Representatives of the Southern California Pathological Laboratory at Whittier are in the northern part of the State looking for a sturdy, quick-growing walnut which can be used as stock in resistant grafting against the blight.

Fruit growers of Biggs are complaining about the lack of help to cut and prepare their fruit for drying. Tons of fruit are spoiling. Some have purchased hogs and have turned them into their orchards to eat the fine fruit falling on the ground.

Lodi grape growers and the business people of the community have decided that only grapes perfect in every way shall be shipped from that point. This is deemed the best way to build up a demand for the Lodi product in the markets of the East.

All the troubles of the canneries this year in some sections of the Sacramento valley is not on account of small fruit, as many expected. Not a small portion of the irrigated clings are found to be too large for the regular sized cans and have to be put in larger-mouth cans.

Almond picking is in full swing in the San Ramon valley, Contra Costa county, and one of the largest crops in the county's history is being harvested. Although buyers at first were backward in making offers, prices now range from 9 to 12 cents per pound, the average probably around the 10 cent mark.

Judge S. J. Stabler and son, the largest vineyardists in the Yuba City district, are shipping their big Thompson Seedless grape crop. No grapes are being dried at present, every box going to the Eastern and Coast markets. They are shipping about 450 boxes per day, and will soon double this amount. Good prices are being realized from Eastern shipments.

San Joaquin wineries of the California Wine Association have started up for a run on zinfandel and bouchet varieties of grapes. The winery owned by George

West & Son, in Stockton, will start up shortly. Prices for grapes have not been fixed by the California Wine Association, but the belief is that prices will be low, probably under \$10 a ton. Grapes now coming in are contract deliveries.

The Fresno Fruit Growers' Company has sent out three carloads of Malaga grapes grown at and near Las Palmas switch. The first was sent to New York and netted \$1440. The second, also straight Malagas, went to Chicago, selling net for \$1889. The third car was mixed, two-thirds Malagas and one-third Thompson Seedless, the Malagas netting \$2.10 per crate and the Thompsons \$1.10. These were exceptionally good prices, netting the grower 5 cents per pound, says the Fresno Republican.

Horticultural Commissioners Burr and Maul of Bakersfield have discovered a couple of new insect pests which are attacking the shade trees, and which, if steps are not taken to destroy them, will probably strip the foliage from many of the trees. The two pests are the yellow mite and the red spider. The first is working on the poplars, especially the Carolinas, and the prune trees, and the second is found on the umbrella trees and elms. Both insects lay their eggs on the leaves and the young insects feed thereon. The result is that the leaves turn brown and fall off.

The orange growers of Redlands are to receive about \$2,300,000 for the orange crop from the district this season. The shipment of fruit is practically ended. Only a few cars of Valencias are left and they will be held by the individual growers and shipped privately. All of the Valencias have been held later than usual this season because of poor markets in the East. Packers and growers learned that Valencias may be held safely, and it is predicted that next year, when about 400 acres of new Valencia groves will come into bearing in the Redlands district, the shipments will be distributed over the summer and fall, and that it is probable that in another year packing houses will be operating all year.

The Lodi Chamber of Commerce has taken important steps toward aiding the vineyardist in protecting the grape crops and also in securing higher prices for the product in the Eastern cities. At a meeting held recently the matter of doing away with the harmful sharp-pointed shears which are used by nearly all vineyardists in cutting the bunches of grapes from the vines, was taken up and discussed at length. The argument made was that sharp shears invariably jabbed the grape, permitting the juice to permeate the bunch, spoiling it to a certain extent and reducing its market value. Many using shears are careful when cutting Tokays, but it is conceded to be the rule that in the hurry grapes are punctured and one of the principal qualities of the grape is destroyed—that of being capable of distant shipment without injury. Vineyardists will be urged to use the blunt or round-pointed shears. In this manner the grape is saved and the successful packing preserved.

### AGRICULTURE.

The first shipment of beets, consisting of three cars, has been sent from Pleasanton. In another week from 15 to 20 cars daily will leave there for the factory at Alvarado.

Black oats, usually looked upon as one of Pajaro valley's most insignificant productions, and whose output in an ordinary season could be carried in the cars of an ordinary train, this year would require three full trains of 30 broad-gauge cars each for their movement to market. The price brought by black oats is 2¼ cents.

The grain harvest is about over in the

Gridley district, and local buyers say the quality of the wheat and barley is better than for a decade, being of bright color and plump. Prices are strengthening and farmers are letting go of their crops slowly, says the Herald.

Five cars of horse beans have been shipped from the Pajaro valley to the East during the past month by J. T. Hogan of Watsonville. This is the largest shipment ever known to have gone from that vicinity. Carload lots went from Watsonville, in Santa Cruz county, and from Vega and Pajaro in Monterey county.

S. W. Qualls of Ceres, Stanislaus county, brought a load of luscious canteloupes to Modesto which he disposed of without difficulty. Between his rows of canteloupes Mr. Qualls planted corn, which is now towering skyward. Wherever he could find a vacant corner among the corn and melons, this thrifty farmer stuck in beans, and now has a triple crop which is coming to maturity on the ground at one time. This is all accomplished without surface irrigation.

A bean threshing outfit has been received by John Wood for Turlock district. Mr. Wood has a large acreage of beans, and plans not only to thresh his own but also those of others growers in the Ceres, Turlock and Westport communities. He has about 1800 acres in sight for threshing, and estimates the yield will average ten sacks to the acre. A sack of beans weighs from 70 to 75 pounds. The plantings in Turlock district are largely black-eyes, and the crop is an excellent one.

At a meeting of hop growers at Santa Rosa it was decided to pay 80 cents for hop picking this year. This is lower than usual, but was made necessary on account of the low price of the product. Hop men have lost money the last two years, and it is about all they can do to attempt to pick at all this year. Fully 300 acres have not been worked this year, or have been plowed up, and the crop on the remainder will be about two-thirds of the usual output. This makes about one-half a crop for this county, or about 7500 bales.

Harvesting in the bean fields in the southern end of the State has commenced. The crop, although a little spotted from the lack of rains in the early part of the season, will be good. Ventura county has over 50,000 acres in beans, and the crop is estimated at about 500,000 sacks. In Orange county most of the beans are raised on the big Irvine ranch, near Santa Ana, where it is stated that there are 23½ square miles devoted to the crop this season. Los Angeles county also has several thousand acres in beans between the city of that name and Santa Monica. Buyers have offered \$4.15 per hundred, but growers are holding for higher prices.

### LIVE STOCK.

Willows farmers complain that for a month past their hogs have been dying off in large numbers as a result of cholera.

The Galt Dairymen's Association has chosen the following officers: George Orr, president; M. Shellenburger, vice president; Wallace B. Sawyer, secretary and treasurer.

One result of the establishment of a creamery in Gridley is the resolve on the part of the managers of the big Ord ranch to try dairying. A separator was put in, and if the trial proves satisfactory, dairying will probably become a big part of the business of that ranch.

It is reported that the dairy ranch of W. B. Covington, containing 400 acres, near San Bernardino, has been sold. It is understood that water in large quantities has been discovered on the ranch, and the purchasers expect to use the water for irrigation lower in the valley.

H. G. Brown, the bee inspector of Tulare county, reports that during the past month he inspected 544 stands of bees and found only 27 cases of foul brood. He states that the crop for the year will be small, because of the intense heat of the summer, as well as from the fact that a considerable number of the hives seem to be short of bees.

The steamer Gold, from Petaluma, recently carried the largest single consignment of eggs that ever left the county. There were 1460 cases, numbering 43,800 dozen, and the value placed on the cargo is \$16,000. The eggs were all fresh, having been laid within three days of the time they were shipped. The entire consignment will be sent to Fairbanks and St. Michaels, Alaska.

Beekkeeping is getting to be a profitable industry in the Gridley colonies, as a side issue to regular farming and fruit raising. A. Olschowka reports that from 40 stands of bees he realized \$1.50 per hive last year, and from the fact that the alfalfa is doing so much better this year than last, and that the bees have much more bloom to feed on, he expects to secure \$2 per hive this season.

Dr. Paxton, Government sheep inspector at Red Bluff, says no sheep are to be dipped that are not scabby unless the authorities have absolute proof that the sheep have been exposed, and then the band is to be dipped at once. All scabby sheep are to be dipped twice in recognized dips. All sheep are to be inspected as they are returned from the summer range, and from this time if a scabby band is found it will be dipped promptly, regardless of the season of the year.

### MISCELLANEOUS.

Experiments in growing cotton in the Imperial valley this year have proved successful. It is claimed that fully two bales of cotton can be grown to the acre, while the average in the older States is about one-half bale per acre.

The Porterville Messenger says that Porterville and Lindsay farmers to the number of several hundred are organizing to manufacture their own electric power for use in lighting and pumping water, and it is their intention to run the plant with steam and oil.

J. Everding of San Francisco is in Sacramento, endeavoring to procure contract land for the growing of flaxseed. It is Mr. Everding's wish to get land in the Sacramento valley for year contracts for the raising of flaxseed, for which he pays the farmers a guaranteed price of \$2.20 a hundred.

Representing the Bureau of Soils of the Department of Agriculture, A. T. Strahorn is to make a soil survey of the land along the east side of the Sacramento river from Sacramento to the boundary of Butte county. Part of Sacramento county, a part of Yuba, and all of Sutter will be included in the survey.

Jackrabbits have almost ruined grapes and alfalfa and are now "barking" apple trees at Hesperia, San Bernardino county. They have become a great pest, and settlers are waging a war of extermination. It is stated that over 4000 rabbits have been killed recently on the Van Dyke ranch.

### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

WANTED—A position as foreman or manager of orchard or ranch property, by a progressive young married man. Good recommendations. Address R. E. O., Rural Press.

EXPERIENCED orchard manager wants permanent position. Advertiser a married man, aged 33; strong, energetic, reliable. Well up in all branches of his business, and general farming, capable of taking entire charge of large property. References. Address D. F. P., care Pacific Rural Press.



## Live Stock and Dairy.

### SELECTION AND BREEDING OF DAIRY ANIMALS.

At the last meeting of the Washington State Dairy Dairyman's Association, Gilbert McMillan, superintendent of the Ayrshire herd at Willowmoor Farm, Redmond, Wash., gave some very practical suggestions on breeding for dairy purposes. In the course of his address he emphasized the importance of selecting a breed which has been bred with dairying in view for generations, and be sure to have dairy conformation in all points generally observed in good dairy animals.

The next things for the farmer to consider are his farm and market conditions, and which of the dairy breeds would be most suitable to meet these conditions. These are two points which do not always receive the consideration they deserve, for these two very things to a large extent decide on which side of the account the balance will be at the end of the year.

A man with a high-lying, poor farm should never keep large cows, more especially if they have been raised on good land in some of our valleys. On the other hand, I think a farmer can get better returns from some of the large breeds if he has a very good farm, and especially so if he is depending on a good flow of milk. It may well be mentioned here that a farmer who raises his own cows has a decided advantage, for a farm will seldom give larger cows than it can profitably keep.

Now, after deciding what kind of cows is most suited to his conditions, the next thing for the farmer to aim for is to get uniformity in his cows. Nearly all the cows on the average farm receive the same treatment, and if you have cows of widely divergent character there is bound to be a waste of food in one case, or a lack of it in the other.

I think it is always advisable in selecting cows to try to get animals that are at least moderately strong in all the desired points, rather than animals that are weak in some points and strong in others; that is to say, I would prefer a cow with large digestive capacity, a strong constitution and moderately developed productive organs, to a cow that was extra strong in one of these points and deficient in the others.

It is not large production for a short time that makes a cow profitable, but her ability to consume a large amount of cheap food, persistency in milking, and strength of constitution to carry it out for a number of years.

**VALUE OF PURE BRED SIRE.**—In the selection of a sire for the herd, when we consider that this one animal has almost as much effect on the progeny as all the cows together, it at once shows us that exceeding care must be used in the selection.

A man who is desirous of improving his herd should never use a grade sire on any account, as in nine cases out of ten the progeny are inferior to their ancestors.

In selecting a sire, note should be taken of the weakest points of the cows, and a sire that is correspondingly strong in these points should be selected. It is not, however, advisable to bring too great extremes together, and if some drastic change is desired, it would be better to carry it out through two generations than to attempt it all at once. In this way, it will take longer time, but much more satisfactory and uniform results will be obtained.

With a uniform lot of cows much better results can be obtained than when we have to use the same bull on half a dozen

## The Benefits Derived by Using a TUBULAR

are so many, that after a man buys one, he wonders why he waited so long, to "get wise."

Don't you wait and then regret; but investigate, now, the superiority of the Tubular Separator.



Easy filling—Waist low supply tank.

Easy turning—Light running, self oiling gears.

Easy cleaning—Simple (3-part) bowl.

Clean skimming—Suspended bottom fed bowl.

Durability—Made to stand wear and tear.

Economy—Less attention—less repairs than other separators require.

These are some advantages found in the Tubular, only. To learn more write for Catalog 131.

**The Sharples Separator Co.,**  
West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

different types of cows. Where a large registered herd is kept, this can be overcome by keeping two or more breeding bulls, but this is out of the question for a man with ten or twelve cows.

The pedigree and records of your bull should be carefully studied, also the animal himself where possible, always bearing in mind your ideal, and in what respects your cows least conform to it.

It will hardly be necessary for me to add that a herd that can prove itself clear of tuberculosis should be chosen when selecting a sire; if the herd cannot, buy only subject to the tuberculin test.

**AGE OF BREEDING.**—In every herd of cattle I have ever seen, where early breeding has been extensively practiced, the mature cows presented a weak and undersized and weak-constitutioned appearance and few of them of any great age. Comparing them with the grand, big, old cows, 10 and 12 years old, and still appearing good for years to come, which we find in the herds where the heifers have been allowed to mature before being bred, has influenced me in favor of the latter method.

The argument that we hear sometimes about heifers acquiring the beef-making habit if not bred early is, I consider, an insult to the dairy breeds; what would be the use of all the years of selection and breeding if this could be offset by simply allowing the heifer to obtain a reasonable growth before being bred. Will anyone attempt to argue that if we take the Herefords and the Shorthorns and breed them at 12 to 14 months, that they will acquire the milking habit rather than converting their food into beef? If the heifer is well grown, no harm may result from breeding at 20 months, but in few cases would I breed at an earlier age, and very often I would allow them to be two or three months older.

**EXPERIENCE OF ADAM STEVENS.**—Relating his experience during the discussion following Mr. McMillan's address, Mr. Adam Stevens, proprietor of the famous Elmwood herd, said:

When starting I was doing about as nine-tenths of the dairymen are doing today. I would hunt around all over the country for the cheapest bull I could get; all I wanted was a fresh cow and a calf for veal. I never asked a cow what she

would give me and what she would charge for it. Then I came to a point where I began to study and look up reports of men who breed pure-bred cattle. At first I wouldn't believe the report. Finally I had to believe them, and decided if I gave my cows as good care as others I would get the results. I made a stable for seven cattle. I had an assistant weigh the milk of each cow. I gave the milk the Babcock test. I found the cow that I had esteemed the best proved to be the poorest, and the cow I had esteemed the poorest proved to be one of the best. Two cows of seven proved worthy. My first bull cost \$100. If I had improved my herd with a poor bull, I thought a pure bred bull would do better. I was determined to begin with a leading herd and with a leader.

**PURE BRED SIRE WAS ABSOLUTELY NECESSARY.**—In breeding with a grade cow you don't know her qualities. In using her you get one-fourth of her sire's blood. You will notice the more muddy water you pour into clear water, the quicker it will become muddy. It is just the same in breeding. First you get one-half of the blood of a pure bred sire, and so on.

When you begin breeding, stay with the breed chosen. Concentrate their qualities. Remember also that you will intensify their faults as quickly as their good qualities. It is not every sire that you can inbreed with. They must con-

### HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321. Petaluma, Cal.

**BULLS AND COWS FOR SALE.**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**P. H. MURPHY**, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

**BERKSHIRE AND POLAND-CHINA HOGS**  
C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes.

**17 YEARS** an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Walte, Perkins, Cal.

## HOG FEED FOR SALE

**Barley from the wrecked steamer "Anubis."**

This barley has been wet with salt water but is drying out rapidly. It is in good condition and improving daily.

For sale in quantities of not less than 15 tons.

FOR PARTICULARS APPLY TO

**G. W. McNEAR**

210 Battery St. - - - San Francisco.

### STOCK FOODS THAT GIVE RESULTS!

FOR CATTLE, HOGS, AND POULTRY

**Linseed Oil Cake Meal, 24.4 Digestible Protein**  
**Cocoa Cake or Meal, 16.4 Digestible Protein**

**Best Results Lowest Cost**

Ask your jobber for prices, or write

**PACIFIC OIL & LEAD WORKS, SAN FRANCISCO, CAL.**  
**PORTLAND LINSEED OIL WORKS, PORTLAND, ORE.**

"ONE MILLION IN USE."

# DE LAVAL

# CREAM

# SEPARATORS

THE DE LAVAL SEPARATOR CO  
185-187 BROADWAY, NEW YORK. 42 E. MADISON ST. CHICAGO.

## FOR SALE

(Third Annual Sale.)

**70 HEAD OF SHORT-HORN CATTLE**

— OF THE —

**ROSELAWN HERD**

— ON —

September 11, 1908, at 12:30 O'clock

At the Old Home, 1 mile south of Woodland, Yolo County, Cal.

Write for Catalogue. Free Buss.

**GEO. P. BELLOWES**, Auctioneer, Marysville, Mo.

**MRS. W. B. & T. B. GIBSON.**

H. B. Eakle sells 66 head the following day.

## SHORT-HORN SALE

At Woodland, Cal., Saturday, September 12

66 head of registered Short-horns at public sale.

23 head of cows and heifers.

43 head of bulls.

Buses will meet all trains. Lunch served. Sale to begin 12:30 p. m.

Write for descriptive catalogue. Catalogue ready August 20.

**Geo. P. Bellows**, Marysville, Mo., Auctioneer.

R. M. DUNLAP.

H. P. EAKLE, Jr.

**GLIDE BROTHERS**  
Successors to J. H. GLIDE & SONS

**Famous Blacow, Roberts, Glide French Merino Sheep.**

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

**RAMS FOR SALE AT ALL TIMES**  
P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.

**FEEDING FARM ANIMALS.**—A practical guide and standard reference on the subject of feeding farm animals. By Prof. Thomas Shaw, late professor of Animal Husbandry at the University of Minnesota. Illustrated. 5 1/2 by 8 inches. Cloth..\$2.00



tain no faults in inbreeding. I have sold quite a few bulls to grade up herds, and they have brought satisfactory results.

You must know what your cows are giving you. We have weighed our milk carefully every day for 13 years. A great many inherit their mother's influence, so we eliminated all the grades. In selecting, we have tried to select a second sire with the characteristics of the first one.

We have not sought to produce show animals. Show fat does not put butter fat in the milk pan. It is not worth while for a dairyman to breed show animals except at the pail. A sire must show through his daughters at the pail. I have found it absolutely necessary to use pure bred sires.

### CALIFORNIA SHORT-HORNS.

(Continued From Page 145.)

Ramsden Lad, was bred by H. F. Brown of Minnesota, the president of the American Short-horn Breeders' Association and there is no doubt that, had he not met with an accident, he would have had an exceedingly successful show career. Barmpton Lad has been shown at our State Fair, and has carried away his share of ribbons. There is also a two-year-old bull, sired by Noble Knight, the bull that was grand champion at the State Fair last year, when shown by Rush & Pierce, and it is worth noting that at the sale of the Rush & Pierce cattle Mr. Pierce thought so much of him as a breeding animal that he bought him to use with his own herd. Among the females there is a two-year-old cow, Ramsden's Brawith Bud, sired by Ramsden Lad, that was a good one when shown by her breeder, Hon. Carroll Cook. There is a good yearling, sired by Noble Knight and out of Gloriana 2d, that will make a good purchase for anyone who wants to strengthen his herd. A number of the females are sired by Summit Chief, a bull that was used with great success by Mr. Gibson.

It will be a good time for Californians who may not know of the resources, adaptations and development of Yolo county to visit Woodland during these sales. They will see a country and a people which offer the highest attractions to California home-makers. Much of the rich land which has been held in large parcels for years is beginning to be available in smaller tracts, and more intensive farming in stock lines, upon an alfalfa basis, and in other progressive specialties, is to be seen in all parts of the country. The University Farm at Davis is now being rapidly equipped for its important work, and visits from those who attend the sales will be welcomed.

### Kendall's Spavin Cure

The old reliable cure for Spavin, Splint, Curb, Ringbone, Sprains, Swellings, all forms of Lameness. Never found wanting as a liniment for both man and beast. \$1 a Bottle; 6 for \$5.

At All Drug Stores

Used 15 Years

"I have used Kendall's Spavin Cure for the last 15 years and find it cures every time. It is the only liniment I depend on. Can't do without it."

W. J. Powell,  
Genoa, Fla.

Keep the tried and proven remedy on hand. Don't take a substitute. Get the great book, "Treatise on the Horse," free, of druggists, or write

Dr. B. J. Kendall Co.  
Enosburg Falls, Vt.

## Apiculture.

### BEE QUESTIONS AND ANSWERS.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

Mr. Albin Platz of Cincinnati, under date of August 17, writes in part as follows: "I purchased a hive of Italians (three banded) about six weeks ago, and although we are having a very dry and hot summer, the bees seem to be doing fairly well. I regret to state, however, that they are far from gentle. I examined the hive carefully about a week ago and found the colony to be querulous. Now what I want to do is to re-queen with a gentle strain, preferably Caucasian or Carniolan. I was told that now is the proper time to do so. I am going to take the liberty of asking you to let me have a queen, also some general information on the subject."

It is quite true that both Caucasians and Carniolans are markedly gentler than Italians, as are also the Banaters, the third variety of the gray type. By this we do not mean to say that there are not some Italians that are quite gentle, but that, as an average, any of the gray bees will be found to surpass the Italians in mildness of temper and ease of manipulation.

The matter of the best time to re-queen varies with local conditions somewhat. Undoubtedly queens are more easily introduced during a honey flow, and if a full flow is assured it is perhaps the better time to introduce new queens, as queens are usually cheaper, and then, too, if introduced in the fall a new strain by spring will be predominant in the colony so provided with a representative of the new type sought. At any time when there is no honey flow and it is desirable to introduce new queens, an artificial source of food may be supplied by feeding, thus bringing about the more acceptable conditions. We are sorry that we have no queens for our friend Mr. Platz, for we do not make a practice of sending out queens, since they can now be easily obtained from regular breeders of bees and queens. We refer Mr. Platz to our own advertisers as worthy of patronage, and assure him of their reliability and prompt service.

### NATIONAL BEEKEEPERS' ASSOCIATION—NOMINATION NOTICE.

Each member of the National Beekeepers' Association is requested to mail by postal or letter to N. E. France, Platteville, Wis., on or before September 30, their nominations for candidates for the offices named below, to be voted on at the regular December election:

President.  
Vice president.  
Secretary.  
Treasurer and manager.  
Three directors.

On October 1 the general manager and one disinterested member will count the nominations and publish results in all American bee papers. Each member should early send in their nominations.

For those of our readers who are not in touch with it, we wish to say that, as its name implies, the National Beekeepers Association is made up of bee-keepers from all over the United States and Canada. It is devoted to the benefit of its members and in many ways fulfills its purpose. Among its activities are its annual convention meetings, with its annual report, an up-to-date book on bee-keeping in itself, supplied free to its members; a comprehensive campaign for the betterment of the honey market, including a strong stand for pure-food leg-

islation; its periodical bulletins of information of value to the busy bee-keeper; its sealed labels and stationery furnished members at reasonable rates; and its aggressiveness in all apicultural advancement, for in unity there is strength. The annual fee is one dollar, payable to the general manager, Mr. N. E. France, of Platteville, Wis., which, if paid through the secretary of your local bee-keepers' association, will in most instances cover membership in both organizations.

Following is a list of the present officers of the N. B. K. A., and also of the secretaries of the several California associations:

Officers National Beekeepers' Association—President, Geo. E. Hilton, Fremont, Mich.; vice president, Geo. W. York, Chicago, Ill.; secretary, W. Z. Hutchinson, Flint, Mich.; general manager and treasurer, N. E. France, Platteville, Wis.; director from California, M. H. Mendleson, Ventura.

Secretaries of California Beekeepers' Association—State Association, E. A. Honey, Orange; Northern Association, B. B. Hogaboom, Elk Grove; Tulare County Association, Angus L. Roberts, Tulare; Imperial Valley Association, D. D. Lawrence, El Centro.

J. L. Starr, inspector under the direction of the State Dairy Bureau, is raiding the dairies and testing milk at San Luis Obispo, the object being to have the dairymen keep their places clean and sanitary, that the milk may be pure and up to the standard.

QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$4.00 each. FRANK BENTON, Box 17, Washington, D. C.

War. anted to Give Satisfaction.

### Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

### Mococo Superphosphate

Land FERTILIZED with Mococo Superphosphate yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54

Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

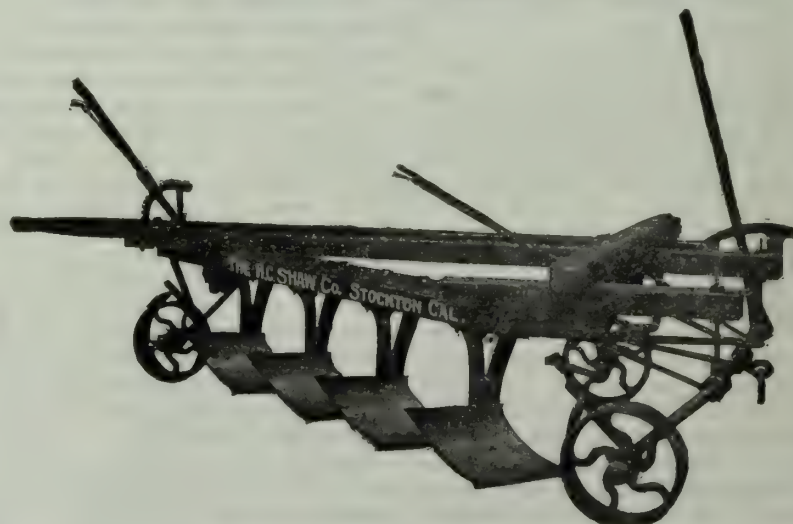
GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO

## THIS IS THE PLOW

THAT ALL WANT, AFTER SEEING ONE IN USE.



THE SHAW STOCKTON IMPROVED GANG PLOW

Drop us a card for Circular with Prices.

MANUFACTURED BY

THE H. C. SHAW CO., Stockton, Cal.



## The Poultry Yard.

### THE FEED PROBLEM.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

Though the feed problem has been placed second in the two real difficulties in the way of poultry raising on this coast, it may easily be considered the only obstacle to making poultry on commercial lines a safe and paying proposition. Disease incident to the climate may be overcome and cuts little figure with the expert poultryman; but the high price of feed stands pat while poultry products go up and poultry products come down. This is the poultryman's problem. With other commodities some equilibrium is maintained between cost and selling price; but when poultry products touch bottom grain is usually occupying top notch on the other end of the commercial beam. For instance, in 1893, before the rise in grain which has held since, the price of eggs averaged 26 cents per dozen for the year; in 1896, with high feed, the average for eggs was 16½ cents per dozen. In other words, the cost of production was some 3 cents more per dozen in the latter year, while the selling price was some 10 cents less per dozen. The poultryman does not get a very full hand in such a deal.

This lack of adjustment between the cost and selling price of our poultry is due to the overplus in the Middle West, produced at little cost and always waiting to be rushed on our market as soon as quotations admit of a margin of profit. It presents a problem which poultry raisers must solve through co-operative associations. Individually the poultry raisers must endeavor to put their business on a basis to meet conditions. We have a monopoly on the fresh egg market, and it is the source to which we must look for our profit. At the ruling prices of feed-stuffs, the cost of a mature fowl per year for feed alone is \$1.50 or thereabouts; an average of 10 dozen eggs from a large flock kept under good conditions is a fair yield; from these the poultryman cannot expect to net more than an average price of 25 cents per dozen; this leaves an average of \$1 per fowl above feed to pay for housing, labor, and incidentals. Plainly it is close work and allows of no dead-heads in the flock. To keep off the rocks every fowl must be up and doing, and their keeper likewise.

Two points in the management must be observed:

1. Keeping only producers in the yards
2. Exercising economy in every detail.

In regard to the first, the shy layer should be disposed of, no matter what her pedigree; the same with all ailing fowls, those with pale or discolored combs, drooping feathers, listless movements and poor appetites; it is the live, chirpy hen with a bright red comb who is always on the lookout for another morsel and goes to bed with a full crop, that helps to meet the feed difficulty. Only such hens should be kept through the moult as are valuable for breeders. These should get the best of care, but one must be reasonably sure that they can make good for some three months' board.

Keep fewer roosters. Only such cocks as are required for breeders should be allowed on the premises, and these should be yarded by themselves when not in service. Sell off the surplus cockerels as soon as they reach a marketable age, and the slow-growing, weakly pullets along with them.

In the matter of economy, don't drop into skimping. If the flock is half-fed, the little food they do get is wasted. A hen must be well fed for results. It is the surplus over her bodily needs from

which she manufactures the poultryman's exchange—no surplus, no eggs! One must not economize on what goes into the hen's crop, but on what fails to get in—on the leaks and wastes, such as food allowed to spoil, sour, mildew, mixed with the filth, and rats, mice, and sparrows. In the choice of grain, it is economy to get that which is sound and sweet. Wheat, corn and barley give best results. Barley is the cheapest of the three, but should not be depended upon entirely, nor fed dry. The rolled barley steamed, to form the body of the mash, and the whole barley sprouted, are excellent and first class egg-producers. Meat, cracklings, milk or some kind of animal food, a little each day cooked in the mash, make for economy. Keep wheat always in deep litter, ready to the fowl's foot—this too is economy. The hen eats less wheat and makes better use of what she does eat, when she is not compelled to sustain long fasts. Give her cracked corn, wheat and fresh greens, all she will eat, at night. Eggs will be the result of this system, and good ones, rich in coloring and delicious in flavor—eggs of such quality at all seasons are the solution of the poultryman's feed problem.

### The Sparrow Pest.

Sparrows are the poultryman's pest. They bring him mites and filth and they get away with his high-priced feed. To see them lined up on the fences and poultry houses at feeding time (and they know the hour to a second) fills the poultryman with wrath, but he is helpless before these freebooters; each one is there for plunder, and he gets it. And yet there are misguided people who nourish and harbor sparrows under the impression that they are protecting bird-life. Nothing could be farther from the fact. There are no birds nor bird-music about our homes in or near cities and towns because of these Arabs of their kind. They fight among themselves on occasion, yet they are always ready to unite and set upon any bird of another species, drive it from their locality and rob and confiscate its nest. They represent the spirit of greed which takes all and leaves only evil behind it. They belong to the atmosphere of the city and cling to it—perhaps they are the pestiferous germs of city life masquerading in feathers. Anyway, they are little kin to birds proper—those children of the air, wild and free, the very spirit of music, grace and beauty.

Who can devise a means of ridding us of the sparrow pest? The sparrow is shrewd and crafty; it slips through all harm, and while seeming to fear nothing, knows when to take to cover; a trap it divines by instinct, and the advent of a sparrowhawk will free the neighborhood of its incessant twitter for at least an hour. Yet there are people who shoot sparrowhawks!

### Questions and Answers.

DUCKS.—Mrs. T. N. W. of San Diego county writes, under date of the 18th inst.: "I have a grand place for ducks. Can you tell me when they quit laying for this season and when they start in laying? As I am somewhat remote from market, think eggs might pay best. Which would you advise for eggs, Indian Runners or Pekin? Any information regarding when they lay, etc., will be valued. For quick laying would old or young ducks be the best?"

By all means choose the Indian Runner duck for eggs. They are called the Leghorn among ducks, and are credited with an average of 200 eggs and over even in large flocks, when they are well fed, with a large proportion of meat in their mash. In our market the eggs pay better than the market fowl. The breeding season lasts some six months, beginning in January or February. The two-year-old ducks make the stronger breed-

ers, but the young ducks, those hatched the previous April, will start laying at least a month earlier. Get your breeders in the fall, that they may become wonted to the place before the breeding season. The Indian Runner is a nervous bird and much attached to its home; to move them when laying will check production for a long while.

Another correspondent sends in a question under the same head: "Are ducks generally more profitable than chickens?"

No; ducks, or any other fowl, are not generally more profitable or as profitable as chickens. In the matter of profit and general adaptability to all conditions and places, the hen occupies the main line; all others are sidetracks. They may make phenomenal short runs; but for steady going and dependence in getting there, the hen is the bird.

### EGG-LAYING CONTEST.

The Roseworthy, South Australia, Agricultural College, held a 54-week egg-laying competition recently. The object of the test was to encourage selection and development of special egg-producing strains in the various breeds. There were 75 houses 6x5x4 feet, with yards 10x40 feet, and each coop contained six hens. The yards were covered six inches deep with wheat straw and husks, and all necessary precaution taken to keep the quarters clean and free from vermin. Shade was provided for summer. The fowls were fed at 7 a.m. on a mash of one part bran to 1½ pollard (a product corresponding to our middlings), mixed, during cold weather with soup, to which cut vegetables and green stuff were added, with a little salt. The mash was fed warm and in a crumbly condition. The quantity given each pen varied from 18 to 33 ounces, depending on appetite. Green food was given at noon in cold weather. In warm weather chopped alfalfa was mixed with the mash, the proportion being one-third alfalfa. At 4:30 whole grain (wheat, corn and peas) was fed in the litter, and an ample supply of shells and grit was always on hand.

For 18 weeks during the breeding season a male was kept in each pen, and the eggs were sold at a reasonable price for breeding purposes. The total cost of food was \$630, and included 331 bushels whole wheat, 537 pollard, 430 of bran, and 1050 pounds of meat meal. About \$10 worth of corn and \$5 worth of peas were fed, the exact measure not being given.

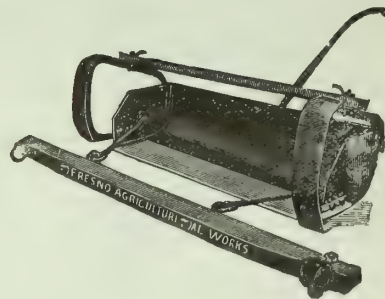
In the 54 weeks the winning pen of six White Leghorns laid 1531 eggs, and 14 other pens produced from 1200 to 1500. The 75 pens gave 80,959 eggs, which were sold for \$1329, about 1 3-5 cents apiece. Eggs weighing less than 1½ ounces were not taken into account. The winning pen averaged 25½ ounces per dozen. The nine highest pens were White Leghorns, but members of this breed were scattered all through the list, some very near the end, thus showing that the individual hens, rather than the breeds, are the most important factors. Prof. Laurie, who conducted the test, believes that by careful mating and selection it is possible to increase the egg production, and at the same time increase robust constitution and egg fertility. The winning pen of six pullets were the progeny of a hen tested to 279 eggs per year, and the mother of the second pen had laid 285, yet the percentage of strong chickens hatched from these pens and their mothers was very high.

### WHO HAS A THOUSAND-HEN RANCH?

The Bureau of Animal Industry of the U. S. Department of Agriculture is desirous of obtaining a complete list of the

**Stickney Gasoline Engines**  
ARE THE BEST  
The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catalog tells 57 reasons why we have the best engine Stationary and Portable 1½ to 16 H. P.  
SEND FOR FREE CATALOG  
We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.  
**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO, CALIFORNIA.

farms of the United States upon which are kept one thousand or more laying hens. Such a list, it is believed, will permit of the gathering of data of great value to the poultry industry generally, and we would like California to have credit for what she has done in a large way. Believing that our readers will be willing to assist in this effort, we ask them to send as complete a list of such farms as they can obtain to Dr. A. D. Melvin, chief of Bureau of Animal Industry, Washington, D. C.

J. S. Cotton, member of the U. S. Department of Agriculture, is in the Sierra National Forest in Madera county, where he will make arrangements to have the forest range re-seeded with timothy and redtop grass for grazing purposes. He states that the Government officials have found that as a result of constant grazing the native grasses on the forest ranges had been nearly destroyed, and that the Government has instituted a plan of re-seeding the ranges so that the grazing will be good again within a few years.

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

GEORGE H. CROLEY, 637 Brannan St., San Francisco. Manufacturer and Dealer in **POULTRY SUPPLIES** of every description. Send for Catalogue—FREE

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

### CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

**BIHN BROS.**

Petaluma, Cal.



## The Home Circle.

### Good-bye, God Bless You.

I like the Anglo-Saxon speech  
With its direct revealings;  
It takes a hold and seems to reach  
Way down into your feelings;  
That some folks deem it rude, I know,  
And therefore they abuse it,  
But I have never found it so—  
Before all else I choose it.  
I don't object that men should air  
The Gallic they have paid for,  
With "au revoir," "adieu, ma chere,"  
For that's what French was made for.  
But when a crony takes your hand  
At parting to address you,  
He drops all foreign lingo and  
He says, "Good-bye, God bless you!"

I love the words, perhaps, because  
When I was leaving mother  
Standing at last in solemn pause  
We looked at one another;  
And I—I saw in mother's eyes  
The love she could not tell me—  
A love eternal as the skies,  
Whatever fate befell me.  
She put her arms around my neck  
And soothed the pain of leaving,  
And though her heart was like to break,  
She spoke no word of grieving;  
She let no tear bedim her eyes,  
For fear she might distress me,  
But, kissing me, she said good-bye,  
And asked our God to bless me.

—EUGENE FIELD.

### Lady Carriers.

Although Uncle Sam does not accept lady carriers in the cities because the regulations prescribe what sort of trousers carriers shall wear there seems not only to be no objections but many advantages in having women in the rural delivery system. Some time ago the newspapers told of Miss Etta Nelson, a rural carrier in New England, who delivered the mail during a blizzard that kept the entire community indoors. It appears, however, that there are plenty of heroines among the rural carriers, and Assistant Postmaster-General Degraw has received many letters, newspaper clippings and photos from places which claim distinction in the possession of carriers of the fair sex who perform their duties under unfavorable conditions. Indiana has two delegates for honors in this respect, and they are sisters—Misses Mollie and Effie Stevens. Whatever the weather the Misses Stevens deliver the mail on the route on which they are employed. On one occasion, when the roads were in such shape as to be impassable, the sisters shouldered the mail sacks, one of which contained 200 copies of a country paper, and traveled the entire route of 25 miles on foot, walking from seven o'clock in the morning until eight at night. Another incident of bravery to which the attention of the Department was called is that of Miss Ella Bolton, a carrier of Mobile, Ala., who while delivering the mail was overtaken by a severe storm, and in attempting to cross a badly-swollen stream was thrown with her horse and vehicle into the water. She succeeded in saving not only herself, the horse and the vehicle, but also in recovering the bag of mail, which had fallen out of the wagon into the swiftly-moving stream. Boise, Idaho, claims the distinction of employing more women than any other place. One of them, Miss Mollie Stewart, is the champion bronco rider of the Northwest.

The head mistress of a certain provincial school was one day examining a few of her select pupils in grammar.

"Stand up, Juan, and make me a sentence containing the word 'seldom,'" she said, pointing to a small urchin.

Juan paused as if in thought; then, with a flush of triumph on his face, replied: "Last week father had five horses, but yesterday he seldom!"

The world may owe you a living, but try to collect it and it will have as many excuses on tap as a man who is asked to pay a bill.

### Pith, Point and Pathos.

Many men are virtuous because vice is too expensive for their present income.

Having a wife has kept many a man from showing just how little sense he really did have.

A woman can make a man think that she thinks as much of him as he does.

It makes a woman mad to ask her to distinguish between intuition and instinct.

Charity covers a multitude of sins, but wealth makes the world forget sin and sinner.

Life is a perpetual struggle to amass a fortune to leave the attorney of your heirs.

Most men can explain everything they do except the things that most need an explanation.

There is hope for a fool as long as there is a chance of making him realize that he is one.

Excitement is fully relished only when your enemy is getting the worst of what makes it.

Some men have as much trouble getting to work as they do getting up to get ready to go.

A fancy vest is what a man dons to get even for not daring to wear a hat like the women do.

Some people seem to get as much fun out of being reformed as the reformers do reforming them.

### Ice Cream Invades the Far East.

American ice cream is invading the Far East. It is as much relished in China, Japan, Australia and even the far-off Samoan Islands as it is in this country.

American ice cream is recognized almost as a necessity by practically all the great steamship lines. This is especially true in the case of steamers making long trips in warm climates. American ice cream is demanded by passengers, who believe foreign made ice creams are not of the quality to which they are accustomed, and every express steamship of the North German Lloyd line leaves New York not only with a supply for its own passengers, but with enough to supply the Chinese, Japanese and Australian services of the company.

The supply for the Far Eastern service is stored away in specially constructed refrigerator compartments, and at Bremerhaven the ice cream is transferred to the steamers engaged in the Far Eastern service.

During the last year nearly 100,000 bricks of ice cream were eaten on the steamships of the North German Lloyd.

### How Great Is Chicago.

An increase of 20,700 names since last year gives 2,425,000 as the population of Chicago, estimated by the Chicago Directory Company, whose 1908 issue has just issued. The Johnson family to the number of 7024, to say nothing of 515 Johnston's, leads in names. Second come the Smiths with 5115 names and 1348 German relatives who spell their names Schmidt.

The shortest names in the new book are Ek and Ex and the most appalling are Szyszkewicz and Czyzowski. Edward Fat and Thomas Lean find space within the same pages, and Frank Broke seems to exist without the envy of Samuel Rich. The names of Phillip Garlic and John Onions are enough to start tears in the eyes of Edward Gentle and Oathsby Charles Rough. Frederick Damp is a dry goods salesman and Morris Dry sells bottles.

Old Jones (settling argument) — I tell yer, congress did right not to vote the people's money for no four battleships. Why, them navy fellers is that extravagant an' keerless that they're all the time losin' an' mislayin' their stoves. Every ship — I read it myself — hez rangefinders onto it!"



## A Safe Axe

Every Keen Kutter Axe is fastened to the helve by the Grellner Everlasting Lock Wedge (used only in Keen Kutter tools)—a simple device which once driven home in any tool unites head and handle so securely that only fire can separate them. Hence a

# KEEN KUTTER

Axe cannot fly off to the annoyance and danger of the chopper.

Look for the Keen Kutter trademark. It covers this "safe axe" and also better, truer Saws, Planes, Adzes, Hammers, Augers, Braces, Bits, Gimlets, Chisels, Gouges, Squares, Bevels, etc., than is possible to find under any other name, as well as Forks, Hoes, Rakes, Scythes, etc. If not at your dealer's, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten." E. C. Simmons. Trademark Registered.

SIMMONS HARDWARE COMPANY (Inc.),  
St. Louis and New York, U. S. A.

### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

### NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Positions Secured.

Day and Night Classes.—You can enter at any time.

Our Scholars are from 15 to 50 years old.—No previous knowledge required.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco, Cal.

### An Eye on the Future.

Tommy's maiden aunt had called attention to some of that young man's misdemeanors, thereby causing him to be punished. Tommy pondered a while, then asked, "Papa, will little sister Gladys be an aunt to my children when I am a man?"

"Yes, Tommy," answered his father, much interested. "Why do you ask?"

"'Cause she might as well get married and have a home of her own, for I don't intend to 'low any aunts to stay around my house, making trouble for my children."

Romance skipped out when society caught the chaperon fever from some belle that used to be.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,

2230 Pacific Avenue,  
San Francisco, California.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

### San Francisco Business College

733 Fillmore St., San Francisco, Cal.

"THE OLD RELIABLE"

# DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.



## Fruit Marketing.

### SELLING PRUNES.

To the Editor: I have just completed a journey from Naples through Italy, France, Germany, Belgium and Holland, and have tried to estimate the condition of the fruit crops of Europe for the benefit of California prune growers, and believe I have the whole situation sized up. France has the best crop she has had for many years, but outside of France, Bosnia and such places have only a third of a crop and mostly small fruit. France will have plenty of large and small prunes, but short of the middle sizes. Europe considers California one of the three prune growing districts of the world, and we are informed that about one-third of a crop is to be harvested in 1908. Orders for prunes are being received from New York for the new crop, and the wholesalers or commission men of Paris told me they expected America would pay higher prices for prunes this year than last.

I wish to inform the California growers who doubt that the wholesaler can procure money enough to handle the crop of fruit of all kinds in California, that money can be obtained over here for 2½ per cent per annum, and that the reports that reach Europe are that money can be obtained for 4½ per cent in New York for legitimate business.

New York fruit men who are over here, and some of them are my traveling companions, tell me dried fruit men can get all the money they need.

In conclusion, would advise growers to hold for good fair prices; there is no doubt that the world will be short on prunes, and buyers will cry lack of money as a reason for not wishing to pay a fair price—in other words, try to buy the whole crop on time so as to be able to obtain all the prunes, and then raise the price to the consumers.

I hope a few articles have already been printed on the condition of the prune industry and that I am not in discord.

GEORGE W. LEEK  
Amsterdam, Aug. 4. Of San Francisco.

### TO PROTECT CALIFORNIA PRODUCTS.

The movement recently inaugurated to protect the industries of California, and to which we have frequently referred, begins to excite active interest.

Chairmen of the several sub-committees of the California Tariff Revision Committee are asked in letters, individually addressed, to prepare as early as possible, arguments in which there shall be set forth the necessity for the tariff protection of products of this State, and also dealing with the question whether the existing tariff on California products should be maintained or increased. Each chairman of a sub-committee is also requested to prepare statistics relating to acreage, cost of handling products and the disadvantage to overcome in competing with similar articles imported into the United States from foreign countries. These requests have been made by Arthur R. Briggs, chairman of the general committee, and he has addressed his colleagues vigorously concerning the points involved.

This move marks the opening of a campaign fraught with important consequences to California. A mere enumeration of the committees is sufficient to indicate the wide scope that the work will take. Sub-committees have been assigned to the following classes: Citrus fruits, nuts, wine and brandy, raisins and dried grapes, olives and olive oil, beet sugar, deciduous green fruits, dried fruits other than raisins and dried

grapes, hops, lumber, minerals, manufactured goods and miscellaneous products.

The field of labor includes the protection of industries that represent hundreds of millions of dollars of invested capital and that add many millions of dollars to the wealth of the State annually. These industries give employment to any army of men, women and children, distributed throughout California. In the general question of protection to home industries all persons in this State are financially concerned. The need, therefore, for immediate and concerted action is obvious. The extent of the damage that must fall on this State if the tariff on its products is tinkered with detrimentally, will be made to appear in figures and text.

### A FLORIDA ORGANIZATION.

According to the Florida Fruit Grower, an organization has been effected in that State, the objects of which are to secure intelligent marketing of Florida fruit, just freight rates, elimination of the middleman and "bloodsuckers" at the other end of the line, and to secure living prices for the fruit. This is to be accomplished by collecting accurate statistics, not only of Florida's crop, but also of the California and Cuban crops. The company proposes to establish a central distributing agency, probably at Jacksonville, and have a few paid representatives at the principal markets to sell the fruit and prevent gluts. They also will take up the claims of their members against the transportation companies.

Members are not obliged to market through the company if they can secure satisfactory prices elsewhere.

The company is to be a corporation, existing under the laws of Florida, with a capital stock of \$10,000, divided into 1000 shares of \$10 each.

The application for a charter has already been made. The stock is payable \$2 on application and the remainder in installments. The stockholders' annual meeting will be held the fourth Tuesday in August, at which the officers for the year will be elected.

### IRRIGATOR'S LEVEL.

In his work on the "Art of Irrigation," T. S. Van Dyke emphasizes the importance of making the ground thoroughly level before ditches are laid out. His advice is to buy a level, which may be had for \$20. Anyone can soon learn to use it. For small work a carpenter's level fitted with fine rifle sights does fair work if the rod is not over twenty feet away. Errors will amount to nothing if distance of the rod is reduced to ten feet, as most of them will balance each other. Instead of having a rod reading in feet and inches, or feet and tenths of a foot, have it all in inches. The elevation of the telescope will average about four feet above ground, while the variation of levels will not be over two feet. A rod with the figures starting at three feet above ground and running to five feet will thus give you twenty-four inches which can be marked off in ink if you have no black paint handy. Don't imagine you can't run a level because you did not go to a polytechnical school. Get one and don't lay out a ditch or a bit of land without it. Levelling by the water is too slow where the soil takes much time to dry. The carpenter's level on a beam to be dragged around or an upright on the beam with a plumb bob hanging from it, or the plumb bob hanging from the top of a big triangle will do fair work on a small scale, but for work of any size the telescope will soon save you in time and bother all it costs to buy and learn to use it.

**TOWER'S FISH BRAND WATERPROOF OILED GARMENTS**

are cut on large patterns, designed to give the wearer the utmost comfort

**LIGHT-DURABLE-CLEAN AND GUARANTEED WATERPROOF**

SUITS \$3.00  
SLICKERS \$3.00

BE SURE THE GARMENT YOU HAVE BEARS THE SIGN OF THE FISH.

A. J. TOWER CO. BOSTON, U.S.A.  
TOWER CANADIAN CO. LIMITED, TORONTO, CAN.

### BOSTROM'S IMPROVED FARM LEVEL



Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

### Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

**GOOD TREES AND BIG PROFITS**

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

**The San Dimas Citrus Nurseries**  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

### Berry Plants.

Hopkins Improved Strawberry Plants in all standard varieties. We still have one year old plants of the Brandywines, A-1 and Lady Thompson; also one year old plants of the Himalaya Blackberry and California Surprise Raspberry. Catalog soon ready.

**G. H. Hopkins & Son,**  
Burbank, Cal.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now for season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

**JOHN R. ROBINSON,**  
President John Crouch Land Company

## PIPE

500,000 Feet Second Hand Pipe, Merchantable Lengths, Standard Threads, and New Standard Couplings, Closely Inspected and Fully Guaranteed, f. o. b., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1 inch	.84 lb.	\$2.50
1 1/4 "	1.12 "	3.85
1 1/2 "	1.67 "	4.50
2 "	2.24 "	6.25
2 1/2 "	2.68 "	7.25
3 "	3.61 "	10.00
3 1/2 "	5.74 "	16.00
4 "	7.54 "	19.75
5 "	10.66 "	30.00
6 "	14.50 "	42.50
8 "	18.76 "	50.00

### ALEXANDER PIPE CO.

1083 Howard St., San Francisco, Cal.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc. constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St., San Francisco, Cal.  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited



## THE MARKETS.

San Francisco, Sept. 2, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

The local wheat market remains unchanged, as far as prices are concerned, and the feeling of firmness among sellers that has characterized the last few weeks is still in evidence. A fair demand is reported for the cash grain, and there is some movement, though the market is not very active at present figures. Eastern markets have been more active for several days, with higher quotations. There has been no speculative business here for some time, buyers and sellers being apart in their views.

California White Australian	\$1.75 @ 1.80
California Club	1.67 1/2 @ 1.70
California Milling	1.70 @ 1.72 1/2
California lower grades	1.45 @ 1.60
Northern Club	1.67 1/2 @ 1.70
Northern Bluestem	1.75 @ 1.80
Northern Red	1.65 —
Turkey Red	1.75 @ 1.80

### BARLEY.

Receipts of barley have been rather heavy during the past week, and as trading is extremely slow, the feeling is easy on all grades. Spot feed of good quality shows no change, but off lots are lower, and other varieties show a considerable decline. Top price for brewing is now \$1.40, and shipping stock may be had for \$1.35, while Chevalier has gone down nearly 5 cents.

Shipping	\$1.37 1/2 @ 1.40
Chevalier	1.35 @ 1.37 1/2
Good to Choice Feed, per ctl.	1.55 @ 1.60
Common feed	1.32 1/2 @ 1.35
	1.25 @ 1.30

### OATS.

Oats remain very firm, with an advance on several varieties. With small stocks on hand and a steady inquiry for the better grades, sellers are in a strong position. There is considerable activity in reds, especially for the seed grade, though poor lots have been rather cheap. Choice whites are higher, but there is little movement of either whites or grays, on account of the limited supplies.

Choice white, per ctl.	\$1.60 @ 1.70
No. 1, white	1.50 @ 1.55
Gray	1.45 @ 1.60
Red, seed	1.90 @ 2.10
Red, feed	1.27 1/2 @ 1.90
Black	2.00 @ 2.60

### CORN.

Corn prices show no change since last week, and in fact the quotations given are practically nominal, as there is hardly any movement in this market. The first arrival in a long time came in a few days ago, and hardly any spot is offered.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	\$1.85
White	Nominal
Western State Yellow	1.85
White, in bulk	1.79
Mixed, in bulk	1.77

### RYE.

The prices quoted on this grain are as before, but there is little or no movement, and the market shows no particular feature.

California	\$1.40 @ 1.45
------------	---------------

### BEANS.

The harvest of new beans is beginning, and in some places the earliest beans are being cut and will be ready for the market within two or three weeks. A small lot of new large whites has already come to market, but it will probably be several weeks before arrivals are sufficient to start a heavy shipping movement. Prices have a downward tendency, considerable reduction being shown in nearly all varieties. There has been little contracting for future delivery. There should be a good demand when arrivals are sufficiently heavy, and the shipping movement for the early harvest months should assume the usual proportions. The latest report on Limas indicates a full average crop. The pink bean plants do not look so well, but there is time for improvement.

Bayos, per ctl.	\$2.90 @ 3.00
Blackeyes	3.00 @ 3.40
Cranberry Beans	2.50 @ 3.75
Garvanzos	2.15
Horse Beans	1.50 @ 2.00
Small White	4.50 @ 4.65
Large White	3.50 @ 4.40

Limas	4.80 @ 4.90
Pea	4.50 @ 4.60
Pink	2.90 @ 3.00
Red	3.25 @ 3.50
Red Kidneys	2.75 @ 3.00

### SEEDS.

There is as yet no general movement of seeds, though there is more inquiry for miscellaneous lots than a few weeks ago. The movement of alfalfa has not yet started in this market, but considerable buying is looked for in a short time.

Alfalfa per lb.	17 1/2 @ 20 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	4 1/2 —
Flaxseed	3 —
Hemp	4 1/2 @ 4 3/4 c
Millet	2 1/2 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

Prices on flour are unchanged, and the local market is rather quiet. There is some movement from the north, but there is less inquiry for Oriental shipment than for the last month, as an increase in freight rates has taken place.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

### HAY.

There has been some little diminution in hay shipments to this market during the week, the total showing 3880 tons in comparison with 4350 tons last week. This lessening of shipments was very timely, for had hay continued to come in as it did last week there would have been a material decline in prices. As it is, there is a somewhat firmer tone to the market, and prices are back to the range quoted two weeks ago. The fluctuations in the market has been very regular during the past two months, records showing that a week of heavy receipts and weak prices was immediately followed by one of lighter receipts and a recovery in the situation. This has been going on steadily, and from all indications may continue for the next few months. Although in the principal hay districts the fields are well cleaned, yet many outlying districts have considerable quantities to be moved, for which there is no storage room.

Choice Wheat, per ton	\$16.50 @ 17.50
Other Grades Wheat	11.00 @ 16.00
Wheat and Oat	11.00 @ 16.00
Tame Oat	11.00 @ 16.00
Wild Oat	10.00 @ 14.00
Alfalfa	9.50 @ 13.50
Stock	8.50 @ 10.00
Straw, per bale	45 @ 75c

### MILLSTUFFS.

There is not much demand for feed-stuffs, as buyers of bran and other products in this line hold that prices are too high. Dealers say that the imports of Japanese bran have no effect on this market, as the stock is of very inferior quality, large lots of it being unsalable. In spite of the slow market, prices on bran, shorts and middlings are well sustained, and other lines show no change.

Alfalfa Meal (carload lots) per ton	\$22.00 —
Jobbing	23.00 —
Bran, ton—	
White	29.50 @ 30.50
Red	28.00 @ 29.50
Broom Corn Feed, per ctl.	90c @ 1.00
Cocanut Cake or Meal at Mills (in 10-ton lots)	25.00 —
Jobbing	26.00 —
Corn Meal	38.00 —
Cracked Corn	40.00 —
Mealalfa	22.00 —
Jobbing	23.00 —
Middlings	32.50 @ 35.00
Mixed Feeds	23.00 @ 28.00
Oil Cake Meal, per ton	36.75 @ 38.25
Rolled Barley	30.00 @ 31.00
Shorts	30.00 @ 31.50

### VEGETABLES.

Onions have been arriving in large quantities all week, and as there is at present little demand except for local use, the market is dull and overstocked, with a further break in prices. Green corn and peas are again slightly higher, and some lines of local garden truck have advanced, but general lines of vegetables are weaker on heavy receipts. Tomatoes have lost all their firmness, and are dragging at low prices. Summer squash, egg-plant and green peppers are slightly lower, while cucumbers and string beans are easy at former prices. Pickle cucumbers are in fair demand at \$1.25 a box.

Garlic, per lb.	6 @ 7c
Green Peas, lb.	4 @ 5c
String beans, lb.	3 @ 5c
Cabbage, per ctl.	65 @ 75c
Onions—	
New Yellow ctl.	50 @ 60c
Summer Squash, large box	40 @ 60c
Tomatoes, box	25 @ 75c
Turnips, sack	75 —
Green Peppers, box	30 @ 50c
Cucumbers, box	35 @ 50c
Green corn, sack	\$1.75 @ 2.25
Egg Plant, box	40 @ 60c
Cauliflower, doz.	65 @ 75c
Okra, box	50 @ 60c

### POULTRY.

There have been several changes in quotations since last week's report, some lines showing a fair advance, while hardly anything is lower. Eastern arrivals for the week amount to four cars, and receipts from California points are also liberal, as a result of which small and medium hens show some weakness. Good heavy hens, however, sell readily at appearing quotations. All young stock is in demand, and quotations are expected to advance. The demand for large turkeys continues good, but small stock is neglected.

Broilers	\$4.00 @ 4.50
Small Broilers	3.00 @ 3.50
Fryers	5.00 @ 6.00
Hens, extra	7.00 @ 8.00
Hens, per doz.	5.00 @ 5.50
Small Hens	4.00 @ 5.00
Old Roosters	3.50 @ 4.50
Young Roosters	6.00 @ 7.00
Young Roosters, full grown	7.00 @ 8.00
Pigeons	1.25 —
Squabs	1.50 @ 2.00
Ducks	3.50 @ 6.00
Geese	1.75 @ 2.00
Goslings, per pair	1.75 @ 2.00
Spring Turkey, lb.	22 @ 24c
Gobblers, live	20 @ 22c
Hen Turkeys, live	20 @ 22c

### BUTTER.

The butter market shows comparatively little change since last week, prices on the lower grades being firmly held. Fresh extras have fluctuated more or less, according to supply and distribution, the bottom being 23 cents, but at the present figure, slightly below that of last week, the market is firm. Supplies are sufficient for all requirements, and trading, while it has been quiet on the Exchange, is reported active on the street.

Cal. (extras) per lb.	25 c
Firsts	23 c
Seconds	22 c
Thirds	20 c
Eastern extras	24 c
Fresh Packing Stock, No. 1	20 1/2 c
Fresh Packing Stock, No. 2	19 c

### EGGS.

The lower grades of eggs have been moving well all week, and former prices are strongly held on all grades of fresh and Eastern stock except fresh extras, which are 1/2 cent lower. Local storage stock is steady, but large lots are offering. The feeling on the street is one of weakness at present, as there is very little inquiry for the extra grade. The outlook in producing sections is not good, on account of the dry season, as the supply is short, feed is scarce, and the young stock in poor condition.

California (extra) per doz.	34 1/2 c
Firsts	32 1/2 c
Seconds	26 1/2 c
Thirds	22 c
Eastern Selected	25 c
Eastern firsts	23 c
Eastern seconds	21 c
Storage, Cal., extras	29 c

### CHEESE.

Cheese shows a further decline, and the condition of the market at a time of year when an advance is looked for is not encouraging. Supplies are large, and there is little demand. Local Young Americas are weak at the decline.

Fancy California Flats, per lb.	10 1/2 c
Firsts	10 c
New Young Americas, Fancy	12 1/2 c
Oregon Flats	13 c
Oregon Y. A.	14 1/2 c

### POTATOES.

Salinas Burbanks are quite firm at a slight advance, though arrivals are fairly liberal. River stock is also higher, with a steady demand for shipment, keeping the market in a bare condition. Sweet potatoes are even lower than last week, and the large accumulations are hard to move.

New Whites	75 @ \$1.10
Salinas Burbank	\$1.40 @ 1.55
Sweet Potatoes, lb.	1 @ 1 1/2 c

### FRESH FRUITS.

While many varieties remain weak, and find a slow market with large supplies, some descriptions are moving at slightly higher prices. Some Newtown Pippin and Bellefleur apples from Watsonville are offering, and the former bring stiff prices, but ordinary lots are cheap. Choice Bartlett pears are still well held, while ripe lots are sold for whatever they will bring. Cantaloupes are lower, and all lines of grapes have declined. Good peaches in small boxes are in good demand at higher prices.

Apples, fancy	90c @ \$1.10
Apples, common	40 @ 75c
Strawberries—	
Chest	\$5.00 @ 8.00
Blackberries, chest	2.00 @ 4.00
Raspberries	6.00 @ 10.00
Huckleberries, lb.	10 @ 12 1/2 c
Plums, crate	35 @ 50c
Peaches, box	35 @ 65c
Figs, box	50 @ 75
Nutmeg Melons, box	30 @ 65
Cantaloupes, crate	75 @ 1.25
Watermelons, doz.	1.25 @ 2.50
Grapes, crate, Seedless	50 @ 65c
Muscats	50 @ 75c
Black	35 @ 60c
Tokays	75 @ 90
Pears, Bartlett, box	10 @ 75c
Quinces, box	40 @ 50c

### CITRUS FRUITS.

The demand for citrus fruits is only moderate, everything but grape-fruit being quiet and inclined to easiness. Fancy and choice lemons are again lower.

Choice Lemons	\$1.75 @ 2.50
Fancy Lemons	3.00 @ 4.00
Standard	1.00 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	2.50 @ 3.50
Grape Fruit	3.25 @ 3.75

### DRIED FRUITS.

Dried fruits remain very quiet, both here and in the East, as buyers are inclined to be suspicious of the high prices which now prevail. Most descriptions, however, are still strongly held, and the growers who have not yet disposed of their crops are considered to be in a good position. Apricots have lost something of their firmness, the growers in some sections reporting slightly lower offers. Prunes remain about the strongest feature in the market, as the crop prospects are poor and growers generally show little desire to sell. Raisins are still quite firm at about former prices, and several packers are reported to be paying 4 cents, sweatbox, though the Eastern market is quiet, and there are many who believe that prices are too high. The disposition of growers, however, is to hold out for full prices, or perhaps an advance. The prices below are quoted by local packers.

Evaporated Apples	5 1/2 @ 6 1/2 c
Figs, black	2 1/2 —
Figs, white	2 1/2 —
Apricots, new crop	7 @ 9c
Peaches, new crop	5 @ 7c
Prunes, 4-size basis	3 3/4 @ 4 1/2 c
Pears, new crop	5 @ 6 1/2 c

### RAISINS.

2 Crown	4 1/2 c —
3 Crown	5 c —
4 Crown	5 1/2 c —
Seeded, per lb.	7 —
Seedless Sultanias	4 1/2 —

### NEW CROP.

Loose Muscatels, 4 crown	5 1/2 —
3 Crown	5 1/2 —
2 Crown	4 1/2 @ 4 3/4 c
Thompson seedless	4 1/2 —
Seedless	6 @ 6 1/2 c
Clusters—Imperial	\$2.25 @ 2.40
Dehesa	1.75 @ 1.90
Fancy	1.30 @ 1.40
London Layers	1.25 @ 1.50

### NUTS.

The almond harvest is still going on, and buyers are active, having taken the bulk of the crop in many sections. The spot market is bare, with a good demand, and prices are unchanged both here and in the growing sections. Growers are getting about 9 to 10 1/2 cents, with the prices below asked by packers.

Almonds, Nonpareils	11 1/2 @ 12c
I X L	10 1/2 @ 11c
Ne Plus Ultra	10 —
Drakes	9 1/2 —
Languedoc	9 —
Hardshell	—
Walnuts, Softshell No. 1	13 —
Softshell, No. 2	10 —
Italian Chestnuts	10 @ 12 1/2 c

### HONEY.

Small lots of honey are still coming into the market, and the better grades of comb and extracted find a ready market



at former prices. Low grades, while dull, are also well sustained in value. Packers are paying 5¼ to 6½ cents for extracted, and 11 to 13 cents for comb, while stock in this market moves at the prices quoted below.

Water White, Comb lb.....	16 @ 17 c
White.....	15 —
Water-white, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c
Dark Amber.....	5½ @ 5½c
Candied.....	5½ @ 5½c

## WOOL.

There is very little movement of wool from California at present, though there is quite a lot of stock on hand. While prices are low, the Eastern buyers are paying little attention to California clips.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15½c

## HOPS.

The hop harvest is rapidly being gathered, and in some places the crop is nearly all picked. The market, however, continues dull and shows no particular feature. While the production is short all over the Coast, there is little foreign demand, and local buyers show little interest.

1906 crop.....	1½ @ 2½c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

There is little change in this market, prices on most lines standing about as formerly quoted. Sheep, however, have been arriving in considerable quantities, causing a slight decline in mutton. Beef is firm, but live hogs are inclined to easiness.

Beef: Steers, per lb.....	6 @ 6½c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	5½ @ 7 c
Small.....	7½ @ 9½c
Mutton: Wethers.....	6 @ 7½c
Ewes.....	5½ @ 6½c
Lambs.....	8 @ 9 c
Hogs, dressed.....	7½ @ 9½c

## LIVESTOCK

Steers, No. 1.....	3½ @ 4c
No. 2.....	3½c —
No. 3.....	2½ @ 3 c
Cows and Heifers, No. 1.....	3 —
No. 2.....	2½ —
Bulls and Stags.....	1½ @ 1½c
Calves, Light.....	4½ @ 4½c
Medium.....	4 —
Heavy.....	3½ —
Sheep, Wethers.....	4 —
Ewes.....	3½ —
Spring Lambs, lb.....	4½ @ 4½c
Hogs, 100 to 150 lbs.....	6 —
150 to 250 lbs.....	6½c —
250 to 325 lb.....	6c —

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

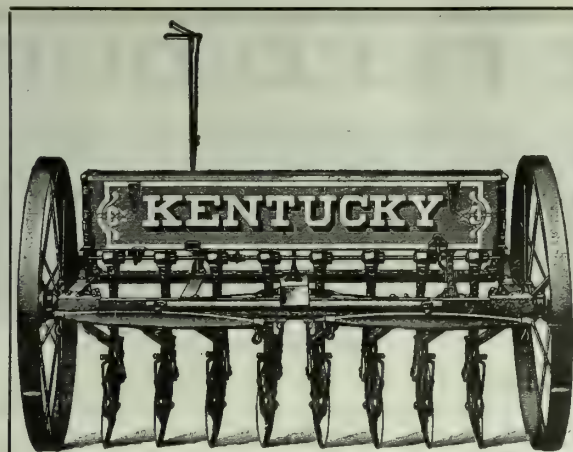
## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Sept. 1, 1908.—(Special Correspondence).—As predicted last week, the Valencia situation is very dull and prices are inclined downward. Some shippers are still holding out for \$3.00 f.o.b. when asked for quotations at this end, but are instructing their Eastern agents to accept less if the buyer cannot be brought up to their figures. Telegrams to the East read something like this: "Try to get 25c. more, but accept offer if that is not possible." This appears to be the only solution of the problem. Accept the best offer obtainable, and hope for better things in the later markets. The chances are that September will be a dull month in the Valencia deal, and that there will be a sagging market, with the possibility that the cold weather of October will brace conditions up some.

Some shippers are inclined to think that the extremely high prices obtained in the past for late Valencias will never be received again: that the \$10 a box fruit has gone forever; but they probably fail to take into account the fact that when this price is obtained, it is the only fruit in the market, and that there is a certain trade that will pay anything for what it wants. While present conditions are poor, this is no criterion of the future, and we may see as good a finish as ever.

The lemon market is as dull as the orange market. The situation is well in hand, as all the California fruit is fresh stock and will keep, and the importations are decreasing every week.

There are now on hand and available for sale within thirty days, 70,000 boxes of Sicily lemons, as against 95,000 at this



## Pacific Implement Company

135 KANSAS ST., SAN FRANCISCO.

## Kentucky Disc Drills

meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete KENTUCKY LINE.

time last year, and 36,000 boxes in 1906. There will be offered this week in New York City 22,000 boxes, and with these out of the way the available supply will be very small.

California citrus shipments to date have been 28,315 cars, of which 4381 cars were lemons. In 1908 there had gone forward at this time 26,969 cars, of which 3219 were lemons, and in 1906, 25,274 cars, 3572 being lemons.

Orange shipments for September will not average over 15 cars a day, unless the demand should suddenly increase, which is not probable. This will leave but a very few scattering cars in California for October shipment.

### SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Sept. 2, 1908.

The deciduous market this week is somewhat lower, there being less demand for peaches and pears. Peaches are selling at very low values in the auctions, the range of prices being, Susquehannas at 40c. to 65c.; Late Crawfords at 40c. to 70c.; McDevitts and Clings at 55c. to 70c.; Freestones at 40c. to 70c.

The cash buying price on Salway peaches was established on the 25th on a basis of 30c., and on the 28th reduced to 25c., and today a further reduction is made to 20c. Orders for shipment the latter part of last week and the first of this week were accepted on a basis of 40c. f.o.b., and quotations are now out for shipment the latter part of this week and the first of next on a basis of 35c. At this figure orders are coming in very freely. There is a large crop of Salways and it is just a question as to whether the market will be lower the coming week or not.

Plums are slightly lower than last week, the range of prices in Chicago today being as follows: Hungarians, \$1.00 to \$1.30; Grand Dukes at \$1.05 to \$1.35; Giants at \$1.00 to \$1.25; Kelseys at 75c. to 90c. Washington Italians are now being sold in the East at about 95c. delivered.

There is not much demand for pears in the auction markets, consequently values are somewhat lower. Washington pears are now arriving in the East, and this too has a tendency to demoralize the market. California Bartlett's sold today in Chicago at from \$1.35 to \$1.80, whereas Washington Bartlett's sold at \$1.25 to \$1.30. A few f.o.b. sales have been made on a basis of \$1.00.

The supply of Malagas is now exhausted, and there are no shipments being made from the Fresno district. Malagas average today in Chicago at 95c. to \$1.20; Philadelphia, at \$1.00 to \$1.15.

The first car of Tokays from Florin was sold in Chicago on the 27th and grossed \$2133, the average being \$2.31. On the 31st, the first car of Florin Tokays to be sold in New York averaged \$1.79, other averages to date having been \$1.75 to \$1.77.

The first car of Lodi Tokays is leaving that point today and same will be sold at auction. Fair values are anticipated for these grapes, in view of the fine prices that Florin Tokays are realizing. It has been reported that speculators are paying 75c. to 80c. cash for Lodi Tokays this week. If such is the case, the f.o.b. price will probably be \$1.00.

Comparative shipments for the seasons of 1907 and 1908 are as follows: 1907, 3207 cars; 1908, 5701 cars.

### NEW ADVERTISEMENTS.

It is with considerable pleasure that the PACIFIC RURAL PRESS again carries the advertising of old and valued patrons. Our readers will see the announcements in this issue of the H. C. Shaw Co., of Stockton; of the Mountain Copper Co., of Stockton; of the Mountain Copper, one of the big fertilizer concerns of San Francisco; of Woodin & Little, the old reliable engine and windmill house; and of the Pacific Implement Co., one of the largest firms in the West.

Besides these firms, we have Glide Bros. of Sacramento, who advertise their fine sheep and offer rams for sale.

Of interest to dairymen, swine-feeders and poultry-raisers, is the announcement of the Pacific Oil & Lead Works, in which they advertise Linseed Oil Cake Meal and Cocoa Cake or Meal.

The above advertisers are the kind that we like to have use our columns, and we know our readers will get a square deal when trading with them.

The Riggins ranch of 750 acres, near Covina, together with live stock, sold last week for \$186,500, to Judge J. T. Sweatt.

Orange county is to hold a Carnival of Products at Santa Ana, October 15 to 17, inclusive.

### INDEX TO ADVERTISERS

## Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	157
Beckman, Geo. V.....	153
Bihn Bros.....	155
Bird & Co., J. A. & W.....	154
Benton, Frank.....	159
Blake, Moffitt & Towne.....	157
Bray Brothers.....	153, 155
Breeders' Directory.....	153, 155
Clark Wise & Co.....	156
Coyne National Trade School.....	155
Croley, George H.....	154
Cutter Laboratory, The.....	154
De Laval Dairy Supply Co.....	153, 155
Dewey, Strong & Co.....	156
Dietz Company, R. E.....	156
Disbrow, F. H.....	157
Driver, E. S.....	153
Dunlap, R. M.....	153
Eakle, H. P., Jr.....	153
Fresno Agricultural Works.....	155
German Kali Works.....	153
Gibson, Mrs. W. B. & T. B.....	153
Gilde Brothers.....	153
Hamlin, Miss Sarah D.....	156
Hart, Ed.....	155
Healds Business College.....	156
Hopkins & Son, G. H.....	157
Howard Cattle Co.....	153
International Harvester Co.....	156
Jackson & Co., T. W.....	160
Kendall, Dr. B. J., Co.....	154
Krogh Mfg. Co.....	154
Lawrence-Williams Co.....	154
Lister, Henry B.....	156
Lynch, John.....	153

McNear, G. W.....	153
Meacham, Frank A.....	157
Mountain Copper Co.....	154
Murphy, P. H.....	153
National Wood Pipe Co.....	160
Oakland Poultry Yards.....	155
Pacific Implement Co.....	159
Pacific Oil & Lead Works.....	158
Palace Hardware Co.....	157
Pear Blight Remedy Co.....	160
Rix, O. A.....	159
Robinson, John R.....	157
Roeding, Geo. C.....	153
San Francisco Business College.....	156
Sharples Separator Co.....	153
Shaw Co., H. C.....	154
Shorthorn Sales.....	153
Silva & Bergholdt Co.....	160
Simmons Hardware Co.....	56
Situations and Help Wanted.....	152
Smith, Francis.....	157
Southern Pacific Railway.....	160
Standard Oil Co.....	154
Stowe, C. A.....	153
Sullivan, W.....	155
Teague, R. M.....	157
Temple Pump Co.....	153
Tower Co., A. J.....	157
Tuttle's Elxir Co.....	157
Vermont Farm Machine Co.....	157
Wagner, J. B.....	157
Walte, Thos.....	153
Western Feed Co.....	160
Western Gas & Power Co.....	157
Wilson, R. F.....	160
Windeler, Geo.....	157

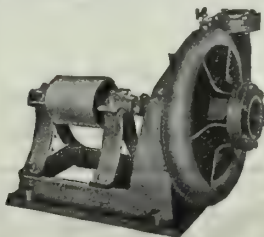
## Almond Hullers

—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.

## Blake, Moffitt & Towne

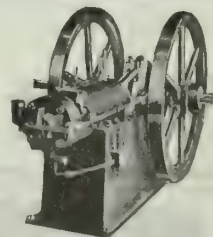
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



**Gould's Centrifugal Pump**  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right. Runs in light wind. Has ball bearing Turntable and outer thrust.



**Stover Gasoline Engines**  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

### PUMPS FOR EVERY SERVICE AND USE.

## WOODIN & LITTLE PUMP HOUSE

70-72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings, Send for Catalogue.



# THE FEED QUESTION



**A. R. COULSON**

Known as the chicken doctor and the poultry feed man.

Past president of the Coulson Poultry & Stock Food Co., Petaluma, Cal.; also Coulson Stock Food Co., Kansas City, Mo.

Originator of his mixed poultry feeds, of which a million dollars' worth has already been sold.

General Manager of Western Feed Co., Inc., San Francisco, Cal.



HAULING LOADS OF EGG MAKER.

## The vital question, FEED.

So many poultrymen go broke these times on account of high price of feed. This will be all the better for those that remain in the business, for EGGS WILL BE HIGHER than ever this year.

### EGGS 70 CENTS PER DOZEN.

Eggs will go as high as 70 cents per dozen in San Francisco this year. Those who feed their laying hens right will MAKE A BARREL OF MONEY. Those who are so close that they will not feed their hens the proper feed will lose so much money that they will be forced to go out of the poultry business.

### MAKE YOUR HENS LAY.

If you have hens, make them lay; and to make them lay you have to FEED THEM RIGHT; that's all there is to it. Hens will make as many EGGS according to the quality of the food you give them.

It is a deep study, this feeding problem is. It means the difference between failure and success to all of us.

### SEVEN YEARS OF SUCCESS.

Feed your hens the EGG MAKER, and also the mixed grains feed called SCRATCH FEED, and you are sure of successful results. For seven years A. R. COULSON, known as the chicken doctor, has been STUDYING and IMPROVING the composition of the feeds that will give the BEST RESULTS and MOST PROFITABLE RETURNS TO THE FEEDER. The poultrymen who are intelligent and wise will most assuredly make use of the feeds put on the Market by the WESTERN FEED CO., the original A. R. COULSON, formerly of Petaluma, Manager.

Send for free sample, circulars, and prices, etc., on quantity you usually purchase.

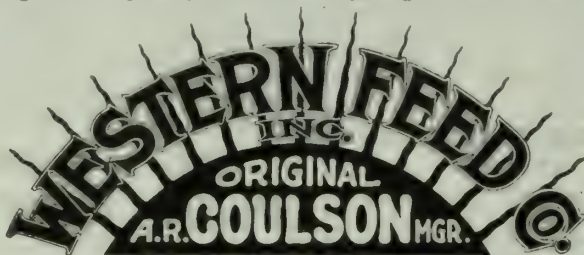
#### THE EGG MAKER:

The Feed that Makes Eggs.

#### THE CHICK SAVER:

A Special Dry-Mixed Chick Feed.

#### SCRATCH FEED.



#### THE CHICK GROWER:

A Feed for Growing Chicks.

#### CONDITION POWDERS:

And All Poultry Remedies.

#### BIRD SEED.

MANUFACTURERS OF AND WHOLESALE DEALERS IN

**POULTRY FEEDS, REMEDIES, SUPPLIES, Etc.**

365 to 371 McALLISTER STREET,  
SAN FRANCISCO, CAL.

TELEPHONE  
Market 784

TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

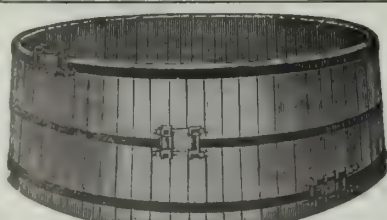
in effect daily from Eastern points during  
September and October, 1908.

### SOME RATES:

Sioux City	\$31.95	New Orleans	\$35.50
Council Bluffs	30.00	Peoria	36.75
Omaha	30.00	Pittsburg	47.00
St. Joseph	30.00	Memphis	36.70
Kansas City	30.00	Bloomington	36.75
Leavenworth	30.00	St. Paul	36.75
Denver	30.00	Minneapolis	36.75
Houston	30.00	Chicago	38.00
St. Louis	35.50	New York	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

## Southern Pacific



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

**R. F. WILSON,**

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## PEAR-BLIGHT

**We can CURE IT**

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**

## WOOD PIPE

Made from California Redwood  
or Selected Washington Douglas  
Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 11.

SAN FRANCISCO, SATURDAY, SEPTEMBER 12, 1908.

Thirty-eighth Year.

## Table Grapes.

Written for the PACIFIC RURAL PRESS  
By Mr. F. T. BIOLETTI.

In previous issues of the PACIFIC RURAL PRESS attempts have been made to define the terms "wine grape" and "raisin grape." The attempts were not altogether successful, and it seems still more difficult to define the term "table grape," at least in a few words.

The reason for this is that the success of a grape grown for direct consumption depends on such a large number of extremely variable conditions.

A perfect table grape, or eating grape, should please the eye, the palate and the pocket of the consumer. It should be able to withstand the packing, transportation, and general handling to which it must be subjected, and finally it should be capable of producing paying crops in the locality where it is raised. All these factors vary greatly with every market and every center of production.

Where the producer and consumer are identical, that is, where the grapes are grown for home use, the taste of the consumer is the principal criterion. There is nothing more variable than human taste. However, there are certain qualities of flavor, texture and appearance which are pleasing to most people, which makes it possible to name certain varieties of grapes suitable for home use. In a later issue a list of varieties suitable for a home garden in California will be given. Such a list must, of course, be made up with a view to diversity: various colors, shapes, flavors and times of ripeness should be included.

For commercial table grapes (those to be grown, shipped and sold in quantity), diversity is a minor consideration. In fact, if we consider the various districts where table grapes are grown on a large scale for shipment, we will find one kind grown almost exclusively, or at least largely in excess of any or all others. For example, the Chasselas in France, the Ohanez in Spain, the Black Hamburg in English and Belgian hothouses, the Concord in the East, and the Flame Tokay in California.

The cause of this is that in each country there is one variety which meets the conditions of the market, transportation and production better than any other. Generally the taste of the market is

the controlling factor, as in England, where a large, spherical, black grape, such as the Black Hamburg, is preferred, or in France, where a white grape of delicate texture and flavor, such as the Chasselas, or in California, since the preference of the Eastern trade is for a large red grape, obliges us to grow principally the Flame Tokay.

The Flame Tokay is accordingly the great table

can hardly be excelled. There is room, however, for other varieties, especially for varieties which resemble the Tokay, but can be placed on the market earlier or later. For this purpose it may be possible to find some good grapes among the varieties imported from Algeria, Asia Minor and China. A variety as decorative as the Tokay but of better eating quality would doubtless find a good market. Such a variety is the Red Muscat of Alexandria.

There is a smaller, but still profitable, market for white and black grapes, especially for such as are very distinct in appearance from Eastern varieties. All Eastern varieties are spherical, and accordingly we find that practically all the Californian varieties which sell in the East are oval, like the Malaga, Muscat, Emperor and Cornichon or irregular like the Tokay.

At present the varieties which are of commercial importance in California are the following, arranged in order of earliness:

1. **Chasselas dore** (Syns. Chasselas Fontainebleau, Sweetwater, Gutedel.) This is not a favorite in our markets, and sells only because it is there first. While of excellent quality, it is inconspicuous. The Luglienga, the fruit of which resembles that of the Chasselas somewhat, would probably be preferred. It is oval in shape and both earlier and a better shipper than the Chasselas. It has done well in several parts of the State, notably in the Imperial district.

2. **Sultanana** (Syns. Thomson's Seedless, Lady de Coverly.) The oval, yellow, seedless berries of this variety are very distinctive in appearance, and the market takes a large quantity. The Rose Sultanina (shown in the accompanying engraving of a cluster weighing four pounds) is a pink variation of this variety, recently introduced into the State. It has been insufficiently tested, but promises to be valuable.

3. **Malaga.** This is a large, oval, white grape of the type known in France as Olivette. The Olivette de Cadenet tested by the Agricultural Experiment Station seems to be an improvement on this variety; berries slightly larger and of better quality, besides being a better shipper. The Dattier de Beyrouth resembles this variety slightly, but is much larger.

4. **Flame Tokay.** By far the largest part of the grapes shipped out of California are of this



SULTANINA ROSE AS GROWN BY THE CALIFORNIA NURSERY CO., NILES.

grape of California. It meets the conditions of market, transportation and production as the Chasselas does in France. Its brilliant red color and large size make a great contrast to the Concords and Delawares of the Eastern States. Its firmness and resistance to mould make it possible to place it in New York in good condition, while its productiveness makes it profitable to the grower.

While the main market for Californian grapes demands a large, brilliantly red grape, the Tokay

(Continued on Page 164.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

Three holidays in one week, including Sunday, would make a Mexican visitor to San Francisco feel very much at home, although he might not be able to understand why people should be in such a frightful hurry the rest of the time. From the American point of view, however, the grouping of three holidays in a week is an industrial sin. Not only is the loss of time notable to those who care much for time, but the incidental distractions and interruptions are serious also. It is probably idle to speak of it at all, but if there is any way that Labor Day and Admission Day could be made to pool their patriotic and socialistic issues, we would gain one good day for secular celebration and recreation, and probably find some real significance in it. As it is at present, neither day is well kept, because different people choose one or the other, and those who are particularly thrifty disregard both. That may do for an individual adjustment of the matter, but it must be claimed that for general business, in which people are interdependent, it is a decided loss to have closed banks, stopped mail deliveries and the people whom it is most necessary for you to see, a-gone a-fishing. We speak feelingly because even so balanced and placid a person as an agricultural editor is upset while trying to steer his product through a week which is one-half dead days. But what's the use—probably he should go a-fishing also and let the paper hang a week.

One of the city hotel keepers, in talking about the difficulty of getting good fruit for his tables, is credited by a daily reporter with saying this: "The local fruit dealers are to blame; they allow the Eastern market to absorb the best of the California product. In the old days perhaps there was not a sufficiently large hotel demand for the very choicest fruits, and the grower had some excuse for sending his best out of the State." The speaker may know how to keep a hotel, but if he means that the San Francisco demand could afford any appreciable substitute for the Eastern demand, he has neither knowledge nor respect for the California fruit trade. It is not necessary to divert a box from the overland trade, nor would it often be necessary to take a box from the districts which have the eastward shipment trade in hand. Very little goes east from the bay district; it is nearly all from the interior valleys and foothills. For very early fruits there might be a brief interference, but through the long season of available fresh fruits San Francisco can be amply supplied from the bay counties and the river orchards which are not handy to the railways. San Francisco is the natural market for this region, but very few growers can make a cent shipping to the metropolis, because the distributors, of every grade and function, milk the product; the consumer pays a high price for over-handled fruit,

and gets little for his money; the grower gets such a small check and such a lot of fairy tales that he wearies of serving a market which naturally belongs to him and should reward him handsomely. When the hotel men are ready to make fair contracts for good fruit by direct trade, they will not have need to further discuss the eastern shipments which they know nothing about.

We are glad that none of our respectful colleagues of the California agricultural press had their fingers pinched by that old seven-headed-Egyptian Wheat-faker in Idaho, to which we have addressed several appreciative remarks since we knocked him first in the issue of August 1. The result has been a saving of a good deal of money by those who read California agricultural papers and have been warned of the nature of this undertaking. We have heard, however, that some Californians have blown in considerable money, which they can now charge up to their own stupidity in taking agricultural advice from journals which aim only to be in first in any sensational affair, and whose editors know as little about agriculture as they do about astronomy—fake wheat and sun spots look alike to them. We are sorry, however, that at least one agricultural journal west of the Rockies did get pinched, and it is laughable to see him suck his finger: "We hope any of our readers did not take the article, 'A Miracle in Wheat,' appearing in our last issue, seriously. Just how such fakes can go the rounds of the press is unexplainable. The editor was away on his vacation, and regrets very much the appearance of the article referred to. There is plenty of good legitimate agricultural material for use, and it will be our aim to keep out such misleading articles in the future." He has a contrite spirit and promises not to do it again, so we will not be severe. When, however, an editor goes away and allows the "devil" to put things in the paper, he is very likely to borrow from his namesake, who tempted the Idaho swindlers to get some quick money from the unwary.

Pardon us, we must preach just one paragraph on this fruitful theme. There are journals which we believe to be absolutely sincere in their determination not to receive money for any sort of an announcement which is not given some of the signs of paid matter. The signs may be obscure, but the initiated recognize them. It is our notion that an editor may give away all the space he sees fit, and may approve a man or an enterprise in a way to impart business advantage far beyond any similar amount of space which is paid for. So long as such glorification is merited by the worth of the man or the character of the enterprise, the editor can give all the space he likes, but he should not sell such space for any price or consideration. Unless this position can be taken, there is no editorial conscience. We speak of this in this connection because, so far as we have observed, this Idaho swindle has been foisted upon an innocent press, and the press has misled the people without participating at all in the clean-up of the swindlers. We do not believe that the Eastern weekly literary journal which went into this Alaska wheat enterprise to the extent of two full pages and lots of pictures, and by so doing let the swindle loose upon the whole country, sold that space. That journal was itself swindled out of its space by the unusually smart proprietors of the fake and by its own ignorance and thirst for sensationalism. In this case the reader of that journal does not need to complain that he lost his money because the paper sold him out. The paper simply gave itself away, and all its readers with itself. If this be true, then there is something

else needed in the editor besides conscience. As this paragraph is a sermon, we can fitly say that, for an editor, "Wisdom is the principal thing; therefore get wisdom, and with all thy getting, get understanding also." And for the second lesson: "Be ye therefore wise as serpents and harmless as doves." We have plenty of dove editors: we need more snakes.

And now the Hon. David Lubin, having weathered the storms which beset him as he was about to take his seat as delegate from the United States at the International Agricultural Institute last spring, is back at Washington, pleading that his country shall take its proper place in the autumn meeting of the Institute by having a suitable representation of experts. It is expected that the matter will be taken up this week at Washington, and that the various departments interested will arrange for the appointment of five delegates to the general assembly of the International Institute of Agriculture and consider the scope and nature of the work which should be recommended for the institute by Mr. Lubin as this country's representative. This request of Mr. Lubin's is thoroughly rational, and the full compliance with it will do credit to this country in the eyes of the world. The United States has taken a leading position in the preparation of crop reports, and it is looked to by other countries for information how to gather and collect information regarding the crops of the world, for the elimination of speculation at the expense of the agricultural classes. In most other countries no systematic effort to get crop reports is made, except by various speculative and trading bodies, which do so at great expense for their own benefit. Forty-five nations, however, have agreed to participate in the plan advanced by Mr. Lubin, and details for accomplishing this work will be agreed on at the meeting of the institute in Rome in November. The United States should maintain the leadership in the enterprise, for it can claim, through Mr. Lubin's devoted work, the origination of it.

We spoke recently of the difficulty our agricultural colleges and experiment stations are having in keeping their best men, because they can make so much more money by going into agriculture on their own account or by accepting places with agricultural corporations. California suffers with other States in this way. One of the most significant indications of the difficulty of holding good men is found in the loss by the Iowa Agricultural College of its distinguished dairy professor. In speaking of the acceptance of the position of secretary of the new central creamery association by Professor McKay, the Creamery Journal says: "Professor McKay has accepted, and at the present time enjoys the distinction of receiving the highest salary paid anyone engaged in a similar line of dairy work in the United States. We are not at liberty to publish the amount, but it is several times what he was receiving at Ames as instructor, and includes a month's vacation on full pay. The contract covers a period of five years. The new company is organized ostensibly for the purpose of improving their product, and it is to a general superintendency of this work that Professor McKay has been called. He will have several men in the field working for improvement of quality." This is just what Professor McKay has been teaching in college, and the projectors of the great enterprise believe his services are worth more to them than the college can pay. Is there any longer any doubt of the recognition of the practical business value of the expert work of our college men? The Creamery Journal adds: "It seems most unfortunate that the educational insti-



tutions of our State do not seem to be in position to pay salaries that will keep our best men." That is just the situation. What can be done about it?

As stated in last week's issue, the pavilion show at the State fair consisted largely of county exhibits, which were large and varied in contents, and put up with many pleasing decorative effects. Exhibitors included in these collective exhibits received also individual awards. The following awards for county exhibits were made: First prize, Los Angeles county, \$500; second prize, Alameda county, \$300; third prize, Fresno county, \$200; fourth prize, Sutter county, \$150; fifth prize, Monterey county, \$100; sixth prize, Tehama county, \$75. It is interesting to note how widely distributed, geographically, these awards are: the two most distant counties are about 600 miles apart. It would indicate that California is large, and good all the way through.

President Roosevelt seems to like governors' conferences, for he is about to call another, to be held in Washington. It will be a joint conference of governors of the States and the members of the National Conservation of Resources Commission, which President Roosevelt appointed, to be held on Tuesday, December 8. The first formal meeting of this commission will be held December 1, a week before its conference with the governors. All governors will be urged, in the forthcoming call, to be present either in person or send some representative. The National Congress on Rivers and Harbors will meet during the week beginning December 7, and a number of governors have promised to participate in that convention. It is not a bad idea to have governors come into the limelight in this way and show how much they know of their States. Too often a governor is looked upon as a functionary who sits in the State capitol making appointments and granting pardons. According to the present plan a governor becomes, in fact, a national representative, and the assembled governors a third house—which moves the lobby down a peg.

## Queries and Replies.

### On Sagebrush Land.

To the Editor: I have looked over considerable irrigated (or to be) sagebrush land in California with a view to settlement and would like some information regarding the subject. Suppose I purchase a tract thickly covered with sagebrush, having sandy loam four feet deep on top of a porous gravel, the climate being hot in the summer and very mild in winter, what would the best course be to pursue in order to have it in the best possible condition for next year for a vegetable crop, such as onions, tomatoes and cucumbers, with plenty of water and labor available? If I grubbed the sage and cleaned it of all rubbish, leveled it properly, plowed it nine inches deep and gave it plenty of surface cultivation until autumn, would that be a "good tilth" for the crops named? Some writers advocate sowing grasses or grains or planting potatoes as the first crop, then after using it for fruit, etc. Is this good advice for those who want to get the land into bearing with the least expense? Is it advised because the time allows the roots, etc., to decay, or do such crops produce a certain necessary or essential effect on the land?—Caution, Montana.

Your estimate of the soil and your idea of the methods to proceed with it are all right and would yield very satisfactory results if you can be sure of enough water and suitable temperature conditions. We have seen splendid vegetable and grain crops produced on such land immediately

after the sagebrush clearing, and do not believe it is necessary for you to wait for any intermediate cropping. Of course the chief difficulties where such soil as you describe occurs are insufficient water supply, occurrence of hot, desiccating winds and untimely frosts. Some local conditions, favorable and otherwise, will have to be learned by experience.

### Non-Irrigated Alfalfa.

To the Editor: I have some land in the sub-irrigated area of the Turlock irrigation district, on which I wish to plant alfalfa. The water-level is from four to seven feet below the surface. In places the soil is moist to the surface; on the higher land I have to dig three feet to find moisture. The land has not been plowed or farmed for four years, and has grown a heavy crop of weeds and is still growing heavy green weeds. I wish to know if alfalfa may be grown successfully on such land without checking and surface irrigation. Some of my neighbors have the best alfalfa raised under the Turlock canal, but their alfalfa was started to growing when the water-level was higher than at present, the water having been lowered by a drainage canal. There are large areas in this district in which the water-level stands at about ten feet, but by good cultivation enough moisture can be retained in the soil to send alfalfa roots several feet in depth in one winter and spring season. If the roots reach the moist ground below, the plant ought to be all right, but there is an intervening strata of dry ground or soil, caused by evaporation and absorption by the weeds. Will the alfalfa grow successfully under these conditions?—Farmer, Modesto.

You can undoubtedly grow alfalfa without irrigation on land where the moisture is as near the surface as you describe, liable, of course, to loss of the plant in patches where the water comes too near the surface, and possibly getting scantier growth on higher, drier places. Beyond this danger will come the difficulty of killing out gophers without recourse to flooding, and that is a very difficult operation. If sown when the ground is moist throughout, having no dry streaks, the plant will probably reach to the moisture, unless there should be hardpan and alkali intervening. This you will have to ascertain by trial.

### Transplanted Trees.

To the Editor: I notice that many nursery catalogues emphasize the statement that their grafted and other walnut stock has been transplanted. Why transplant young stock in the nursery? Does not that set back the growth for a year at least?—Amateur, Berkeley.

Young trees are actually taken up and re-set or are run under by spade or tree digger for the purpose of cutting off long roots and forcing the growth of laterals nearer the surface, so the tree can be delivered to the purchasers with a better root system than the few prongs or single club which is more likely to be furnished when a tree is allowed to grow undisturbed for two or more years. It is not practicable to take up such a tree with such rapid root growth as we get in California without either sacrificing root extension or else retaining them and causing too great excavation to be made in planting them. Therefore smaller and more numerous roots are desirable near the base of the stem and these are secured by transplanting in the nursery. It is better to give a set-back in the nursery than in the orchard—so far as set-backs are concerned.

### Trying a New Place for the Trees.

To the Editor: Last spring I set out some peach trees, but as most of them failed to live, I would like to take those that did live and set them out in another field where the land is better. Can I do it and expect success? When shall I dig up the trees, where shall I keep them during the win-

ter, and when shall I set them out again in their new place?—New Comer, Kings county.

Yes, you can do that, as, judging from your description, even those which lived did not make much growth probably. Do not dig up for the purpose of storage. When the leaves are off and the ground well wet down by the rains, move the trees directly from the old place to the new, or, if you wish to clear the old place for other uses, you can transplant to a trench in ground well wet down by irrigation and keep them there, moist but not wet, until the new place is in right condition for planting. You can transplant in California valleys at any time during the dormant period of the tree, provided you do not allow the roots to dry out because the soil has not moisture enough.

### Salt and Morning-Glory.

To the Editor: What is known to me as wild morning-glory has taken possession of my garden of adobe soil in Oakland, and if you will kindly advise me what can be done to exterminate this deep-rooted enemy I shall be very much obliged to you. Salt will kill these roots, but how to apply the remedy without destroying the productive quality of the soil is the serious question confronting me. Will the top soil retain the saline matter, or will it, like alkali, leach downward and free the surface soil from the effects of the salt? If the latter, a strong solution in sufficient quantity, could be put on the surface now and the winter rains would do the rest. Is this practicable?—Amateur, Oakland.

Enough salt will kill morning-glory, and salt will be afterward washed out of the soil so as not to render it sterile, providing there is enough fresh water applied on top and a sufficiently free soil to allow the soil-water to pass freely out in the under-drainage. Experience on free soils in the Haywards district, however, indicated that it would take three years' rainfall to wash out the amount of salt which would be needed to kill morning-glory.

You speak of yours as an "adobe soil," and the lack of under-drainage in an adobe soil would make your proposition a far more difficult one than it would be in the sandy soils which are found in some parts of Oakland and Alameda. Usually in a small garden it is a much better proposition to go over the ground with a sharp-toothed cultivator, or even a sharp hoe, cutting the sprouts below the surface about once a week, never allowing them to reach the light, and in this way the plant can be smothered out, and this is about the only way which has, thus far, been demonstrated to be effective.

### California Tobacco Growing.

To the Editor: I desire to get all the information possible on the tobacco growing industry of the State—that is, information as to the quality of the tobacco grown in the State for cigar purposes, as compared with that grown in other States and elsewhere; the sections of the State it is grown in principally; the yields, etc. I desire to obtain publications on this industry, especially anything treating of the comparative quality and statistical importance of the industry.—Reader, Sacramento.

We can only say that there is at present practically no commercial production of tobacco in this State. There have been plots of various sizes grown, and very considerable enterprises projected, but the difficulties which are encountered in curing have usually rendered these undertakings disappointing. The latest large effort at tobacco growing was made under the auspices of the Sacramento Valley Development Association, and if you will talk with Mr. O. H. Miller, secretary, 1008 Fourth street, Sacramento, he will be able to tell you what there is to be expected from the movement.



## The Vineyard.

### TABLE GRAPES.

(Continued From Page 161.)

variety. It is grown successfully on many kinds of soil, varying from light sand to black adobe. Its chief merit is its brilliant color and large size. The color varies in different districts. In parts of the upper San Joaquin valley it is too light to be merchantable; in some of the cooler districts it loses brilliancy, and therefore value, by becoming too dark. There is much difference of opinion, tinctured by local pride, as to what conditions of soil and climate produce the best color. How this grape came to California is not known, but it seems to be of Algerian origin, where it is called Amar bon Amar, or "Red Father of Red."

5. **Muscat of Alexandria.** This is not only the principal raisin grape of the world, but the most widely grown table grape. No other grape perhaps combines to such a degree the desirable qualities of texture, flavor and appearance, with sufficient productiveness and shipping qualities. Its shipping quality is probably its weakest point. The berry is easily detached from the pedicel, allowing ferments to enter the pulp. A slight fermentation then often takes place around the stalklet, turning the flesh brown and injuring the flavor. It is probably for this reason that this variety is not appreciated in New York so well as it deserves. With care, however, it can be taken long distances safely. The White Haanpoot of Cape Colony, which is identical with this grape, arrives in good condition in London three weeks after it is picked.

The red form of the Muscat of Alexandria is worthy of extensive trial. It has all the good qualities of the white, together with a brilliancy of color almost equal to that of the Tokay.

6. **Cornichon.** (Syn. Malakoff Isjum.) This is a much elongated black grape of striking appearance, and better flavor than the Emperor, which tends to replace it lately.

7. **Emperor.** The market recognizes two variations of this variety: the black and the red. The variation is one of color only, and due to the soil and locality in which the grape is grown. The grape is very large and ornamental, especially when red. The quality is poor, but its appearance has found it a profitable market.

8. **Black Ferrara.** This variety resembles the Emperor but is not quite so fine in appearance, and still worse in eating quality. Its merits are its lateness and its resistance to injury from rain. The Hunisa, a recently imported grape from Asia Minor, appears to combine the fine appearance of the Emperor with the resistance to injury of the Ferrara, while being of better quality than either.

There are several other varieties of table grapes which are used in considerable quantities, but none of which equal the production of those mentioned. The principal ones are the Black Prince, Black Morocco, Gros Colman, Pizzutello, Isabella Regia and Verdal. Most of these are grown only for Californian or Pacific Coast markets.

The European markets are supplied with grapes for about six months, commencing with Chasselas from Algeria in the middle of July, and ending with Ohanez from Almeria at Christmas.

The earliest grapes from the Imperial district of southern California ripen at least a month earlier than the Chasselas of Algeria, but we have no grape grown in the open air yet which can be placed on the market as late as the Ohanez.

## Horticulture.

### IN DEFENSE OF THE WALNUT.

To the Editor: I read in the August 22, 1908, issue of the PACIFIC RURAL PRESS, answers to questions from the Strong Land Co., by W. A. Stratton. I do not belong to Mr. Stratton's class in eucalyptus growing, but I am always interested in everything pertaining to forestry, silviculture, horticulture, etc. I take exception to Mr. Stratton's answer No. 9, "Would you recommend planting eucalyptus, as more profitable than fruit

trees, or walnuts, on soil well adapted to the latter?"

Answer No. 9, "Eucalyptus is more profitable than any fruits, walnuts not excepted. Speaking of walnuts, I have several trees, 10 years old, growing in deep, rich, black soil, that scarcely give me a quart of nuts a year. I keep them only for scions for grafting. Franquette does the best, with the Santa Rosa second."

This would be very discouraging for the walnut industry and prospective walnut planters and those who have young orchards. It appears to me that Mr. Stratton's experience in the propagation of walnuts is very limited. Why does Mr. Stratton graft from unproductive stock, when we have many desirable productive trees? When he says, "Franquette does the best," what Franquette has he in mind? We have thousands of Franquette seedlings, with each tree a different type, differing in season, size, color, productiveness, and blight-resistant qualities. But in this vast forest of seedlings we have found distinct types that possess all the qualities requisite for the propagation and planting of profitable commercial orchards.

There is no horticultural industry today with a brighter future than the walnut, since the development on correct lines of grafting and budding, like other fruit trees, to obtain uniform orchards. I have trees of a Mayette type, grafted on California black 10 years old, that produced 10 pounds and over last season, quality, size and form not excelled. These trees came into bearing the next year after grafting, and have multiplied each successive season. Trees are strong, precocious and vigorous, with rather small leaf and open growth. The sun penetrates quite to center, and no sign of blight on twig or nut, while all my Santa Rosa seedlings blighted badly.

R. WILTZ.

16 Lucretia Ave., San Jose.

[Perhaps Mr. Stratton likes eucalyptus cups better than walnuts. Concerning tastes there is no dispute.—EDITOR.]

## Citrus Fruits.

### COVER OR MULCH CROP.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

Loam is a compound of mineral earth and vegetable organic matter. By mineral earth we recognize clay, sand, lime and gravel. Hence the terms clay loam, sandy loam, and gravelly loam. But the simple mixture of mineral earth with vegetable matter does not form loam, any more than the mixture of flour and yeast makes bread. The organic matter must become decomposed to the extent of throwing off as gas most of its carbon. The residuum of the decomposed vegetation is termed humus. In leveling land, if the loam is scraped off, attempts at agriculture fail, as plants will not flourish in unorganized soil, which subsoil is. An agricultural soil is therefore a loam.

**The Problem of Orchard Culture.**—In choosing land for an orchard planting, the depth of the loam is of first importance. We can add water, lime and plant food to soils, but we cannot renew loam so readily. Yet our agricultural operations gradually destroy the loam. This we can to some extent counteract by plowing into and mixing with soil the vegetable refuse of crops, and the manure and litter of stables. The dead roots and stubble of crops also assist in this process. No problem in orchard culture has been more puzzling to the grower than the maintenance of loam. Few growers seem to have recognized the problem, and as a result experimentation by them in plowing, cultivating, irrigating, manuring and mulching has had the natural result of unsystematized work. The contradictory opinions, and the frequently reversed opinions, of growers on these points warrant the assertion that they have neglected a basic study of their soils.

**Nature and Art.**—One of the great desiderata in orchard culture is the maintenance in the soil of an extensive tree-root surface, from which annually a large amount of rootlets can be grown, to maintain an increasing wood growth in the tree and feed a heavy fruit crop. As it is only in the loam soil that these rootlets can flourish and per-

form their full function, it becomes important to have the tree in a fair depth of loam. As the loam, which may be presumed to be a foot in depth, is continually being used up by soil cultural operations, which cause the organic matter to be completely destroyed, so methods of loam renewal are imperative. An attempt to apply refuse vegetable matter by plowing into the soil causes such destruction of the tree roots as to be impractical. We must feel assured that Nature has some provision by which man can obtain the full measure of the producing capabilities of the trees. What is the provision of Nature in this case? How can we meet the demand which natural conditions have formulated? Practical research, set to a clearly defined problem, give the answer as cover crops.

**Cover Crops.**—The term cover crop is a misnomer, borrowed from broad grain and hay farming. A cover crop is used by farmers to protect grass seed while it is getting its roots down into the soil. The soiling crop would sound better, but that is understood as a green crop for cutting to supplement pasture and stall feeding of cattle. A much better term to apply to the growing of green crops among orchard trees would be mulch crop or manuring crop, as those are the real objects sought by the orchardist in using green crops. The simple term mulch crop is preferable, as it is self-explanatory and helps the average grower to its proper use.

**THE WHY.**—The broad purposes of growing a green crop among trees is to facilitate the mulching of the surface soil for the conservation of moisture and the formation or renewing of loam. The incidental advantages are the loosening of the soil for the free circulation of air and water and the easy extension of rootlets, the manuring of the soil, and the generation of bacterial life. The first is obtained by disking or chopping into the surface the soft green hay of the crop, making a soil that will not run together and bake, nor form lumps that cannot be pulverized by farm machinery. The second object is attained by the root system of the green crop piercing the soil for a depth of about one foot, there to die and leave its remains to effect a mulching result, as do the tops worked into the surface. The manurial action arises from the decomposition of the roots, which, apart from their own feeding value, while decomposing give off carbonic and other acids to assist the availability of the soil mineral as plant food. As soil bacterial life can only flourish in organic matter, the decomposing roots furnish a medium for them to multiply upon.

**THE HOW.**—The proper manipulation of a mulch crop in an orchard effects the most complete manuring imaginable. Beyond what has already been described, the mulch crop meets the important problem of maintaining the necessary depth of loam without cutting off a great quantity of tree roots by plowing. The mass of roots of the mulch crop plows the soil for greater depth, and more perfectly than is possible by any mechanical device. It does the work for a fraction of the cost, and besides, its mechanical action in opening waterways and air-runs through the soil, it distributes with unerring nicety the needed organic matter to maintain the loam. Any intelligent soil-worker knows that the actions here ascribed to the mulch crop are just what is needed to make what is called a rich, prolific soil.

**THE WHAT.**—It may be taken as a settled fact that, within the limits of all present knowledge, the mulch crop is the ideal method for the working of an orchard soil. This is equally true on lands watered by artificial irrigation or with the rains from the clouds. The great problem of the orchard soil has been solved, and it is now merely a matter of detail. An important detail consideration is the type of plant most suitable and advantageous for mulch crop. The matter of handling the crop is not a matter of indifference, but must have due consideration. It will naturally be varied by the local conditions, as all operations are not equally as possible or effective in all soils and climates. There is a distinct difference in working a hillside as against a level or gentle slope. Climate, water supply, insect pests and fruiting season must all be understood and taken into account, but it is safe to say that the same basic principles apply to all conditions and must guide our operations.

**The Sort of a Plant to Choose.**—The main ob-



jects to keep in mind in choosing a plant for mulch cropping are the number of its roots, the depth of the rooting, and the fineness and density of the top growth. A coarse, hollow stem, or one that runs to wood and pith, is not desirable. The depth of rooting is preferably one foot and better, with a downward tendency rather than a lateral or spreading root growth. The plants that make many long, fine roots are better for the purpose than the tap-root varieties from which laterals are sent out as the plant ages. A fine seed is better than a coarse one, as many more plants can be grown to each square foot of soil surface, thus making the greatest possible number of roots penetrating the soil, and at the same time the greatest mat of green hay for the surface.

Rapid growth and prolonged continuance in the green and succulent stage are points of advantage in a plant to be used for mulching. In southern California, in what may be termed the orange belt, the time for sowing the mulch crop is September, the object being to get it well grown before cold weather checks the growth. This allows disking in January or February. The main idea is to get the mulch crop disked up as early as

home and workshop. If we have a soil devoid of organic matter these bacteria will be dead, or at least dormant, and in each case it is more economical to supply the bacterial culture by sprinkling soil or seed with it, than to wait a year or two to get them awakened up or developed in the soil. The Department of Agriculture has these cultures prepared for use, so that all growers can obtain them if needed.

**The Vetches.**—If we then use for our mulch crop the type of plant that obtains nitrogen from the air, we add to the soil a necessary and expensive plant food without any cost to ourselves. No elaborate argument is necessary to prove the wisdom of using legumes for cover crop, and it is only the member of the family that needs our attention. No plant so far experimented with fills the bill so well as the vetches. There is little choice between the so-called hairy vetch and the field vetch, as they both send down through the soil a mass of hair-like roots which are aptly described as "a shaggy mane of roots." The ordinary vetch of agriculture, and handled by seed houses, is the *vecia sativa*, which meets all the desirable points of a mulch plant. The amount of

of Pasadena, at a point on the Mount Wilson toll road known as Henninger's Flat. Here various experiments were undertaken with a view to determine which species of trees were best suited to succeed on the chaparral-covered slopes of our mountains. To that end a great number of different varieties were grown, including many gathered in all parts of the world by experts of the Department of Agriculture. Necessarily, the first year or two were spent in raising the seedlings, but when they reached a stage of growth that warranted their being transplanted, they were removed to sites previously selected, and planted. Being a new work, naturally every step forward was in the nature of an experiment, and beyond taking every precaution to insure success which training and experience could dictate, the young trees could only be set out and watched as they successfully battled for life or were ruthlessly denuded of their foliage by rabbits, or perhaps, like some lost prospector on the desert, died a lingering death from thirst.

The first plantings were practically all confined to the hillsides in the immediate vicinity of the nursery, because there they could more readily



CITRUS ORCHARD WITH FIELD PEAS TO BE PLOWED UNDER AS A GREEN MANURE.

possible, to allow of thorough cultivation for early spring. If the crop is sown too late, the fall growth is apt to be meagre, and allowing it to grow in the spring will divide the soil feeding strength with the tree, generally to the loss of the tree, which is unable to produce as fully as it would if it had the soil to itself. Again, if the mulch crop is allowed to grow until the stalks become hardened by partial ripening, they cannot be well cut up into the soil, and besides interfering with cultivation, they decompose too slowly to give full effect as a mulch material.

**Direct Fertilizer.**—While in a general way any kind of organic matter is fertilizing to the soil, both directly and indirectly, yet we are not taking any advantage of what is known if we fail to study the feeding value in choosing the plant for mulching. It is known that there are families of plants that have the power of taking direct from the air a valuable fertilizing element. These are called leguminosae or legumes, and are practically all the pod plants and clovers. This type of vegetation, which was able to grow probably before soil became organized so as to carry loam, can obtain a portion of their nitrogen from the air. Their power to entrap the atmospheric nitrogen is limited to the assistance of certain microdenes or bacteria that exist in practically all soils containing sufficient organic matter to afford them a

seed used per acre of course varies according to the amount of open ground between the trees, but usually 60 pounds per acre suffices for a citrus grove. Some growers use as little as 40 pounds per acre, but the best crops of both tops and roots are obtained from 60 to 100 pounds seed per acre. Most plants, with the exception of the root crops, such as beets, carrots, potatoes, etc. deposit most of their strength in the tops to mature seed. Leguminous plants, such as the vetches, utilize the nitrogen and other plant foods in their roots, and if not allowed to mature or seed, the roots even retain the greatest fertilizing value. Vetches as a soil crop are ideal, in that they have such a mass of rich roots, filling the soil. This is a provision of Nature of which we have learned to take advantage.

## Forestry.

### REFORESTATION IN SOUTHERN CALIFORNIA.

Reforestation work in southern California by the Government, through the forest service, was actively commenced in the fall of 1903, when a nursery plant was installed in the mountains back

be watched, but during the fall of 1906 the experiment was tried of having each of the 35 forest rangers on the San Gabriel and San Bernardino national forests plant a certain number on his district, thus insuring a wider distribution under varying conditions. In doing this planting the seedlings were placed on the north, northwest or northeast slopes, and included chaparral land and open timber or cut-over areas where natural reproduction was unsatisfactory. Most of the planting was done upon open ground not entirely monopolized by the chaparral. No sites were chosen on exposed south slopes, although all of the trees were planted upon the southern watersheds. The boundaries of planting areas were plainly marked so as to be easily located.

After being planted, constant watch was kept to see how they progressed, and it was found that while a good proportion of the pine species grew and thrived, practically all of the spruce died, and as this result indicated that the spruce were not hardy enough to overcome the conditions met with, this species will probably not be extensively planted in the future. The species which proved the most successful, and which will doubtless be the ones most extensively planted in the future, were the Jeffrey pine (*Pinus jeffreyi*), Coulter pine (*Pinus coulteri*), Incense cedar (*Libocedrus decurrens*), and Cedrus Deodara, the latter a for-



eign species. Some eucalypts were grown, but as yet no effort has been made to do extensive planting of this species, the Government's efforts on these mountains being confined practically to the reforestation of higher altitudes, for which the eucalypts are not especially suited. The stock grown at the nursery was shipped to northern forests for experimental work.

**Why Some Failed.**—In ascertaining the principal causes of loss after transplanting, the two main reasons were found to be drought and small predatory animals, such as rabbits and rodents. In some localities rabbits caused the greatest damage by denuding the trees of their branches; in other localities lack of moisture, due to the character of the soil itself, was the cause of disaster, while in others the greedy chaparral absorbed all of the moisture, to the detriment of the young trees. However, a sufficient number survived to encourage the Government to believe that reforestation can be successfully carried on here, and with the experience of the past to go upon, the work is being carried forward more enthusiastically and systematically than ever before.

For the last planting season it was thought best to plant principally upon cleared areas, and on only the most favorable situations. To that end a planting expert made a tour of inspection covering the entire southern slopes of the mountains, and selected the most desirable planting sites. At each site a crew of laborers, under the supervision of a forest ranger, was set to work clearing away the brush. Of course, this method involves considerable extra expense, but since the results are expected to be so much greater, it is thought the added expense will be justified. The sites cleared for this season's planting are in the Arroyo Seco, back of Pasadena; in the Little Tejuja Canyon, near Sunland; in the San Dimas Canyon, back of Lordsburg; and in Mill Creek, back of Redlands. The first three sites are within the San Gabriel National Forest, while the latter is within the San Bernardino forest.

All the planting sites were selected with the view of giving added protection to the watersheds furnishing municipalities with their water supplies.

The work of planting is carried on usually by two rangers working together. One ranger, carrying a mattock, goes ahead and digs holes about 18 inches across and 10 to 12 inches deep. These holes are about six feet apart each way. The best and most protected spots are chosen for these holes. The ranger who does the planting follows with a bucket containing the young trees, the roots of which are kept wet. With a trowel he arranges the hole previously dug so that it will accommodate the entire root system of the tree without bending, and then the soil is filled in around it and thoroughly firmed. If leaf litter is near it is used to mulch or fertilize the seedling.

**A New Nursery Site.**—While the nursery facilities at Henninger's Flat served admirably so long as only the San Gabriel and San Bernardino National forests were to be supplied with trees, when it was decided to establish a large central nursery in this locality, from which to furnish all the national forests in southern California, it was found that the facilities were inadequate to this increased demand, and it was decided to remove the nursery to a tract of government land in Lytle creek, about 14 miles northwesterly by wagon road from San Bernardino. At this point were found all the requirements needed in the enlarged plans. The necessary buildings were erected and the grounds placed in condition to raise sufficient trees to supply all that can be used for many years. The site is on an open flat lying on the north side of Lytle creek, near the boundary line separating the two forests, and has an elevation of 2750 feet. It is easily accessible for teams, has an abundant water supply, is out of the frost belt, and there is sufficient government land adjoining to expand the plant indefinitely.

## Patrons of Husbandry.

### THE IMPROVEMENT OF RURAL LIFE.

A portion of the letter by President Roosevelt to the commission whom he appointed to make

recommendations to him touching the betterment of the social, sanitary and economic conditions of American farm life, and to which we have made several editorial allusions, is as follows:

"No nation has ever achieved permanent greatness unless this greatness was based on the well-being of the great farmer class, the men who live on the soil, for it is upon their welfare, material and moral, that the welfare of the rest of the nation ultimately rests. In the United States, disregarding certain sections and taking the nation as a whole, I believe it to be true that the farmers in general are better off today than they ever were before. We Americans are making great progress in the development of our agricultural resources. But it is equally true that the social and economic institutions of the open country are not keeping pace with the development of the nation as a whole.

"The farmer is, as a rule, better off than his forebears, but his increase in well-being has not kept pace with that of the country as a whole. While the condition of the farmers in some of our best farming regions leaves little to be desired, we are far from having reached so high a level in all parts of the country. In portions of the South, for example, where the Department of Agriculture, through the farmers' co-operative demonstration work of Dr. Knapp, is directly instructing more than thirty thousand farmers in better methods of farming, there is nevertheless much unnecessary suffering and needless loss of efficiency on the farm.

"A physician, who is also a careful student of farm life in the South, writing to me recently about the enormous percentage of preventable deaths of children due to the insanitary conditions of certain southern farms, said:

"Personally, from the health point of view, I would prefer to see my own daughter, 9 years old, at work in a cotton mill than have her live as tenant on the average southern tenant one-horse farm. This apparently extreme statement is based upon actual life among both classes of people."

"I doubt if any other nation can bear comparison with our own in the amount of attention given by the Government, both Federal and State, to agricultural matters. But practically the whole of this effort has hitherto been directed toward increasing the production of crops. Our attention has been concentrated almost exclusively on getting better farming. In the beginning this was unquestionably the right thing to do. The farmer must first of all grow good crops in order to support himself and his family. But when this has been secured the effort for better farming should cease to stand alone, and should be accompanied by the effort for better business and better living on the farm. It is at least as important that the farmer should get the largest possible return in money, comfort and social advantages from the crops he grows, as that he should get the largest possible return in crops from the land he farms. Agriculture is not the whole of country life. The great rural interests are human interests, and good crops are of little value to the farmer unless they open the door to a good kind of life on the farm.

"It is especially important that whatever will serve to prepare country children for life on the farm, and whatever will brighten home life in the country and make it richer and more attractive for the mothers, wives and daughters of farmers, should be done promptly, thoroughly and gladly. There is no more important person, measured in influence upon the life of the nation, than the farmer's wife, no more important home than the country home, and it is of national importance to do the best we can for both.

"The farmers have hitherto had less than their full share of public attention along the lines of business and social life. There is too much belief among all our people that the prizes of life lie away from the farm. I am therefore anxious to bring before the people of the United States the question of securing better business and better living on the farm, whether by co-operation between farmers for buying, selling and borrowing; by promoting social advantages and opportunities in the country; or by any other legitimate means that will help to make country life more gainful, more attractive and fuller of opportunities, pleasures and rewards for the men, women, and children of the farms."

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.   |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                            |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                             |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                            |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc. Persimmon, Pineapple, Avocado, etc. |
| 13 Cultivation.  | 32 The Banana, Loquat.                                       |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                     |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                    |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                  |
| 17 The Apricot.  | 36 Injurious Insects.  |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                              |
| 19 The Peach.  | 38 Injurious Animals and Birds.                              |
|  | 39 Protection from Winds and Frosts.                         |
|  | 40 Utilization of Fruit Wastes.                              |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for September Delivery.

**The Pacific Rural Press**

PUBLISHER

667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

Imperial valley has shipped over 20 cars of grapes.

It is stated that James Floyd of Red Bluff will plant 30 acres in lemons.

The yield of shipping apples from the Pajaro valley is estimated at from 3000 to 3500 carloads.

It is estimated that the dried apricot crop from Ventura county this year will aggregate 2100 tons.

The almond crop is being harvested and the estimated yield for Acampo, Woodbridge and Lodi districts is 350 tons.

Santa Clara valley grapes promise to be of exceptionally fine quality. There has been practically no mildew this year.

Apple growers of Sonora, Tuolumne county, are much disturbed over the appearance of pear blight in their apple orchards. Wholesale cutting back has been given the trees, hoping to save them.

Howard Reed has this season shipped from his orchard south of Marysville 50 carloads of green pears, and is now finishing the shipment of 24 carloads of dried pears from the same place. This is 50 per cent better than he did last year on the place.

At a meeting attended by 20 or more grape growers of the county was organized the Grape Growers' Association of Yolo County. The purpose of the association, as stated in the resolutions adopted, is to promote the wine and raisin industry of the county.

The acreage in bearing vines in Napa county this year is larger than at any time since the phylloxera wrought such havoc there 10 or 12 years ago. Most of the vines now in bearing are on resistant stock, and these are standing well the attacks of pests and diseases.

A number of new members have signed the agreement of the Yolo County Grape Growers' Association, but \$7 a ton delivered at the winery does not seem to be a satisfactory solution of the problem, and it is probable that the bulk of the wine grape crop of Yolo county will be fed to the hogs.

J. P. Morrill, an orchardist of Mountain View, brought to the rooms of the Chamber six immense apples of the Philbaquet variety. A single specimen weighed 1 pound and 9 ounces. The other five aggregated 7½ pounds. The fruit growers of the valley are enthusiastically entering into the competition for honors in the line of mammoth fruits.

The rice crop in the Biggs district is reported to be looking fine. Most of it has reached a height of two and a half feet, and it is stooling out in a satisfactory manner, some grains producing as many as fifty stalks. The heads are forming and will soon shoot out of the boots. An early estimate upon the yield has been placed at about 2000 pounds to the acre.

One orchard in Tehama county will supply not less than 100 carloads of pears for shipment to Eastern markets. This is the famous Cone orchard, and comprises just 100 acres. In this year of low prices the profits, as now estimated by H. P. Stice, when two-thirds of the crop has been picked and shipped, will be close on to \$25,000.

The Portland Oregonian states that Oregon will have over 1000 cars of fine apples to ship this year, as compared with about 600 cars last year. Hood River will have its banner crop. The shipments from that valley will be between 400 and 500 cars, against 200 cars in 1907. The Grande Ronde valley is preparing to send out 300 cars, double the number shipped last year, while Medford growers expect to dispatch

about 200 cars. In the other apple sections of the State conditions are reported as good or a little better than they were last season, though it is known that some varieties, Baldwins especially, will run lighter than last year in the Willamette valley, and it is also said the valley Newtowns and Spitzenburgs will not produce the crop they did a year ago.

Charles Overholser of Redding has growing in his garden a plant that is neither a vine nor a tree. It is a cross between a lemon tree and a muskmelon vine, and the fruit is also a compromise between these varieties of fruit. The fruit resembles a melon in shape and size, although slightly lemon shaped. The color is light brown and the taste is a combination of a melon and lemon flavor.

The white fly, the dreaded pest that works such havoc among the orange trees when once it gets a foothold, and which appeared in the groves of Butte county, has been wiped out through persistent effort on the part of the horticultural commissioners and the orchardists. There is a possibility that the board of supervisors will prohibit the importation of trees or vines from districts where the fly has been detected.

### AGRICULTURE.

The outlook for a good celery crop from Orange county is very promising. About 3000 acres have been planted, from which the growers expect to ship 2000 cars.

W. R. Cheney is preparing to plant the Burbank spineless cactus on his ranch in the San Timoteo canyon, near Redlands, as an experiment in stock feeding.

It is stated that growers are hauling sugar beets to the cars at Corcoran, and they are being shipped to the Visalia plant at the expense of the Pacific Sugar company.

The Turlock Sweet Potato Growers' Protective Association has been organized, with 28 members, representing 750 acres of sweet potatoes, and it is expected that many more will join.

E. A. Rivers of Gridley holds the record so far this season for returns from alfalfa. A few days ago he sold the product of the third cutting from seven acres of alfalfa for \$135.70, or \$10 per ton.

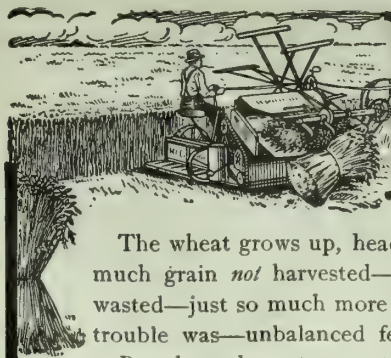
The companies that have sold thousands of acres of land around Willows will, under their contract, plant them to alfalfa, using \$21,000 worth of seed and spending \$80,000 in preparing the ground.

The black oats produced along the shores of Monterey bay, and a few tons from the Halfmoon Bay district, are sent for seed purposes to the interior of the State and country, where, although black oats are grown in abundance, they will not reproduce, and therefore it is necessary to secure the seed from the Coast district, says the Pajaronian.

A variety of flint corn native to California, found near the Cosumnes river, is being cross-bred and improved at the Plant Introduction Garden at Chico, and great hopes are entertained for it. It is believed that corn can be introduced in the irrigated regions of this State with good profit if proper tillage is maintained and the water is applied at the right time.

The alfalfa growers of the Gridley district have adopted the plan of sowing gypsum on their land, and in many cases the yield has been doubled by the application of about 200 pounds of the mineral per acre. The success of the alfalfa fields this summer has stimulated the dairy interest in the community, and many are preparing to go into that business with as many cows as their land will maintain.

Celery planting at Santa Ana is finished; 3000 acres is devoted to the crop, about one-half the area of last year. Exceeding care is being taken this year to provide against pests. So far the dreaded



## POTASH

### Lodged Grain Means Lost Profits

The wheat grows up, heads out, and then falls down—so much grain *not* harvested—so much labor lost and capital wasted—just so much more profit you might have had. The trouble was—unbalanced fertilizer, with too little Potash.

Potash makes strong stalks and prevents lodging.

Use a *complete* fertilizer, with at least 6 per cent. of Potash, but if your dealer does not keep it, then add 15 pounds of Muriate of Potash to each 100 pounds of fertilizer.

Send for our pamphlets containing facts about soil, crops, manures and fertilizers. Mailed FREE.

GERMAN KALI WORKS, 93 Nassau Street, New York  
Chicago—Monadnock Building Atlanta, Ga.—1224 Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

blight has not appeared, and the absence of the pest is believed to be due to the application of the spraying mixture, that has been applied four times.

Both Texas and Egyptian cotton under cultivation in the Imperial valley are showing remarkable development. Former Texans, familiar with growing cotton in the South, have been making an inspection of the plantings, and declare that the prospect is that either variety would yield two bales to the acre. Several citizens are planning to establish a cotton gin, provided 500 acres can be pledged for seeding of cotton.

The hop crop of the Clements-Horst Co. at Wheatland, consisting of something like 5500 bales, or 1,100,000 pounds, will be harvested in 15 days less time this season than last, despite the fact that the output was 2000 bales less last season. This is due to the great help of the hop-picking machines introduced by the company. The latter are not perfected, but it has been demonstrated that they are feasible, and by next season they will perform satisfactorily.

### LIVE STOCK.

The Trinity Land & Cattle Co. is thinking of establishing a creamery three miles south of Trinity Center, Shasta county.

The largest shipment of butter ever made by the Merced creamery was sent to Los Angeles recently. There were 14 cases, each of which weighed 130 pounds.

An epidemic, the nature of which has not been determined, has caused the death of hundreds of hogs in the vicinity of Cottonwood and Red Bluff. Some call the disease cholera, but most farmers declare the symptoms are wholly unlike those of cholera. The hogs simply droop and die.

The mule industry is being revived in the northern part of the State. In many pastures can be seen brood mares with mule colts by their sides, and on one place, operated by the King brothers, there are 65 mule colts, from suckers to two-year-olds. Buyers were particularly active during the period of the Boer and Russo-Jap war, and the supply of mules was considerably reduced. In a number of instances, too, glanders has decimated the animals. Farmers realize the facts and are making an effort to get in line with animals that will command a good price.

### MISCELLANEOUS.

Yuba City Cannery has already packed half a million cans of peaches.

The E. Clement-Horst Co. of Tehama expects to put up an alfalfa mill on the Chard place, for the purpose of making meal of alfalfa, which, after grinding, will

be pressed into convenient shape for shipment.

Large tracts of land in the San Joaquin valley are being planted to eucalyptus trees. The latest move in this direction is the purchase of 720 acres near Pixley by a Kansas syndicate.

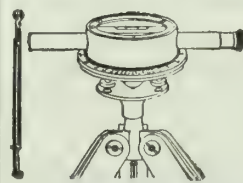
### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

WANTED—A position as foreman or manager of orchard or ranch property, by a progressive young married man. Good recommendations. Address R. E. O., Rural Press.

EXPERIENCED orchard manager wants permanent position. Advertiser a married man, aged 33; strong, energetic, reliable. Well up in all branches of his business, and general farming, capable of taking entire charge of large property. References. Address D. F. P., care Pacific Rural Press.

## BOSTROM'S IMPROVED FARM LEVEL



Cheapest and Best Level yet Invented for Farm Use.

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness. Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco

Coast Agents. Send for Circular.

### THE COMMON SENSE COMPASS AND LEVEL.

A simple, cheap device needed on every farm; can lay out and level buildings, grade ditches, get magnetic bearings and do other things.. Send for circular D28.



CHICAGO STEEL TAPE CO.,  
6233 Cottage Grove Ave., Chicago, Ill.

## FARMERS, ATTENTION!

BRIGHTEN YOUR HOMES

with a good light. The "Ideal" Kerosene Oil Burner will give you 100 candle-power on a common coal oil lamp. No smoke, no smell. Can be turned high or low. Uses less oil. Absolutely safe. Most wonderful invention of the age. For particulars address R. R. IMMISCH, 2423 McGee St., Berkeley, California.

ORCHARD HOMES FOR SALE—5 acres and upward; fine citrus and deciduous fruit lands on easy installments and low interest. Write us today. Wyatt & Wilson, Winters, California.



## Live Stock and Dairy.

### STATE FAIR AWARDS FOR CATTLE, SWINE, SHEEP AND GOATS.

The following are the awards made in the above mentioned classes at the State Fair in Sacramento last week, the awards being chiefly by Judges H. C. Duncan of Missouri and E. W. Major of California:

#### SHORT-HORNS.

Bulls, three years old or over—Spicy Diamond, Lizzie H. Glide, Sacramento; Brampton Lad second, T. B. Wilson, Woodland; Birch Hill Knight third, Carroll Cook, San Francisco.

Bulls, two years old and under three—Birch Hill Knight II first, P. H. Perkins, Perkins.

Bulls, senior yearlings—King of Greenwood first, Lizzie H. Glide, Sacramento; Edward Glosker second, Lizzie H. Glide, Sacramento; Bapton Broad Hooks III third, Lizzie H. Glide, Sacramento.

Bulls, senior calf—Elgitha's King first, Lizzie H. Glide, Sacramento; Edward Lancaster second, Lizzie H. Glide, Sacramento; King Lancaster third, Lizzie H. Glide, Sacramento; Inwood King fourth, Lizzie H. Glide, Sacramento.

Bulls, junior calf—Tuli King first, Lizzie H. Glide, Sacramento; Roselawn Lad 23d second, T. B. Gibson, Woodland; Valley View King third, Lizzie H. Glide, Sacramento; Roselawn Lad 22d fourth, Lizzie H. Glide, Sacramento; Roselawn Lad 21st fifth, Lizzie H. Glide, Sacramento.

Cows, three years old or over—English Lady 15th first, Lizzie H. Glide, Sacramento; Fannie Belle of Maple Hill second, T. B. Gibson, Woodland.

Heifers, two years old and under three—Greenwood Valley View first, Lizzie H. Glide, Sacramento; Greenwood Myrtle second, Lizzie H. Glide, Sacramento; Beauty H. 3d third, T. B. Gibson, Woodland; Ramsden's Brawith Bud fourth, T. B. Gibson, Woodland.

Heifers, senior yearlings—Inwood Lass first, Lizzie H. Glide, Sacramento; Greenwood Lady second, Lizzie H. Glide, Sacramento; Greenwood Leaf third, Lizzie H. Glide, Sacramento; Giorana 3d fourth, T. B. Gibson, Woodland.

Grand Champion, King of Greenwood, and Grand Champion Cow, Inwood Lass, both owned by Lizzie H. Glide of Sacramento.

Heifers, senior calf—Inwood Lady first, Lizzie H. Glide, Sacramento; Greenwood Duchess second, Lizzie H. Glide, Sacramento.

Heifers, junior calf—Greenwood Blossom first, Lizzie H. Glide, Sacramento; Queen Blossom second, Lizzie H. Glide, Sacramento; Spicy's Lady third, Lizzie H. Glide, Sacramento; Roselawn fourth, T. B. Gibson, Woodland.

Aged herd—First, exhibited by Lizzie H. Glide, Sacramento; second, exhibited by T. B. Gibson, Woodland.

Young herd—First, exhibited by Lizzie H. Glide, Sacramento; second, exhibited by T. B. Gibson, Woodland.

Calf herd—First, exhibited by Lizzie H. Glide, Sacramento; second, exhibited by T. B. Gibson, Woodland.

Breeder's young herd—First, exhibited by Lizzie H. Glide, Sacramento.

Four animals, get of one sire—First and second, exhibited by Lizzie H. Glide, Sacramento; third, exhibited by T. B. Gibson, Woodland.

Two animals, produce of one cow—First, second and third, exhibited by Lizzie H. Glide, Sacramento.

#### HEREFORDS.

The Paul Clagstone exhibits from Clagstone, Idaho, were allowed all prizes in the Hereford display. These exhibits consist of bulls and heifers numbering eight head.

#### POLLED DURHAMS.

Bulls, three years old or over—California King, E. F. Kleinmeyer, Los Angeles, first.

Cows, three years old or over—Orange Beauty, E. F. Kleinmeyer, first.

Champion bull, California King.

Champion cow, Orange Beauty.

#### HOLSTEIN-FRIESIAN.

Three-year-old bulls—Sir Estata, Stanford University, first.

Bulls, two years old and under three—Bell Boy, F. H. Burke, San Jose, first; Don Comati, F. H. Burke, second.

Bulls, yearlings—Canary Johanna Victoria, Stanford University, first.

Bulls, calves—Hill Paul, Stanford Uni-

versity, first; Burke's two entries withdrawn.

Cows, three years old and over—Adrala, Stanford, first; Angel of La Siesta, F. H. Burke, second.

Heifers, two years old and under three—Bometa, Stanford, first.

Cows, yearlings—Daphnada, Stanford, first.

Heifers, calves—Riganeta, Stanford, first; Burke's entries withdrawn.

Exhibitor's herd, Stanford, one entry.

Breeder's herd, Stanford, one entry.

Produce of dam, Stanford, one entry.

Senior champion bull, Bell Boy.

Senior champion cow, Adrala.

Junior champion bull, Canary Johanna Victoria.

Junior champion cow, Daphnada.

#### JERSEYS.

Bulls, three years old and over—Sergeant Fox, George A. Smith, Corcoran, first; Golden Fern of Oakhurst, George A. Smith, second; Marigold's Exile Queen, Guy H. Miller, Modesto, third.

Bulls, two years old and under three—Lockeford Marigold, N. H. Locke & Co., Lockeford, first.

Bulls, yearlings—Lady Shamrock's Golden Fern, George A. Smith, first; Emerita's Fox, Guy H. Miller, second; Melia's Marquis, George A. Smith, third.

Bulls, calves—Marquis Fox, George A. Smith, first; Carlyle Fox, Guy H. Miller, second; Rocky's Golden Fern, George A. Smith, third.

Cows, three years old or over—Signora Bruce, Guy H. Miller, first; Golden Hecla, George A. Smith, second; Mermaiden, George A. Smith, third.

Heifers, two years old or under three—Hecla of Oakhurst, George A. Smith, first; Wanda Venadera, Guy H. Miller, second; Golden Marquis Irmalia, George A. Smith, third.

Heifers, yearlings—Golden Fern Mermaiden, George A. Smith, first; Dolly of Venadera, Guy H. Miller, second; Smith's Gem, George A. Smith, third.

Heifers, calves—Golden Fern Violet, George A. Smith, first; Opal of Venadera, Guy H. Miller, second; Elva of Venadera, Guy H. Miller, third.

Exhibitor's herd—George A. Smith, first; Guy H. Miller, second; Thomas Waite, Perkins, third.

Breeder's young herd—Guy H. Miller, first; Smith's entries withdrawn.

Calf herd—George A. Smith, one entry.

Get of sire—George A. Smith, first and second; Guy H. Miller, third.

Produce of dam—George A. Smith, first and second; Guy H. Miller, third.

Senior champion bull, Sergeant Fox.

Senior champion cow, Signora Bruce.

Junior champion bull, Lady Shamrock's Golden Fern.

Junior champion cow, Golden Fern Mermaiden.

#### BROWN SWISS.

All awards to B. P. Inman of Junction City, Ore.

#### DUTCH BELTED.

All awards to Mrs. Jennie Strader and N. G. Strader of Ceres, Stanislaus county.

#### FAT STOCK DEPARTMENT.

Fat steers, three years old or over—Bill, T. B. Gibson.

#### SWINE—POLAND-CHINAS.

Boars, two years old or over—Hanford I Know, M. Bassett, first; Yolo Boy, T. B. Gibson, second.

Boars, one year old and under two—Winn's Meddler, P. H. Murphy, first; Meddle, M. Bassett, second; Sis Mastoden, T. B. Gibson, third.

Boars, over six months and under one year—I Am I Know, M. Bassett, first; My Choice, M. Bassett, second; Mischief, M. Bassett, third.

Boars, under six months—Perfect I Know, M. Bassett, first; Badger, W. R. McCaslin, second; Chief I Know, M. Bassett, third.

Sows, two years old and over—Miss B. Corrector, M. Bassett, first; Hope of Lynwood, P. H. Murphy, second; Black Queen, W. R. McCaslin, third.

Sows, one year old and under two—Miss E. Corrector 2d, M. Bassett, first; Daisy's Perfection, M. Bassett, second; Miss Corrector, M. Bassett, third.

Sows, over six months and under one year—Quality I Know, M. Bassett, first; Climax, M. Bassett, second; Black Beauty, M. Bassett, third.

Sows, under six months old—Correct I, M. Bassett, second; P. B. Murphy entry, third.

Produce of sow—Perfect Sunshine and pigs, P. H. Murphy, first; Black Rock and pigs, W. R. McCaslin, second; Lady Sunshine and pigs, P. H. Murphy, third.

Get of sire—M. Bassett, entry first; Winn's Meddler and four pigs, P. H. Murphy, second.

Best boar, any age—Hanford I Know, first; Winn's Meddler, second.

Best sow, any age—Miss B. Corrector, first; Quality I Know, second.

#### BERKSHIRES.

Boars, two years old or over—Prince of Perkins, G. A. Murphy, first; Baron Premier, G. A. Murphy, second; Lone Pine Champion, Carroll Cook, third.

Boars, one year old and under two—Nevada Highgrade, G. A. Murphy, first; Royal Gem, Thomas Waite, second.

Boars, over six months and under one year—Don Juan Jake, Carroll Cook, first; Peter C., Thomas Waite, second; Treasure Boy, G. A. Murphy, third.

Boars, under six months—Bell's Premier III, G. A. Murphy, first; Bell's Premier II, G. A. Murphy, second; Entry, T. Waite, third.

Sows, two years old and over—Ruby Duchess, G. A. Murphy, first; Fashion Princess of Perkins, G. A. Murphy, second; Petsey W., T. Waite, third.

Sows, one year old and under two—Columbia 10th, H. L. Murphy, first; Fashion Queen 2d, G. A. Murphy, second; Loretta B., H. A. Murphy, first.

Sows, over six months and under one year—Mistress of Sunnyside, G. A. Murphy, first; Jeannette Tee, G. A. Murphy, second; Lady Gem, T. Waite, third.

Sows, under three months—Sacramento Fashion 2nd, G. A. Murphy, first; Thomas Waite entry, second; Sacramento Belle, G. A. Murphy, third.

Produce of sow—Columbia 4th and pigs, Carroll Cook, first; Perkins' Farm Beauty, sow and pigs, G. A. Murphy, second; Starlight Wilts and pigs, G. A. Murphy, third.

Boar and four of his get—Baron Premier 31st and get, G. A. Murphy, first; Lone Pine Champion and get, Carroll Cook, second.

#### SHEEP AND GOATS.

Spanish Merino, all classes won by Thomas Waite, Perkins.

Shropshires, all classes won by T. B. Gibson, Woodland.

Persian sheep, all classes won by C. P. Bailey, San Jose.

Angora goats, all classes won by C. P. Bailey, San Jose.

#### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

#### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

17 YEARS an Exhibitor of Berkshire Hogs at the California State Fair. Thos. Waite, Perkins, Cal.

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.



**U. S. CREAM SEPARATOR**

The 1908 Improved

Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 148 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.

Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**

Importer and Breeder of

## Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.



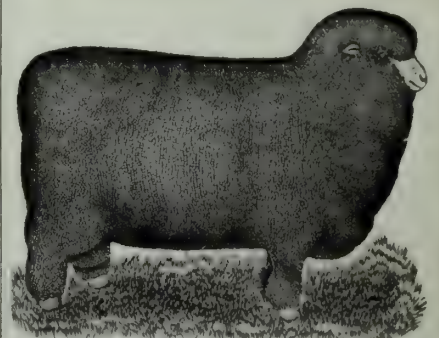
**FRANK A. MECHAM**

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS

**Famous Blacow, Roberts, Glide French Merino Sheep.**

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

**RAMS FOR SALE AT ALL TIMES**  
P. O. Box 297 Sacramento, Cal. Home Telephone Dixon, Cal.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Paper Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



**Harness That Stands Strain**

It is worse than waste to let harness get dry, brittle and rotten. To stand the hard strain of daily use it must be made soft with

**EUREKA Harness Oil**

Clean the harness; let it absorb all the oil it will; wipe dry with a cloth, and your harness will be strong and tough as new leather.

Nothing like Eureka Harness Oil. Made by

**STANDARD OIL CO. (Incorporated)**



## Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes  
the place of all liniments for mild or severe action.  
Removes all Bunches or Blemishes from Horses  
and Cattle. SUPERSEDES ALL CAUTERY  
OR FIRING. Impossible to produce scar or blemish.  
Every bottle sold is warranted to give satisfaction.  
Price \$1.50 per bottle. Sold by druggists, or sent  
by express, charges paid, with full directions for  
its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## JUDGING AT THE LIVE STOCK SHOWS.

Written for the PACIFIC RURAL PRESS  
By E. W. MAJOR, University of California.

The writer of this department has had the question of judging live stock at the fairs on his mind for sometime, as this is the season when it becomes necessary to make the awards on animals that their owners have been preparing for the ordeal during the past few months.

The following editorial, taken from the North Pacific Rural Spirit, contains suggestions that are of interest and of value to exhibitors:

"Live-stock judges who make the awards on stock at the fairs are not infallible any more than other human beings, and, unfortunately, they are sometimes incompetent. Incompetency, however, is not a common occurrence of late years at our leading fairs and stock shows. It is without doubt the honest intention of fair managers to secure capable, conscientious men to pass upon the merits of their exhibits, whose decisions will be accepted as fair and above reproach.

"No other one thing conduces more to the success or failure of a fair than the character of the judging. But, as we said, all judges are fallible and the best recognized authorities often disagree on types and some minor points, so an exhibitor must not take it too much to heart if the judge does not always tie the ribbons as he thinks he can clearly see that they ought to be tied. Too often exhibitors are inclined to complain or censure a judge when he does not place the awards according to his idea, and it is not uncommon to hear the remark that "such a judge could not get a job in the East," or "you never see that kind of work done in the old country—the judges know their business there." Touching this point, it is interesting to read the article in last week's issue from the veteran stockman, Mr. George Gammas, on his recent trip to the old country, in which he gives some observations on the recent Highland and Agricultural Society's show, speaking of different instances where the decision of the judge did not agree with his opinion and was not popularly received by the ringside talent. So we see that there is not so much difference after all. There can be no hard and fast rules for judging animals, like measuring the length of a stick, the weight of a rock, or deciding a speed contest.

"Several years ago the advocates of the score-card system of judging made pretty strong claims for their method of rating the relative merits of live stock as a panacea for all the apparent discrepancies of the comparison system. The practical application of this system was not so accurate as the theory, often resulting in very strange and glaringly incorrect decisions, with the result that it was very soon banished from the show ring. It has its place in the class-room, but is a detriment to the experienced judge when he undertakes to rate a class of animals in close competition.

"The first thing for an exhibitor to do

is to learn to be a graceful loser. No one is hated worse in the show ring than the chronic kicker. Decisions are generally honestly made and not far from right. If a man does happen to get the worst of it and "has a kick coming" it is usually better for him to keep still and let the public kick for him. They generally do him much more good than it will do to do it himself."

## ANIMAL HUSBANDRY AND VET- ERINARY SCIENCE.

The fourth of the short courses to begin at the University Farm in October next is in Animal Husbandry and Veterinary Science. It begins October 21 and continues four weeks, or until November 18. Since the live stock interests of the State are so large and important, this course promises to be a popular one and well attended. The best specimens of live stock that Sacramento valley affords will be available for study by those in attendance. No matter whether a man is interested in beef cattle or dairy, or in horses, jacks or mules, or in sheep or swine, he will get as much information about his favorite animals as can be boiled down into so short a season. A large part of the work will be scoring and judging stock and comparing one with another to bring out the important points.

The veterinary work will be just what the farmer wants to know to treat the ailments common to his stock. Some very interesting cases of surgery and other clinical exercises may be confidently expected. Send a postal to University Farm, Davis, for circular telling all about it.

## HINTS ON FEEDING SWINE.

The Wyoming Experiment Station gives the following suggestions:

The most common method of feeding in the West is a combination of pasture and grain feeding. The sows and the young pigs are turned upon pasture—preferably alfalfa—and are fed about two



You make  
yourself un-  
necessary  
expense for  
repairs every  
time you use

a poor wagon grease or allow  
an axle to go dry.

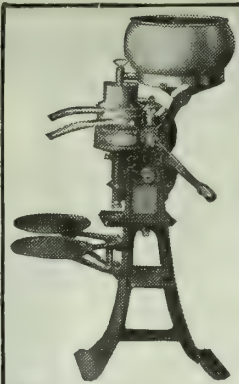
An occasional application of

## MICA Axle Grease

removes two thirds of the trouble  
and cost of keeping a wagon. Try  
"Mica" next time you go for a  
load—you'll see the difference and  
the horse will feel it.

Mica Axle Grease is almost as  
good as roller bearings. Ask the  
dealer for it.

**STANDARD OIL COMPANY**  
(Incorporated)



## ONE MILLION IN USE DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest  
**The World's Standard**

Ten years ahead of all others in  
every feature of separator practicability.

**BEAUTIFUL IN DESIGN  
PERFECT IN CONSTRUCTION  
EVERLASTING IN DAILY USE**

Send for handsome new catalogue illustrating and describing  
the new and improved machines in detail, to be had for the  
asking.

## DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## STOCK FOODS THAT GIVE RESULTS!

FOR CATTLE, HOGS, AND POULTRY

**Linseed Oil Cake Meal, 24.4 Digestible Protein  
Cocoa Cake or Meal, 16.4 Digestible Protein**

**Best Results Lowest Cost**

Ask your jobber for prices, or write

PACIFIC OIL & LEAD WORKS, SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, PORTLAND, ORE.

per cent of their weight in grain per day, a creep being provided where the pigs may eat at a trough which the sow cannot reach. Pasturing upon alfalfa without feeding grain does not produce as large gains as does the combination of pasture and grain. Shoats upon pasture only are not usually thrifty.

Grain feed alone may be practiced, but grain is so much more costly than pasture in this State that such feeding is usually not profitable except when the finishing period is reached. Shoats should be marketed at six to eight months of age, and the last four to eight weeks before marketing should be given over to grain feeding, in order that the flesh may be hardened, and not be watery and stringy, as the flesh of hogs fed upon pasture is apt to be. Some ranchmen in one locality in this State conceived the idea that alfalfa pasture produced a fishy flavor in pork; but hogs have been killed fresh from alfalfa pasture, upon the station farm, having been fed no grain for six weeks, and the flavor was good. The quality of the meat, however, was not good, and it was watery and stringy, rather than firm, as good pork should be.

All grain should be ground for hogs. Cooking is not profitable, but warm feed in cold weather is profitable, because with warm feed the hogs use less of their food for maintaining bodily heat.

Wheat is a first class feed for growing

## Stickney Gasoline Engines ARE THE BEST

The engine with an out-  
side igniter and a modern  
open tank cooling system.  
Our new free catalog and  
free cate-  
chism tells  
57 reasons  
why we  
have the  
best engine  
Stationary and  
Portable

SEND FOR FREE CATALOG 1 1/2 to 16 H. P.

We have thousands of engines in successful  
operation because of years of experience of the  
manufacturers in making engines of the best  
material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of  
California stockmen because they give  
better results than others do.

Write for Prices, Testimonials and our  
New Booklet on Anthrax and Blackleg  
**THE CUTTER LABORATORY**

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

FEEDING FARM ANIMALS.—A practical  
guide and standard reference on the  
subject of feeding farm animals. By I. Prof.  
Thomas Shaw, late professor of Animal  
Husbandry at the University of Minnesota.  
Illustrated. 5 1/2 by 8 inches. Cloth. \$2.00



## Have You Tried the Feed Put Up by this New Company in San Francisco?

THE WESTERN FEED CO.,

The original A. R. Coulson, formerly of Petaluma, manager.



A. R. COULSON

Now Manager Western Feed Co.  
Known as the Chicken Doctor and Poultry Feed Man.

**GET NEXT.** Write for samples, circulars, and prices on quantities of feed you usually purchase.

Raley & Co., San Jose.  
Farmers' Exchange, Hollister.  
Soquel Grange, Soquel.  
W. H. Crowe, Santa Cruz.  
Watsonville Produce Co., Watsonville.  
Escondido Roehdale Co., Escondido.  
W. H. Quilty, Salinas.  
Pereria & Co., Haywards.  
Hart Warehouse Co., Napa.  
Levy Bros., San Mateo.  
J. G. Subben, Alameda.  
Max Straus & Co., Turlock.  
Schmidt Mercantile Co., St. Helena.  
Marcum Bros., Tres Pinos.  
And many others.

Manufactured by

**WESTERN FEED CO., Inc.**

The Original A. R. COULSON, Mgr.

365-371 McAllister Street - - - SAN FRANCISCO

## California's Largest Modern Poultry Farm

Nearly 5000 Laying Hens



Where they feed every morning to their thousands of laying hens, THE EGG MAKER, the most economical and profitable feed in use.

THE EGG MAKER is the feed manufactured by the WESTERN FEED CO., the original A. R. COULSON, manager, formerly of Petaluma.



C. F. GRANT, Mgr.

E. H. WINSHIP

C. F. GRANT

**Mammoth Poultry Farm**

C. F. GRANT & CO.

NAPA, CAL.

WESTERN FEED CO., San Francisco, Calif.

Gentlemen:—We wish to state that we have been using your Egg Maker, and have found it more than satisfactory.

It has increased our egg yield far above our expectations, and we will certainly continue to use it.

We feel that we cannot recommend it too highly.

Yours truly, C. F. GRANT & CO.

shoots, and whenever it may be secured at the price of corn it should be used in preference to corn.

Corn and shorts cannot be excelled as a grain feed for hogs. Shorts, however, is difficult to secure in this State. Bran may be used with corn, and if it is bran with the shorts included, it will prove to be a very good feed. Barley also is a good hog feed.

Skim milk should be fed hogs if it can be obtained. It may be mixed with the grain to make a thick swill, or if it is desired to feed the grain dry, the milk may be fed separately. In either case clean, pure water should be provided for drinking.

Feeding slop from hotels is practiced in some parts of the State. With careful management it sometimes proves profitable, but one must be always on guard against contagious diseases, such as cholera and contagious sore mouth, the germs of which are frequently found in such slop.

### SALUTED A DROVE OF PIGS.

In the American Magazine a writer talks about courage. In the course of his story he tells about a certain respectful father he once knew. Here is what he says:

"Isn't it time we took off our hats and thanked this pleasant land for the good things it has done for us by going on patiently covering up our blunders, rectifying our mistakes and responding cheerfully to our every intelligent effort?"

"I knew a man who had the right idea about it. His father had made a great fortune in the pork-packing business. The heir was not puffed by his millions. Long after he had grown accustomed to the money and might reasonably be expected to look down on butchers, if in walking

in the country with his children they saw a drove of hogs on the road, he would make the little boys stand at attention and take off their hats. 'I want them to respect the sources of wealth,' he said."

## The Poultry Yard.

IN FAIR SEPTEMBER.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

September is the summertime of the coast. The wind which has been blowing briskly out of the west for months veers about and comes in gentler measure. The fogs hug the distant shores and the mornings are wonderful in clear sunshine; the afternoons wax warm and the heat haze wavers over the mountains until the unveiled sun drops beyond the Pacific. Fair September! but it has its duties as well as its charms.

It is a season that calls for the poultryman's attention. How are the poultry quarters? Are the houses and coops hot and stifling when the fowls go to roost, with a steam of filth rising from the floors and a swarm of mites lurking in every crack and corner of walls, perches and nests? Are the yards unsheltered, filthy and sun-baked; the dregs of the drinking water festering in the hot sun; the fowls and chicks panting and hugging every little strip of shade? This is not an overdrawn description. It will fit many, alas, too many poultry quarters in these September days. A little later their owners will look in vain for the nickel eggs and denounce their hens and their luck because they are not.

MAKE THE FOWLS COMFORTABLE.—This rule should be chalked on the door of every poultry house. It insures health

and production to the poultry, profit and satisfaction to the poultry raiser. It is a real pleasure to watch a comfortable flock of fowls. The joy of simply living is so evident that one catches a bit of it from the mere beholding. If this is not the condition of your flock there is work waiting you in the poultry yard. Sweep and scrape out the houses and runs and burn all trash. Get a pail of thinned petroleum, fuel oil, and a wide paint brush; pull off any strips tacked about the walls—behind such are favorite lurking spots for vermin—and apply the petroleum with a full brush. It does the work to a finish, burying all deep and fast. After a thorough painting of walls and perches, throw a bucket or two of water on the floor where plenty of the oil will have dropped, and sweep it out; then thickly scatter lime dust over the floor, which will stick fast and make a good whitewash.

Before roosting time take wide strips of burlap sacking and tack on the walls behind and along the sides of the perches so that the fowls will not get their feathers smeared; also wipe the upper part of the perches after they are placed for the same reason. Every few days wipe the perches with ordinary coal oil and when the petroleum on the walls has dried take down the sacking and paint the walls as before. It is somewhat monotonous, but the only way to keep free of mites is by constant attention. The petroleum will not do for the nest boxes, for it does not dry for a long time and musses the hens, especially those of light color, badly. These boxes can be treated with ordinary coal oil and put through the blaze, then whitewashed.

THE OPEN FRONT.—This is a good month to start your fowls with open-front houses if you have not been so housing them. Our friend in La Mesa who has

been having serious trouble with his chickens owing to colds has decided after reading what has been said in these columns on the subject, that it was caused by closed houses. A large window can be cut in the north or east side of the house and a strip of inch-mesh wire tacked over the opening with little expense and trouble.

THE YARD.—Now wet down a portion of the yards and spade; then pulverize the soil and mix with air-slacked lime. After it has once been wet and spaded it may be kept damp and mellow by a little work with a hoe each day and an occasional wetting. This is the kind of dust bath the fowls need and enjoy. They do not like dry dust which flies in the air. Furnish them with damp, mellow soil and they will keep down the body lice. If there is not sufficient shade temporary awnings of sacking or canvas can be made over the dusting and loafing places. Have large vessels for the drinking water so that the fowls may not be continually getting down to the dregs; keep them shaded from the hot sun and rinse and fill them with fresh water at least twice a day in hot weather, and never allow them to become slimy and foul.

The pullets for fall and winter laying should all be comfortably settled in their permanent winter quarters this month. To change them when laying or just ready to lay often proves a set-back to egg-production for weeks. Moving them to a new location is still more serious. The writer once moved a flock of pullets just starting to lay, with the yield increasing daily, to a ranch several miles distant in the latter part of October. They were handled gently and moved at night, still the shock was sufficient to cut off the egg supply till the following January, though they had laid 40 eggs the day before they were moved. This shows



what a nervous creature the laying hen is and how important that she be kept free from annoyance and contented. In the spring when the laying instinct is strong there is less danger in changing and moving hens, but in the fall it requires little more than the drop of a hat to check egg production.

### Questions and Answers.

**POTATOES AS POULTRY FOOD.**—Mrs. N. R. of Antioch writes: "Potatoes are cheaper than wheat this fall. Are they good food for chickens?"

Yes and no. Boiled and thrown to the fowls they are exceedingly bad food, and doubly so for chicks. Cooked with the mash and made dry with shorts or bran they are very good food and much relished by poultry. To be sure they are way down in nutriment as compared with grains, and, in any case, can furnish but a small portion of the fowls ration. But it is not altogether a question of nutriment; for instance, beans are an example of the most highly concentrated or muscle-forming food among vegetable or grains, yet no fowl or animal likes them, and I doubt if they are really wholesome when there is a natural distaste for them.

A certain coarseness of fibre in food is necessary for fowls and animals. As an old army hostler used to say: "The beasts must have roughness." Fine flour bread is not good for fowls or animals by itself; but, like potatoes, when softened and made dry with shorts or bran it is excellent, being greatly relished and furnishing the ever desirable change. Raw vegetables for the fowls to peck at are the more wholesome, but they must be fastened up out of the dirt, and in any case there is much waste. Large sugar beets may, however, be profitably fed by splitting and pinning to the walls with two large nails. But potatoes, parings and such small vegetables should be thoroughly cooked in salted water and made dry with bran or shorts.

**MINORCA VS. LEGHORN.**—H. B. of Richmond asks: "How do Minorcas and Leghorns compare as egg-producers? It is my understanding that the Minorca lays as many eggs as the Leghorn, if not more, and beats anything in feathers except an ostrich for size of egg. Have been keeping Rocks, but want to change to the most profitable egg-producing breed."

Some strains of the Minorca may equal the Leghorns in the number of eggs laid, but it is conceded that as a whole the Leghorn lays the larger number and the Minorca the larger egg. The Minorca egg is pure white and averages eight to the pound. The writer, after several years' experience with this breed, thinks that they lay too large an egg. As the hens grow older there is a tendency to mal-

formation of the egg and trouble with the egg organs. The Black Minorca, bred to the standard, is a most beautiful bird. Though a large fowl, the cock weighing 9 pounds and the hen 7½, they are graceful birds, with long, sloping bodies and full breasts, and they stand up grandly on their legs. Their coal black feathers with a greenish sheen, large red combs and wattles and ivory white earlobes produce a brilliant color effect. The cock, when in prime condition just after the moult, parkles like a jewel.

Compared with the Leghorn, the Minorca being a much larger fowl, is a month or two slower in maturing and laying, and it requires an average of a third more for feed. Though a fine table fowl, with delicate white meat, it has, from a commercial viewpoint, the objectionable white skin and slate-colored legs.

As a commercial egg producer and fowl the White Leghorn holds the first place among fowls, but for the home and the suburban residence the Black Minorca is a handsome and satisfactory bird.

## Apiculture.

### HOW TO RE-QUEEN.

#### III.—Introducing Queens.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

In the PRESS issued August 22 we discussed "The Ripening of Queen Cells and Stocking Nuclei." It is our purpose today to continue our subject of re-queening, carrying it on to the successful introduction of the queens reared into their several colonies.

**PROTECTING QUEEN CELLS.**—When we left off we had our cells nearing the line of emergence distributed to nuclei for the purpose of emergence and mating. We had them distributed, but not necessarily successfully inserted. The bees sometimes take an aversion to cells so inserted, and on examination the next morning we may find them characteristically destroyed. This involves the insertion of another cell, and in the case of repeated destruction some means of protecting the cells after insertion may be resorted to, as the use of a "West's spiral queen-cell protector." This device protects the cell basally, yet permits of the free emergence of the queen at the tip.

**MATING.**—The time of the mating of a queen varies with the time of the year, the character of the weather and the variety represented. Usually in a week to ten days the virgin queen makes a successful flight, and immediately after mating begins depositing eggs. Occasionally a queen is lost in mating, which involves the insertion of another cell or the introduction of a queen. If at any time it is doubtful whether a queen is present or not, it sometimes being difficult to find a virgin queen, having no clue to her whereabouts, a frame of unsealed brood containing larvae less than three days old may be inserted. In a day or two, upon the examination of a colony or nucleus so treated, the presence or non-presence of queen cells will indicate respectively either the loss or the presence of the queen.

**INTRODUCING A QUEEN.**—When a queen is regularly depositing eggs in a nucleus she may be removed and either is ready for mailing, in case a queen trade is conducted, or she is ready for introduction into a full colony. The mailing of queens

more properly comes under a separate heading. The introducing of queens is our subject this week.

A colony is in a right condition for the reception of a queen when it has been queenless for two or three days. If a longer time elapses, the bees will have started cells, and are then more inclined to a queen of their own raising. If cells are present in a colony into which it is desired to introduce a queen, they should be removed when the queen is caged. In the case of a colony which has been without a queen for some time, frames of emerging bees are profitably inserted several days prior to an attempt to introduce a queen, as the young bees are more likely to accept the new queen.

There are several styles of introducing cages in use. In brief, we believe these to be the embodiments of a successful introducing cage. The queen and her attendants should be on comb in a natural condition with access to honey, some of it unsealed. The cage should be of wire cloth to admit of the free access of air and yet large enough for the inmates of the cage to protect themselves by getting without the reach of the bees of the colony. The cage could be of a size to fit conveniently in a line between two combs. The two cages coming nearest this description are the McIntyre cage, large and flat, and the Benton cage, a

**QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS.** Home-bred, \$1.00 each; five at 80 cents each; Imported, \$4.00 each. **FRANK BENTON**, Box 17, Washington, D. C.



## Put on a Complete Roof

The bare fact that you put a roof on a building means that you want the contents of that building protected. But if you put on a poor roofing you get only half protection. It costs very little more to put on the best roofing and get full protection.

# REX FLINTKOTE ROOFING

is the only roofing that gives full, lasting protection. REX protects not only against rains and snows, but against heat, cold and damp, and against the danger of fire communication by falling sparks and firebrands. REX Flintkote ROOFING is absolutely water-proof, fire-resisting, a non-conductor of heat and cold, and an impervious barrier to dampness. REX is made to last; imitations merely coated to look like REX do not give REX service. To get a roof that will give the all-round protection required by farm buildings, look for the boy trade-mark and get the genuine REX Flintkote ROOFING.

## We Will Send You Samples to Test

together with our valuable roofing booklet, on receipt of postal request. Our complete book, "Making Poultry Pay," will be sent for 4 cents in stamps for postage and packing—very useful to the poultry raiser.

**J. A. & W. BIRD & CO.**  
91 India Street, Boston, Mass.

Pacific Coast Agents: W. P. FULLER & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.



little smaller in surface, but deeper. The McIntyre cage has a tube attachment filled with bee candy (a stiff dough of powdered sugar and honey), which permits the bees to release the queen quietly in the hive after the two days or so have elapsed. The Benton cage involves the releasing of the queen, which is done toward night of the second or third day, accompanied preferably by feeding, if a good honey flow is not on. We are partial to the latter as being more convenient and on the whole safer.

## Berry Plants.

Hopkins Improved Strawberry Plants in all standard varieties. We still have one year old plants of the Brandywines, A-1 and Lady Thompson; also one year old plants of the Himalaya Blackberry and California Surprise Raspberry. Catalog soon ready.

**G. H. Hopkins & Son,**  
Burbank, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**Bronze Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

**BIHN BROS.**

Petaluma, Cal.

# DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. **THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago.** THIS IS OUR FIFTY-FIFTH YEAR.



## The Home Circle.

### Nobody Knows but Mother.

Nobody knows of the work it makes  
To keep the home together;  
Nobody knows of the steps it takes—  
Nobody knows but mother.

Nobody listens to childish woes  
Which kisses only smother;  
Nobody pained by naughty blows—  
Nobody—only mother.

Nobody knows the sleepless care  
Bestowed on baby brother;  
Nobody knows of the tender prayer—  
Nobody—only mother.

Nobody knows of the lessons taught  
Of loving one another;  
Nobody knows of the patience sought—  
Nobody—only mother.

Nobody knows of the anxious fears  
Lest darlings may not weather  
The storm of life in after years—  
Nobody knows—but mother.

Nobody kneels at the throne above  
To thank the heavenly Father  
For the sweetest gift—a mother's love;  
Nobody can—but mother.

### The Village Gossip.

There was no one in the village of Rawsonville who did not know Sarah Ann Jones, sister of Hiram Jones, widower. As for Hiram, he ran the sawmill, and was a quiet, reserved man.

Sister Sarah originated all the village gossip and a great deal more. Few men or women in the village had escaped her tongue, and she may be said to have been friendly with none. People had wrestled with Hiram about his sister's failings, and he had wrestled with her, but no good had come of it.

It was a mild sort of wrestling on his part, as he was afraid of her, and the moment he had spoken she had pretended to faint away and so given him a fright.

On a certain date several things happened. Sarah Ann reached the age of 37. The news spread over the village that a new preacher was coming to take the place of an old one who was to be retired, and the new incumbent was a young man and single.

On this same day one of the church deacons had a talk with Hiram Jones and at the supper table that evening, after having been quiet for a quarter of an hour, Hiram handed his cup across for a second helping of tea and quietly observed:

"Sarah, I hope you won't make a fool of yourself over this young preacher!"

"What on earth do you mean!" she exclaimed, as she looked at him in the greatest astonishment.

"Don't run after him."

Sarah filled the cup and handed it back, and after Hiram had stirred in the sugar and milk, she leaned her elbow on the table and said:

"I want to know just what you mean, sir. I run after a preacher or any other man—I, Sarah Ann Jones? Hundreds and thousands of men have run after me, as you well know, but when have you ever known me to run after a man? Speak, sir! Your words are an insult to me."

"Well, don't run after him," briefly but grimly replied the brother.

His attitude was something new, and Sarah didn't know exactly what to think. After a moment she began to cry. No effect on Hiram. In the midst of her tears he buttered another slice of bread.

Then she dashed aside her tears and said that she would see the new preacher hanged before she would even be introduced to him. Hiram finished his bread and shoved back from the table.

Then Sarah resorted to the old dodge that had never failed her. She uttered a squawk and a gasp and fell out of her chair to the floor. She struck on her shoulder, as she had planned to do, and then turned over, rolled up her eyes and was a goner.

Hiram got up and walked outdoors. He had hens and a hog to feed, and a gate to mend, and he was a full hour about it.

Sarah lay where she fell for 15 minutes. She was astonished beyond measure at the actions of her brother. It was his business to suppose her struggling in the agonies of death, but she heard the blows of the hammer at the gate. She arose and looked out of the window. The dodge had failed.

She began clearing off the table, sighing one moment and gritting her teeth the next. She had finished with the dishes and was sitting down when Hiram entered. For ten minutes neither spoke. Then she said:

"Hiram Jones, somebody's been talking about me."

"Um!"

"Somebody's been saying that I ran after men."

"Um!"

"Somebody's been saying that I will run after and try to marry the new preacher that's coming."

"You probably will."

"Yes, I probably will! Yes, I know I will! Hiram Jones, I'll spite these people if I die for it!"

Hiram didn't "Um!" this time. He pulled off his boots and went to bed.

He wasn't going to say any more about it. He had said more than ever in his life before.

Sarah gave a squeal and started to faint as he disappeared upstairs, but as he paid no attention, she cut it off short.

A week later the new preacher arrived. He naturally made inquiries regarding his flock, and he was soon posted. There was a big turnout at his first service, and Sarah Ann Jones was there in a front pew. She was among those who remained to shake hands and introduce herself, and she flattered herself that she had made an impression.

She reached home in great good nature, and while eating the 1 o'clock dinner she so far forgot herself as to giggle. When she looked up it was to meet her brother's gaze and hear him quietly remark:

"Don't do it."

"What is it now?" she asked.

"Don't run after him."

"I shan't have to. Your words are an insult, same as before, but let me tell you something. When Mr. Newman shook hands with me today he—he squeezed my hand. If there is any running done he'll do it."

Hiram shook his head and set his jaw, but made no reply.

A week later the reverend called on a pastoral visit. Hiram was at work and didn't see him, but when he came in he found Sarah Ann very animated and caught the echo of a giggle. He looked at her, but asked no questions.

She waited for half an hour to see if he would not make inquiries, and then could wait no longer.

"Hiram," she softly asked, "who is doing the running?"

"Um!"

"When we get married you can live with us and pay so much a week board."

"Um!"

The new preacher had been posted about Sarah, but what could he do? What can any man do when a real old maid camps on his trail? Had he been a 'longshoreman he might have driven her away with a hand-spike, but he was a preacher of the Gospel and couldn't even throw out a hint to hurt her feelings.

Sarah Ann was after him. At least once a day, and sometimes twice, she had excuses for calling at the house where he boarded. Sometimes it was to ask him if he really and truly believed that the whale swallowed Jonah, and at others it was to show him some poetry she had written on Moses in the bull-rushes, or to ask him if he thought she would be forgiven if she bought material for a poplin dress at 50 cents a yard.

For a month he did his best to work free of her clutches without humiliating her, but when the church deacons had had another talk with him he gained courage to tell Sarah Ann that she was taking up too much of his time, and that she was subjecting them both to gossip.

Sarah Ann promptly fainted away. It was one of her old-style faints, but the minister had not the knowledge of Hiram and was scared half to death. He didn't beseech her to live for his sake, however. She was perfectly conscious and would have heard his words.

In due time she was revived and managed to crawl home, and she had to admit that she had failed. She sat down and wrote a poem about robins and rabbits and roses and breaking hearts and sent it to the minister by a small boy, who was promised a large piece of pumpkin pie as a reward, but no message came back in answer. Sarah waited a day and then wrote another poem.

This one was all about a maiden who drowned herself when she found that her lover scorned her love, and it was left on the kitchen table as a guide to brother Hiram.

When he came in to dinner at noon there was no dinner. There was no Sarah Ann. There was nothing but the broken-hearted poem. He read it and then went out to make inquiries. He learned that Sarah had been seen walking in the direction of the river. He followed after, while others took other directions.

Even the Rev. Newman turned out, and it is due him to say that he was somewhat conscience-stricken.

Sarah was down there on the banks of the romantic river, hiding among the willows. Some were weeping willows, and some on the hilarious order, but they offered her shelter.

Hiram's sharp eyes soon found her out, however. She started in on one of her old faints as he drew near and she saw that his jaw was set, but he had a duty to perform and he performed it.

He picked her up and flung her into the river. Then he hauled her ashore and repeated the performance. She gasped and gurgled and shrieked, but in she went again. When she had been flung in and hauled out a dozen times she really lost consciousness. It was perhaps better that she did.

Hiram finally desisted from the water cure to shoulder his unconscious and dripping burden and bear



**IF YOU'VE NEVER WORN**  
**TOWERS**  
**SLICKER**  
you've yet to learn the bodily comfort it gives in the wettest weather

**MADE FOR—**  
**HARD SERVICE**  
**—AND**  
**GUARANTEED WATERPROOF**

**\$3.00**  
AT ALL GOOD STORES  
CATALOG FREE

A. J. TOWERS CO. BOSTON, U.S.A.  
TOWERS CANADIAN CO. LIMITED, TORONTO, CAN.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings. The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water. The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

**JOHN R. ROBINSON,**

**President John Crouch Land Company**

**"THE OLD RELIABLE"**



**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

**HENRY B. LISTER,**  
**ATTORNEY AT LAW.**

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.



it through the streets to his home and deposit it on the kitchen floor with an "Um!"

After half an hour it revived and crept upstairs to bed. After two days it crept downstairs to get the regular meals as before, and the only greeting Hiram had was:

"If you hain't had nough of it we'll go down to the river again."

"Have some more 'tater, Hiram?" was the humble and contrite query in reply; and then the brother went out and chalked down on the barn door the sure cure for gossiping old maids: "Duck 'em."

#### Her Debut as a Cook.

She was a young wife, just married from boarding school—one of the lovey-dovey order—and though highly educated, didn't know beans from any other vegetable. Hence this dialogue with the cook:

"Now, Biddy, what are we to have for dinner?"

"There's two chickens to dress, mum."

"I'll dress them the first thing. Where are their clothes?"

"Gracious, mum, they're in their feathers yet!"

"Oh, then, serve them that way. The ancient Romans always cooked peacocks with their feathers on. It will be a surprise for hubby."

"It will that, mum. Sure, if you want to help, you could be paring the turnips."

"Oh, how sweet! I'll pair them two and two in no time. Why, I had no idea that cooking was so picturesque."

"I think, mum, that washing the celery do be more in your line."

"All right, Biddy, I'll take it up to the bathroom, and I've some lovey Paris soap that will take off every speck."

"Thank you, mum; would you mind telling me the name of the asylum where you were eddicated? I think I'll have to take some lessons there myself if we do be going to work together."

#### Dog's Company.

In the north of England, where rabbit coursing is a great sport, swift, well-trained dogs often win large prizes; consequently, the owners of these animals bestow much attention to them. An old Yorkshire collier, well known for his success in the coursing field, recently surprised all his friends by marrying a very unprepossessing woman.

"Why hast thou got spliced, lad, at thy age?" one of his friends asked him.

"Oh, that's not much of a tale," answered the old man. "I agree wi' ye 'at Betsy yonder is no beauty; if she had been, I shouldn't have wed her. But that there dog o' mine, he was simply pining for some one to look after him while I was at the pit. I couldn't bear to leave him in the house by hissen, so I hit on the idea of marrying Betsy. She's not 'andsome, but she's mighty good company for t' dog."

#### Pepper Plaster.

To relieve acute pain, wherever external applications can be used, apply a pepper plaster; one part red pepper, two parts flour; mix with warm water; spread on a thin cloth and cover with dry flannel or thick cloth. This does not blister as quickly as a mustard plaster and is efficient in relieving neuralgia or rheumatic pains.

If animals had working-brains they might act as silly as humanity does.

The road to yesterday is marked by mile-stones commonly known as regrets.

#### Epigrams.

One excuse is as good as another when a man wants to please himself.

Some do not realize that they owe their own reputation for sweetness largely to the caustic temper of someone else.

Commonplace people are much less fatiguing than those who call themselves unique.

Poverty is a very good magnifying glass. It increases your opinion of trifles that would have given you no pleasure in a higher sphere of life.

Sarcasm is the hall-mark of a weak mind.

A man can hide his past, but a woman never.

What a man does not understand he mistrusts.

Experiences and relations come to all of us; we can escape neither. Cynicism is to make the worst of both—a diseased form of philosophy—like Platonic friendship.

Misplaced affection is like a dandelion on a garden path; it gets trod upon and nobody pities it.

There is no reason why a man and woman should not remain perfectly good friends—as long as they don't try to mingle ancient philosophy with modern relationships.

Sleep is beautiful, but most of us object to be caught napping.

There is no woman more insufferable than one who is bursting with conceit, and yet has nothing to be proud of.

We are all paragons of virtue until we are found out.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

#### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,

2230 Pacific Avenue,  
San Francisco, California.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

#### San Francisco Business College

733 Fillmore St., San Francisco, Cal.

**HEALD'S BUSINESS COLLEGE**

AND

#### ENGINEERING SCHOOL

ESTABLISHED IN 1863

Now in its new building at 425 McAllister St., near Van Ness Ave., where it has the finest equipment on the coast for Business Training and Engineering Work. Branch schools at Oakland, Stockton, Los Angeles, Fresno, San Jose, Santa Cruz, Ocean Park, Long Beach, Riverside and Reno. Write for my new catalog; free to all. Address

E. P. HEALD, President,  
San Francisco, Cal.

## FARM TOOLS



No tools are so well adapted to their various uses as Keen Kutter Tools. Every stroke made with a Keen Kutter counts—that is why there are so many in the hands of farmers. No time lost from breaking—little from sharpening.

## KEEN KUTTER

### Quality Tools

accomplish the most—in the quickest way—at the least cost. Keen Kutter Tools are all guaranteed and all identified by the Keen Kutter Trademark.

The name Keen Kutter also includes carpenters' tools of all kinds, such as: Saws, Chisels, Bits, Drills, Gimlets, Awls, Planes, Hammers, Hatchets, Axes, Drawing-knives, Screw-drivers, Files and Pliers. Also a full line of Scissors and Shears, Pocket-knives, Razors, Table Cutlery, etc.

Sold for nearly 40 years under this motto:

*"The Recollection of Quality Remains  
Long After the Price is Forgotten."*

Trademark Registered.

E. C. SIMMONS.

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (Inc.),  
St. Louis and New York, U. S. A.



#### Mother Works Without Pay.

"Mother gets up first," said the new office boy. "She lights the fire and gets my breakfast so I can get here early. Then she gets father up, gets his breakfast and sends him off. Then she gives the others their breakfast and gets 'em ready for school; and then she an' the baby have their breakfast."

"What is your pay here?" asked the man.

"I get three dollars a week and father gets three dollars a day."

"How much does your mother get?"

"Mother!" he said indignantly. "Why she don't have to work for anybody."

"Oh! I thought you just told me she worked for the whole family every morning."

"Oh! that's for us—but there ain't no money in that."

#### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

#### NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Positions Secured.

Day and Night Classes.—You can enter at any time.

Our Scholars are from 15 to 50 years old.—No previous knowledge required.

#### WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco, Cal.

#### TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

#### SOME RATES:

Sioux City	-	-	-	\$31.95	New Orleans	-	-	-	\$35.50
Council Bluffs	-	-	-	30.00	Peoria	-	-	-	36.75
Omaha	-	-	-	30.00	Pittsburg	-	-	-	47.00
St. Joseph	-	-	-	30.00	Memphis	-	-	-	36.70
Kansas City	-	-	-	30.00	Bloomington	-	-	-	36.75
Leavenworth	-	-	-	30.00	St. Paul	-	-	-	36.75
Denver	-	-	-	30.00	Minneapolis	-	-	-	36.75
Houston	-	-	-	30.00	Chicago	-	-	-	38.00
St. Louis	-	-	-	35.50	New York	-	-	-	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

## Southern Pacific



## THE MARKETS.

San Francisco, Cal., Sept. 8.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

The local wheat market has been very quiet since last report, and no business is being done on the Exchange during the holidays. Buyers have been showing considerable interest in the market for the last week or two, and all offerings at quoted prices are quickly taken, but the majority of holders are very firm in their ideas, refusing to sell, except at an advance. There is very little business in futures. Other markets are fairly active, with a large shipping business at Portland, where the grain has been arriving in large quantities.

California White Australian..	\$1.75 @ 1.80
California Club.....	1.67 1/2 @ 1.70
California Milling .....	1.70 @ 1.72 1/2
California lower grades.....	1.45 @ 1.60
Northern Club .....	1.67 1/2 @ 1.70
Northern Bluestem.....	1.75 @ 1.80
Northern Red .....	1.65 —
Turkey Red .....	1.75 @ 1.80

## BARLEY.

Barley remains quiet in this market, with prices as formerly quoted. There is a fair demand for shipping grades in the interior, but local buyers show little interest in brewing or feed lots. Receipts have been moderate, aside from cargo for foreign shipment.

Brewing .....	\$1.37 1/2 @ 1.40
Shipping .....	1.35 @ 1.37 1/2
Chevalier .....	1.55 @ 1.60
Good to Choice Feed, per ctl..	1.32 1/2 @ 1.35
Common feed.....	1.25 @ 1.30

## OATS.

The movement of oats is less active than a week ago, as stocks are small and very closely held. Prices in the North have been advanced, and very little is arriving from that direction. The demand continues very strong, and extends to all varieties, though first-class stock for seedling purposes is still the leading feature. Prices here are higher, especially on the whites and grays, red and black oats showing little change.

Choice white, per ctl.....	\$ 1.60 @ 1.70
No. 1, white.....	1.60 @ 1.65
Gray .....	1.55 @ 1.62 1/2
Red, seed.....	1.90 @ 2.10
Red, feed .....	1.40 @ 1.90
Black.....	2.00 @ 2.60

## CORN.

This market is very dull, as it has been for some time. One carload has arrived since last report, and that is practically all there is on hand, while there is little or no demand at the present range of prices. The quotations given represent the prices asked, but are practically nominal.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow .....	\$1.85
White .....	Nominal
Western State Yellow .....	1.85
White, in bulk.....	1.79
Mixed, in bulk.....	1.77

## RYE.

There is a little inquiry for this grain, but very few sales are made, and the market shows no particular feature. Holders are asking the same prices as before.

California .....	\$1.40 @ 1.45
------------------	---------------

## BEANS.

Aside from the white beans which were put on the market last week, no new crop has been offered, and little is expected for several weeks. The spot market in the meantime is very quiet, with no inquiry for shipment, and prices have taken a general drop, though the tone of the market is stronger than a few days ago. Futures are also inclined to weakness in most lines, though buyers are taking an active interest in the coming crop. The new large whites now on the market are inclined to drag at low prices.

Bayos, per ctl.....	\$2.90 @ 3.00
Blackeyes .....	3.00 @ 3.40
Cranberry Beans .....	2.50 @ 2.75
Garvanzos.....	2.15
Horse Beans .....	1.50 @ 2.00
Small White .....	4.50 @ 4.65
Large White .....	4.00 @ 4.40
Limas.....	4.70 @ 4.85
Pea .....	4.50 @ 4.60
Pink .....	2.90 @ 3.00
Red .....	3.25 @ 3.50
Red Kidneys.....	2.75 @ 3.00

## SEEDS.

The seed market is beginning to show somewhat more life than for some time past, but there is no great activity at present, and quotations on some lines are practically nominal. The prices quoted are asked by dealers in San Francisco.

Alfalfa per lb.....	17 1/2 @ 20 c
Broomcorn Seed, per ton .....	\$20.00 @ 25.00
Brown Mustard, per lb.....	3 1/2 @ 3 3/4 c
Canary.....	4 1/2 —
Flaxseed .....	3 —
Hemp.....	4 1/2 @ 4 3/4 c
Millet.....	2 1/2 @ 3 1/4 c
Timothy .....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

Outside mills have advanced their prices, but quotations in this market are unchanged. This market is quiet, with little business except the local routine trade. A lot has arrived from China, but no particulars are given out in regard to it.

California Family Extra, per bbl. ....	\$5.40 @ 6.00
Bakers' extras .....	5.40 @ 5.65
Superfine .....	4.20 @ 4.50
Oregon and Washington, Family .....	4.90 @ 5.40

## HAY.

Arrivals of hay during the last week show a sharp decline. The fields are practically cleaned and what comes in from now on must be taken form under cover. There is considerable hay along the river banks awaiting transportation, but this consists mainly of alfalfa. On account of these conditions, the market is doing better, prices all along the line have advanced and the feeling at this writing is decidedly firm. There is quite an inquiry from interior points for round lots, and as considerable hay will necessarily be diverted from this market for consumption at other points, it will help this market to just that extent. The export demand continues to be light, although there has been a little movement recently for export and for Coast demand. Alfalfa has been moving into the market rapidly, and arrivals are being taken care of at about quotations. Straw has been coming into San Francisco a little more rapidly than the demand requires, and shows somewhat of weakness. If any large consignments are directed here, the present market can hardly be maintained.

Choice Wheat, per ton .....	\$18.00 @ 19.00
Other Grades Wheat .....	16.00 @ 17.00
Wheat and Oat .....	14.00 @ 15.00
Tame Oat.....	13.50 @ 16.50
Wild Oat.....	13.00 @ 15.00
Alfalfa .....	11.50 @ 15.00
Stock .....	11.00 @ 11.50
Straw, per bale.....	60 @ 75 c

## MILLSTUFFS.

The market remains quiet, and shows very little feature, as buyers continue to show little interest in bran, shorts and middlings at the present range of prices. The quotations on these lines, however, are well sustained. Another lot from Japan is offering at \$29 per ton. Rolled barley is a little lower, corresponding with the weakness of the raw grain, and corn feeds are also lower, in spite of the high prices on corn.

Alfalfa Meal (carload lots) per ton.....	\$22.00 —
Jobbing .....	23.00 —
Bran, ton—	
White.....	29.50 @ 30.50
Red.....	28.00 @ 29.50
Broom Corn Feed, per ctl.....	90 c @ 1.00
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00 —
Jobbing .....	26.00 —
Corn Meal.....	37.00 @ 38.00
Cracked Corn.....	38.00 @ 39.00
Mealalfa.....	22.00 —
Jobbing.....	23.00 —
Middlings.....	32.50 @ 35.00
Mixed Feeds.....	23.00 @ 28.00
Oil Cake Meal, per ton.....	36.75 @ 38.25
Rolled Barley.....	29.00 @ 30.00
Shorts.....	30.00 @ 31.50

## VEGETABLES.

Onions have continued to accumulate, and there is now a large overstock on hand, with no demand for shipment. While the local interest has been fairly good, the movement is too small to maintain prices, which are slightly lower than last week. Miscellaneous vegetables have been arriving liberally, and as the market does not show much life, prices incline to weakness. Beans and peas are lower, and poor lots of green corn are also offered at low figures. Otherwise the quotations show little change. Okra and summer squash are fairly strong. Ordinary

lots of tomatoes are hard to move, and there is considerable surplus, though choice stock meets with a fair demand at former prices.

Garlic, per lb.....	6 @ 7 c
Green Peas, lb.....	4 @ 5 c
String beans, lb.....	2 1/2 @ 4 c
Cabbage, per ctl.....	65 @ 75 c
Onions—	
New Yellow ctl.....	50 @ 55 c
Summer Squash, large box...	40 @ 60 c
Tomatoes, box.....	25 @ 75 c
Turnips, sack .....	75 —
Green Peppers, box.....	25 @ 50 c
Cucumbers, box .....	35 @ 50 c
Green corn, sack .....	\$1.25 @ 2.25
Egg Plant, box.....	50 @ 65 c
Cauliflower, doz.....	65 @ 75 c
Okra, box .....	50 @ 60 c

## POULTRY.

Receipts of poultry have been quite liberal, both of Eastern and native stock. The market, however, has been quite active all week, with better prices on most lines. Arrivals have consisted largely of hens, all but the finest lots of which are lower. Roosters, however, show considerable advance, everything of extra grade being well taken off at stiff prices. Broilers and fryers are also higher, all young stock being in strong demand. There has also been some advance in pigeons, squabs and ducks. There is a good inquiry for large turkeys, dressed stock bringing better figures.

Broilers .....	\$4.00 @ 4.50
Small Broilers.....	3.00 @ 4.00
Fryers.....	5.00 @ 6.00
Hens, extra .....	6.50 @ 8.00
Hens, per doz.....	5.00 @ 5.50
Small Hens .....	4.50 —
Old Roosters.....	3.50 @ 4.50
Young Roosters .....	6.50 @ 8.00
Young Roosters, full grown	8.50 @ 10.00
Pigeons.....	1.25 —
Squabs.....	2.00 @ 2.50
Ducks.....	4.00 @ 6.00
Geese .....	1.75 @ 2.00
Goslings, per pair .....	1.75 @ 2.00
Spring Turkey, lb.....	22 @ 24 c
Gobblers, live.....	20 @ 22 c
Hen Turkeys, live .....	20 @ 22 c

## BUTTER.

Fresh extra butter has been quiet most of the week, with the price about as last quoted, and ample supplies to take care of the current demand, but for the last day or two there has been more firmness. Stocks have been small, and an increased demand caused a jump of 1 cent in extras, leaving the market bare. Before the advance in extras there was little doing in low-grade or Eastern stock, but these grades now find a better demand. Prices on the lower grades have been steady and unchanged for several weeks.

Cal. (extras) per lb.....	26 c
Firsts.....	23 c
Seconds .....	22 c
Thirds .....	20 c
Eastern extras .....	24 c
Fresh Packing Stock, No. 1 .....	20 1/2 c
Fresh Packing Stock, No. 2 .....	19 c

## EGGS.

The price of eggs is again rising, as supplies of first-class stock are small, and reports from producing sections indicate a smaller production, though the arrivals are fairly large for this season. Extras are 2 cents higher than last week, with small supplies and a strong demand. There is also a continued demand for storage and Eastern stock, prices on which are firmly held.

California (extra) per doz.....	36 1/2 c
Firsts.....	32 1/2 c
Seconds.....	26 1/2 c
Thirds .....	22 c
Eastern Selected .....	25 c
Eastern firsts.....	23 c
Eastern seconds.....	21 c
Storage, Cal., extras .....	29 c

## CHEESE.

Fresh California flats stand in the same position as two weeks ago, with a somewhat better feeling in the market, as the surplus is fairly well cleaned up and the demand is improving. Many dealers look for better prices in the near future. Local Young Americas are still weak at the last quotation, and Oregon stock is also weak, though prices remain as before.

Fancy California Flats, per lb...	11 c
Firsts.....	10 1/2 c
New Young Americas, Fancy.....	12 1/2 c
Oregon Flats .....	13 c
Oregon Y. A.....	14 1/2 c

## POTATOES.

There is now little outside demand for potatoes, and stocks here are larger than the local demand can take care of. The

market is quiet and prices show a slight decline on both local and river stocks. Sweet potatoes are fairly well cleaned up and bring better prices.

New Whites.....	75 @ \$1.10
Salinas Burbank.....	\$1.40 @ 1.55
Sweet Potatoes, lb.....	1 1/2 @ 2 c

## FRESH FRUITS.

Arrivals of the leading lines of fresh fruits have fallen off considerably during the week, and an active demand has brought a general firmness, with some advances. Bartlett pears, which were hard to move last week, are now very strong, being well taken at stiff prices. Peaches are also a firm feature, in spite of liberal offerings. Some late peaches are offering and bring high prices. An export demand has cleaned up the arrivals of plums, and grapes are easily moved for the local trade at firm figures. Figs and berries are dull. Cantaloupes, while in good request, are low, as arrivals have been heavy.

Apples, fancy .....	90 c @ \$1.15
Apples, common .....	40 @ 75 c
Strawberries—	
Chest.....	\$5.00 @ 7.00
Blackberries, chest .....	5.00 @ 4.00
Raspberries .....	5.00 @ 8.00
Huckleberries, lb.....	10 @ 12 1/2 c
Plums, crate .....	20 @ 50 c
Peaches, box .....	40 @ 65 c
Figs, box.....	35 @ 1.00
Nutmeg Melons, box.....	25 @ 50
Cantaloupes, crate .....	75 @ 1.50
Watermelons, doz .....	1.25 @ 2.00
Grapes, crate, Seedless.....	75 @ 1.00
Muscats .....	50 @ 75 c
Black .....	35 @ 50 c
Tokays .....	75 @ 90
Pears, Bartlett, box .....	1.25 @ 2.00
Quinces, box .....	40 @ 75 c

## CITRUS FRUITS.

Oranges and grape-fruit are somewhat higher, as supplies are small, but lemons show a further decline. Limes are steady at former prices.

Choice Lemons.....	\$1.75 @ 2.50
Fancy Lemons.....	3.00 @ 3.50
Standard .....	1.00 @ 1.25
Limes.....	4.00 @ 5.00
Oranges—	
Valencias .....	2.50 @ 3.75
Grape Fruit .....	4.00 @ 4.50

## DRIED FRUITS.

The dried fruit market shows comparatively little feature since the recent advances, and there are signs of weakening in some lines, though both packers and growers are so far holding out for the prices asked. There has been very little inquiry from the East for the past two weeks. The prune crop is short in nearly all districts. Buyers are offering 3 1/2 cents in the San Joaquin valley. Raisins are still quiet, as many growers are still holding out for 4 cents and over, while very few packers are taking on stock at that figure. Some sales have been made at 3 3/4 cents. The following prices are quoted by local packers.

Evaporated Apples .....	5 1/2 @ 7 c
Figs, black.....	3 @ 3 1/2 c
Figs, white.....	3 1/2 @ 4 c
Apricots, new crop.....	7 @ 10 1/2 c
Peaches, new crop.....	6 @ 7 1/2 c
Prunes, 4-size basis.....	3 1/2 @ 4 1/2 c
Pears, new crop.....	6 @ 8 c

## RAISINS.

2 Crown .....	4 1/2 c —
3 Crown .....	5 c —
4 Crown .....	5 1/2 c —
Seeded, per lb.....	7 —
Seedless Sultanias .....	4 1/2 —

## NEW CROP.

Loose Muscatels, 4 crown.....	6 —
3 Crown.....	5 1/2 —
2 Crown.....	4 1/2 —
Thompson seedless.....	5 1/2 —
Seedless.....	6 —
Clusters—Imperial.....	\$8.00 —
Dehesa.....	2.50 —
Fancy.....	2.00 —
London Layers.....	1.25 @ 1.35

## NUTS.

The nut situation remains about as heretofore, with a bare spot market, in which little interest is now taken. Deliveries on almond contracts are rapidly being made around Lodi, where the crop is unusually large, amounting to about 350 tons.

Almonds, Nonpareils.....	11 1/2 @ 12 c
I X L .....	10 1/2 @ 11 c
Ne Plus Ultra.....	10 —
Drakes.....	9 1/2 —
Languedoc.....	9 —
Hardshell.....	— —
Walnuts, Softshell No. 1.....	13 —
Softshell, No. 2.....	10 —
Italian Chestnuts.....	10 @ 12 1/2 c



## THE "SOUTH BEND"



## The Best Chilled Plow in the World

In chilled Sidehill Plows, as illustrated above, we offer our Nos. 302 and 304 in full confidence that they will meet all the requirements of anyone who has a hill on his farm. They are the simplest and easiest swinging plows on the market. Do splendid work on flat land and on the steepest hill. If in need of a plow of this kind, investigate the "South Bend" before you purchase.

No. 302, 1-horse, weight 78 pounds, capacity 7 to 9 inches.

No. 304, 2-horse, weight 105 pounds, capacity 9 to 12 inches.

Write us for catalogue describing the complete South Bend line of plows.

GENERAL AGENTS,  
**PACIFIC IMPLEMENT COMPANY,**  
135 Kansas St., San Francisco.

## HONEY.

The greater part of the honey crop has been shipped, and only scattering lots are now arriving. The white and water-white grades are in good demand, and there is a fair demand for the lower grades. Producers are receiving the same prices as before, and the following prices rule in the market.

Water White, Comb lb.....	16 @ 17 c
White .....	15 @
Water-white, extracted .....	8 @ 8½ c
Light Amber .....	7 @ 7½ c
Dark Amber .....	5½ @ 5½ c
Candied .....	5½ @ 5½ c

## WOOL.

This market is almost at a standstill, with prices practically nominal at the figures last quoted. Local buyers are taking little interest, and while a considerable quantity of the last clip is still unsold, there is no demand in the Eastern market.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin .....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast .....	6 @ 8 c
Nevada .....	9 @ 12 c
Oregon .....	8 @ 15½ c

## HOPS.

There is little demand for hops and the market is quiet at former prices. Returns so far indicate a crop about 30 per cent below the earlier estimate. A large decrease of the English crop is expected to result from a heavy storm which took place a few days ago.

1906 crop.....	1½ @ 2½ c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## MEAT.

Quotations on dressed meat show some advances, while live stock is at a standstill, except hogs, which are slightly lower. California sheep are now being sent to the market, and liberal supplies are still coming from Nevada.

Beef: Steers, per lb.....	6½ @ 6½ c
Cows .....	5 @ 6 c
Heifers .....	5 @ 6 c
Veal: Large.....	6 @ 7 c
Small.....	8½ @
Mutton: Wethers .....	7 @ 8 c
Ewes .....	6½ @ 7 c
Lambs.....	8 @ 9 c
Hogs, dressed.....	9½ @ 10 c

## LIVESTOCK

Steers, No. 1.....	3½ @ 4 c
No. 2.....	3 c
No. 3.....	2½ @ 3 c
Cows and Heifers, No. 1.....	3 @
No. 2.....	2½ @
Bulls and Stags.....	1½ @ 1½ c
Calves, Light.....	4½ @ 4½ c
Medium .....	4 @
Heavy .....	3½ @
Sheep, Wethers.....	4 @
Ewes.....	3½ @
Spring Lambs, lb.....	4½ @ 4½ c
Hogs, 100 to 150 lbs.....	6 @
150 to 250 lbs.....	6½ c
250 to 325 lb.....	6 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Sept. 8, 1908.

The demand for grapes the past week has been exceedingly good; Tokays especially have sold well. Grapes shipped from Florin are of good quality and of fair color. The first cars in Chicago averaged \$2.31, as against the first car in New York averaging \$1.79. The market declined a little, Florin Tokays selling in Chicago at \$1.35 on the 31st ult., \$1.37 on the 2nd of September. The market then reacted, the average on the 3rd inst. in Chicago being \$1.60 and on the 4th \$2. We note one car sold in New York today averaged \$2.14. In view of the above, a good market is anticipated the coming week for this variety of fruit.

Lodi Tokays have not reached the auction as yet; shipments are now going forward from that district at the rate of ten to twelve cars daily. It has been reported that the bulk of these shipments are being sold in the West on a basis of 90 cents f. o. b. There seems to be a fair demand at these prices, but the fruit in this section is maturing very slowly and some of the fruit gone out has been quite green. Shipments will increase from now on and sales will probably be made this week on a basis of 85 to 90 cents f. o. b.

An average of 25 cars of pears were shipped daily last week. Prices in the auction today for Bartletts were as follows: Pittsburg, \$1.25 to \$1.50; Boston, 75 cents to \$1.55; Philadelphia, 85 cents to \$1.30; Chicago, 80 cents to \$2.30. A few f. o. b. sales have been made on a basis of \$1. Washington Bartletts sold in Chicago at 70 cents to \$1.15; Oregon Bartletts at \$1.40 to \$1.95. No change is anticipated in the pear market the coming week.

Salway peaches are now going forward in large quantities and they are being disposed of from 32½ to 35 cents. Some cars will probably be sold at 30 cents the last of this week. The quality of this variety is very good.

Shipments of plums are very light; in fact, practically nothing going forward at the present. A few small lots selling in auction at the present time are realizing good values. Washington Italians sold in Chicago today from 75 cents to \$1.00 and Oregon Italians realized 80 to 90 cents.

Taking the deciduous situation as a whole, grapes will probably continue to sell at good values and Salways will likely be sold on a basis of 30 cents f. o. b., shipments the latter part of this week.

Comparative shipments for the season of 1907 and 1908 to September 2 are as follows: 1907, 3,571 cars; 1908, 6,229 cars.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Sept. 8, 1908.—Shipments of Valencias are going out at the rate of 15 cars a day, but most of this fruit is tramping, as orders are scarcer than hen's teeth, and dealers are finding it difficult to sell the fruit even at a discount from the asking prices of a week ago.

This is true only of the poorer and unknown brands of off sizes. The brands of well known good quality sell very readily at good prices, and sizes do not cut so much figure with this kind of fruit—in fact, large sizes are wanted. Take brands like Old Mission, Blue Seal, Orchard and a few others, and the best trade buys them eagerly at top notch figures. In turn, these dealers sell the fruit to the big hotels and steamship companies, and these kind of buyers prefer a large orange to a small one. The small dealer, the push-cart men and those dealers who depend upon street trade, cannot handle large fruit to advantage, as it is usual to charge a fixed price per dozen, regardless of size, and the profit is consequently smaller on the large sized fruit because there are so many less oranges to the box. As this trade handles the cheaper grades, it follows that large offs are bringing little money. The favorite sizes are 176s to 250s, with a fair demand for 150s.

The lemon market is decidedly sluggish, and almost no orders are now coming in. This will probably change in a few days, as it cannot be possible that the trade is stocked up very heavily, as the buying has been light all summer, and now the available stock of imported lemons is getting rather small. Within the next thirty days there are only 49,000 boxes available, afloat and in storage, and 19,000 boxes of this quantity will sell Thursday of this week. At this time last year there were

## IT PAYS TO BORROW MONEY TO BUY A MANURE SPREADER

If you do not have to borrow, so much the better. But in any event have a spreader of your own this year. The increase in the first crop through the use of your spreader will more than pay the principal and interest. It will cut down the labor of manure spreading. It will make the work agreeable. There will be no waste of manure. You will have a more fertile soil for future crops.

A manure spreader should be considered as a permanent investment, not as a running expense.

For the only way you can get all the value out of the farm manure every year is to use a spreader. There is absolutely no comparison between results produced by hand spreading and machine spreading.

The Cloverleaf Endless Apron Spreader  
The Kemp 20th Century Return Apron Spreader  
The Corn King Return Apron Spreader

WESTERN GENERAL AGENCIES: Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.  
(Incorporated)

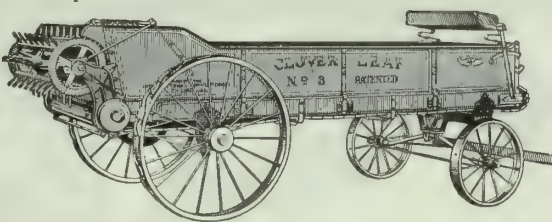
You will make no mistake in buying any one of these right working, durable I. H. C. spreaders.

I. H. C. spreaders are not built excessively heavy, but they have the strength required by such machines. The draft is as light as possible in any spreader.

The machines differ in certain features, but all have good strong broad tired wheels, simple and strong driving parts, are easily and conveniently controlled, and do first class work with any kind of manure.

Any I. H. C. local agent will supply catalogs and explain the distinguishing features of each machine, or show you a machine at work so that you can choose wisely.

If you prefer, write direct to our branch house nearest you for any information desired.



## HOG FEED FOR SALE

Barley from the wrecked steamer "Anubis."

This barley has been wet with salt water but is drying out rapidly. It is in good condition and improving daily.

For sale in quantities of not less than 15 tons.

FOR PARTICULARS APPLY TO

**G. W. McNEAR**

210 Battery St. - - - San Francisco.

55,000 boxes in sight, and in 1906 there were 48,000 boxes.

The total orange shipments to date have been slightly over 24,000 cars, and to the same date last season they amounted to 23,800 cars. Lemon shipments have been in the neighborhood of 4450 cars, as against 3242 to the same time last year. If first predictions of a crop of 5000 cars was correct, there is a very little fruit left to go forward, and it seems as though this was pretty near the mark.

The coming crop of citrus fruit in the southern part of the State is estimated to be about the same as last year. It is yet too early to predict the size of the crop, other than to compare with the crop on the trees this time last year.

The San Francisco Fruit Exchange has secured a car of winter vetch to plant in the orange groves and will be furnished growers at cost.

## INDEX TO ADVERTISERS Pacific Rural Press

(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	—
Beckman, Geo. V.....	168
Bihn Bros.....	171
Bird & Co., J. A. & W.....	171
Benton, Frank.....	171
Blake, Moffitt & Towne.....	168
Bray Brothers.....	176
Breeders' Directory.....	168, 171
Chicago Steel Tape Co.....	167
Clark Wise & Co.....	—
Coyne National Trade School.....	173
Croley, George H.....	171
Cutter Laboratory, The.....	169
De Laval Dairy Supply Co.....	169
Dewey, Strong & Co.....	176
Dietz Company, R. E.....	172
Disbrow, F. H.....	171
Driver, E. S.....	168
Fresno Agricultural Works.....	—
German Kall Works.....	167
Gibson, Mrs. W. B. & T. B.....	—
Gilde Brothers.....	168

Hamlin, Miss Sarah D.....	173
Hart, Ed.....	171
Healds Business College.....	173
Hopkins & Son, G. H.....	171
Howard Cattle Co.....	168
Immsch, A. R.....	167
International Harvester Co.....	175
Jackson & Co., T. W.....	176
Kendall, Dr. B. J., Co.....	—
Krogh Mfg. Co.....	176
Lawrence-Williams Co.....	169
Lister, Henry B.....	172
Lynch, John.....	168
McNear, G. W.....	175
Meacham, Frank A.....	168
Mountain Copper Co.....	176
Murphy, P. H.....	168
National Wood Pipe Co.....	176
Oakland Poultry Yards.....	171
Pacific Implement Co.....	175
Pacific Oil & Lead Works.....	169
Palace Hardware Co.....	167
Pear Blight Remedy Co.....	176
Rix, O. A.....	175
Robinson, John R.....	172
Roeding, Geo. C.....	168
San Francisco Business College.....	173
Sharples Separator Co.....	—
Shaw Co., H. C.....	176
Silva & Bergtholdt Co.....	176
Simmons Hardware Co.....	173
Situations and Help Wanted.....	167
Smith, Francis.....	176
Southern Pacific Railway.....	173
Standard Oil Co.....	168, 169
Stowe, C. A.....	168
Sullivan, W.....	171
Teague, R. M.....	—
Temple Pump Co.....	171
Tower Co., A. J.....	172
Tuttle's Elxir Co.....	—
Vermont Farm Machine Co.....	168
Wagner, J. B.....	171
Waite, Thos.....	168
Western Feed Co.....	170
Western Gas & Power Co.....	176
Wilson, R. F.....	176
Windeler, Geo.....	176
Woodin & Little.....	—
Wyatt & Winters.....	167

## Almond Hullers

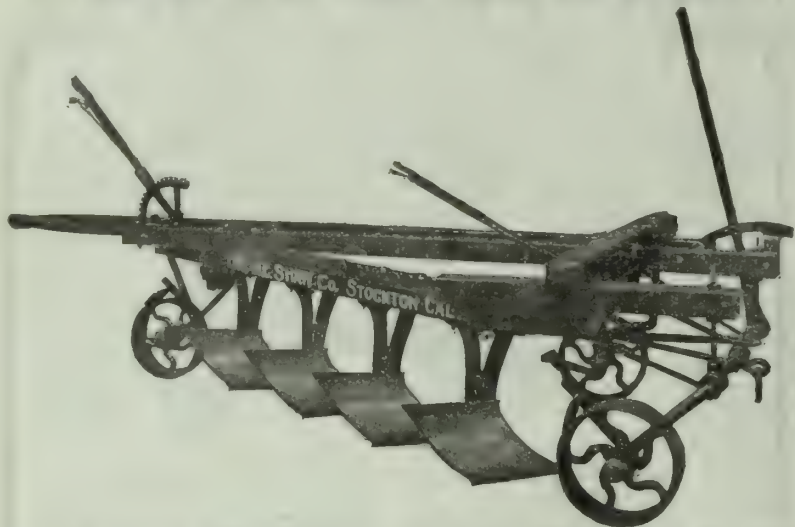
—For Sale by—

A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.



# THIS IS THE PLOW

THAT ALL WANT, AFTER SEEING ONE IN USE.

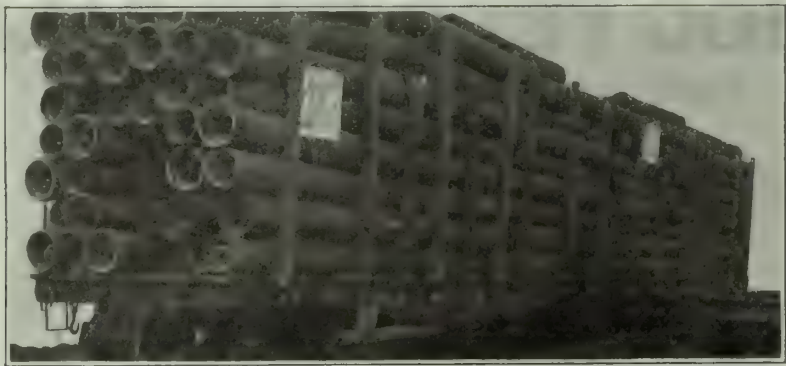


THE SHAW STOCKTON IMPROVED GANG PLOW

Drop us a card for Circular with Prices.

MANUFACTURED BY

THE H. C. SHAW CO., Stockton, Cal.



## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Fir

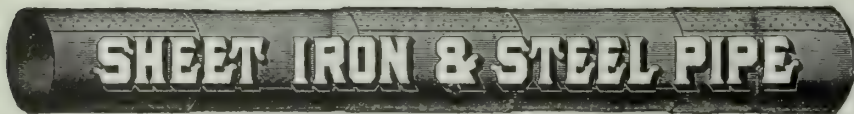
## NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## FRANCIS SMITH & CO., Manufacturers of



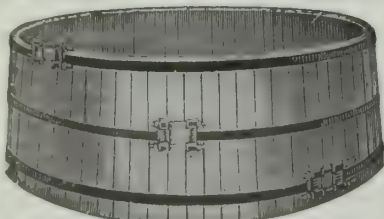
### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

R. F. WILSON,

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.



WINE TANK.

## Tanks

WINDELER'S PLANING MILL AND COOPERAGE  
GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.

# PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## PEAR-BLIGHT

We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

## Mococo Superphosphate

Land FERTILIZED with Mococo Superphosphate

yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

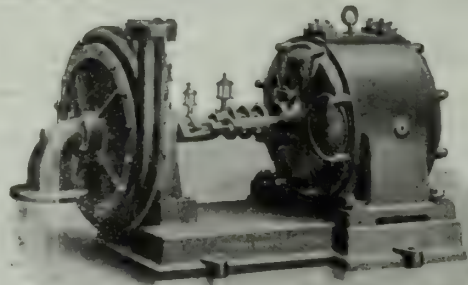
FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.



## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

**Krogh Man'f'g. Co.**

127 to 133 Beale St., San Francisco, Cal.

Send for new catalogue No. 50 just issued.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,

1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1856. Correspondence Invited.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 12.

SAN FRANCISCO, SATURDAY, SEPTEMBER 19, 1908.

Thirty-eighth Year.

## The Automobile in Agriculture.

The horse stands pat. In spite of bicycles, motor-cycles, trolley cars and bubbles, the equine census holds about the same ratio to the human census as it has always done; say, about one to four. What gain the horse, and his Morganatic

ment. With the reckless rich it is still a fad. But today some types of automobiles are so designed that they have become a practical success and a recognized necessity. Now that strong, durable, common-sense machines, that use very little fuel, can be had at a reasonable price, farmers in many localities are enjoying the comfort, convenience and economy of good autos.

horse and wagon, and requires but the simplest attention, it seems to be pretty well adapted to the uses of the farm.

The expense of up-keep in some cars has been reduced until today a man can operate a car, spending less for oil and gasoline than the cost of feeding a horse. The car is a matter of expense only when in actual operation, and while in opera-



AN AUTOMOBILE AS A MILK AND CREAM CARRIER FROM FARM TO CREAMERY.

relative, the mule, would have gained in the census if all other motors which are now common had not made any more substantial progress than airships have, is a matter of speculation. At present we have to deal with the new motors as we find them, and there is no question but that the automobile is destined to serve each year more important agricultural uses. The handsome picture on this page shows the auto as a dairy adjunct, engaged in milk or cream delivery to the creamery.

Ten years ago the automobile was an experi-

A driving horse ordinarily cannot travel more than 50,000 miles during his lifetime, even though he does not go lame. Many automobiles cover a great part of this distance in one or two seasons. That the horse has his rightful place on the farm is not yet to be denied; there is certain work which he can do that the automobile can not; but when it is considered that the utility automobile possesses such power equipment that it can travel the worst roads in any season of the year, can negotiate any hills which could be climbed with a

tion its road capacity is at least four times that of a horse-driven vehicle. As for repairs, if the car is given reasonable care and attention, they should be little in excess of the cost of shoeing and repairs on harness, etc. In point of operating knowledge, even were this not simple enough, the farmer has a great advantage, as he is of necessity more of a mechanic than the city man. He knows more about machinery and is therefore able to save the expense of many of the repairs that might become necessary through accident.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

If there is one thing more than another which we would like to do for our readers, it is to help them to sell things better. There have always been great wastes and losses in agricultural production. The farmer is about the only producer in the world who simply takes what is given to him and is content to work on so long as anyone will give enough to pay for loading the stuff into a wagon. When that much is not offered, the stuff goes to the hogs, or, if he has not been keeping hogs and does not care to take the chances of buying them to save an immediate waste, the stuff goes to decay and covers him with flies which bite him into constant recollection of the sting in his purse. Our tender heart has now a well defined earthquake line caused by the shocks from disappointments and losses which we have seen in our rural rambles during the last few weeks. Our friends will survive them, for they have ways of patient self-denial and quiet endurance which constitute them industrial heroes, but we are intolerant of the conditions which require such an attitude.

And now let us protest against any charge of croaking which it may be in the mind of any reader to make at the expense of the foregoing paragraph. We do not mean that the times are bad, for they are not; nor that the farmer is oppressed, for he is not; nor that capital or labor, jointly or severally, will send the country to the dogs, for they will not and can not. The farmer as a rule believes that, for the farmer is an optimist, and he votes, as he prays, for the greatest good to the greatest number, and expects it will be attained. But there are experiences which try his faith, like faith which is tried in the fire, but do not avail against it. He knows the State is advancing, that the annual value of its products is increasing, and that either he or his children will reap the rewards of well-doing in the long run, here or elsewhere. But when steers are only two or three cents a pound, and the dry feed on fire, or when wine grapes are up in sugar and people are talking about \$6 per ton, and when pears and peaches are ripe and no one wants them at any price—it is no wonder he concludes that something is wrong somewhere. He is confirmed in that belief when he hears his city friends complaining of their difficulty in meeting house bills because retail prices of food are so high.

We said we would like to help our readers to sell things better. Our desire includes also the idea of selling better things better. Because we cannot ignore the fact that the first thing to ensure selling better is to have better things to sell! In our observation of fruit wastes, for instance, for they are most in our line, we are sure that many disappointments and losses are due to the fact that the fruit is too ill-grown to warrant

anyone in asking a sale for it. The rainfall was short last winter; the cultivation, instead of being proportionately better, which might have improved the fruit, was, in fact, proportionately worse, and that spoiled it. We never saw so many leathery pears and bitter peaches and inferior prunes and plums, on tree above or ground below, as we have seen in some parts of the State this year. It was idle to talk of drying it; it dried to death on the tree. Much of the complaint of fruit going to waste this year is therefore due to the fact that the orchard had gone to waste while the crop was trying to grow. Of course, to correct this the grower must prepare himself to use water cheaply, as we and our esteemed contributors have frequently pointed out. It is idle to expect to sell better if, then, there is not a better thing to sell. But this of course does not cover the question, nor is it intended to; it is advanced simply to cover that phase of the matter. If a thousand carloads of cantaloupes are shipped too green or too ripe, or if anything unwise is done by the grower, through carelessness or lack of knowledge or requirements, and no money comes of the venture, it is a thing which everyone should endeavor to correct in the future. Better sales for better things is probably the real issue.

But how shall we get better sales for better things? We really do not know, and we are not going to put up a bluff for an answer. We are pretty sure that many things which have been loudly proclaimed are not answers. We believe that organizations for control and price-making are practicable only for special products with a small group of producers. We believe that the displacement of capital and filling of existing trade channels is impossible, although both may be used more fairly and effectively for the producer. We believe therefore that direct trade and distribution are only practicable locally and in a limited way. For these and a dozen other reasons which might be spun out, we do not believe that there is any panacea for the evils which exist in the sale and distribution, and we do not ask anyone to send us a theoretical cure-all, involving elaborate organization, due-payments, officer lists, multiplied agencies and all that sort of thing, to regulate the sale and distribution of the food products of a State—much less of a Nation. Such a thing will not build from the top downward. It may grow from the bottom upward, but nearly all the things in that line which have fallen have started with cornice in the sky, and naturally many were hurt in the fall thereof. The observation of the last third of a century has taught us only one thing, and that is that we do not know how the general marketing of farm produce is to be better done. Perhaps that puts us in a better condition to find out something about it than we have ever been before, and we therefore have a proposition to make which may lead us all to a better understanding of the matter. Let us sweep away all a priori conception of the matter now. Let us assume the true scientific attitude toward it and invoke the true scientific method of discovery of truth by induction, which involves, of course, four factors: exact observation, correct interpretation, rational explanation and scientific construction. If this does not teach us something about improved marketing from the many efforts which are now in progress in this State, then these efforts are not yet ripe enough to teach.

There is nothing formidable about this. We take it to mean: get the facts, understand them, connect them to show their relations, and then build something, and it will stand—to the extent to which its building is justified. It occurs to us

that this is the way to get at something which will be worth knowing, and we hereby constitute the columns of the PACIFIC RURAL PRESS the avenue by which such valuable knowledge shall reach the public. First, then, get the facts; all other things will follow if the facts arrive. We therefore desire every reader who has sold a thing in any better way to write us a letter telling us what and how. We desire every organization by which two or more have acted together, to do more than one could do alone, in distribution or sale or in the preparation of the product therefor, to write us also what and how. Never mind about the why that comes later in the inductive method, and belongs to the explanation stage, which is third in the process. It is important that we should have all the essential facts in individual effort, in community effort, in co-operative undertaking of wider scope, and in our greatest organizations, which are beginning to extend from California to the other States and abroad. Exhortation is no part of the facts; that belongs to the last or the constructive stage. Most of our greatest failures at organization have been crushed by the weight of elucidation and exhortation with no facts to sustain them. That may have been unavoidable when there are no facts, when the whole thing was in the air, but during the last decade there has really been much done of which no one has adequate conception, because the facts of the achievements have not been brought together. Let us have them now; small and great, apparently trivial, apparently significant. Who has done anything in this line of distribution and sale of farm products, to the end that the producer may have a fair price and the consumer get what he wants for a reasonable outlay? That is what we desire, and we desire it now.

Of course we do not expect to get these facts in a minute, or set them forth in an issue. It may take months, but let us get at it and keep at it until something comes of it. It is idle for us to try to teach our readers how to produce, how to turn their land over, how to keep the flies off themselves and their product, unless they can sell that product for more than it costs. It is proper agricultural economics that a beautiful animal should become hateful unless it returns something for the care and outlay in its development; it is proper economics that a splendid fruit should become like the apples of Sodom unless it can be made to yield support to the enterprise which brought it forth. Let every reader then help redeem these glories of our productive arts from ignominy. There is surely some way by which the good things of the earth can be brought into the hands of those who need them, and it behooves producers to direct serious attention now to the ways to accomplish it, as drawn from the experience of the last third of a century's effort toward better marketing, to which we alluded in the PACIFIC RURAL PRESS of August 8. The whole subject is open for discussion.

If a little encouragement is needed as a starter, take an orange! The present standing of the California orange industry is due to co-operative organization: organization of growers into co-operative associations for packing the fruit and for placing it on sale in distant markets has, in fact, saved the industry from demoralization. While it is true that these organizations had some sad experience, and have in some cases been deceived in those chosen as organizers and promoters, the scores of co-operative packing houses, the accommodation of growers with needed advances without extortion, the regulation of transportation by appeals of growers' organizations to the Inter-



State Commerce Commission, the co-operation of growers' organizations with dealers' interests on a mutually fair basis, and other similar achievements, are plain indications of the effectiveness of intelligent, organized effort among growers that should be instructive to all groups of producers of horticultural merchandise. Now, how was it accomplished?

A lady writer in one of our California exchanges heads an article: "It Depends upon the Man." We have always supposed that it depended upon the lady.

## Queries and Replies.

### Cover Crop on a Northern California Hillside.

To the Editor: I have a hillside orchard of plums on light soil that needs fertilizing. I thought, as it has little vegetation on it each year, that cow peas or some of the vetches would be very good. Kindly inform me what is best to do, and when and how to plant and where to buy and how much to plant per acre. I think the answer will be valuable to many.—Hillside Orchard, Vacaville.

You are on the right track, but if you had followed a little more closely the discussions we have had of cover crops you would have the information you ask for. Your program will be to get your legume seed in as early as you can conveniently, so as to get a growth on the early rains and the ground covered and protected from washing by the heavy winter downpours. Unless you are practically free from frost cow peas will not be safe, because frost kills them like beans—which, in fact, they are. Your choice of a plant would include burr clover, winter and hairy vetches, Canadian peas and common California field peas, all of which are hardy and good growers in cool weather when they have moisture enough. The amount of seed is 40 to 60 pounds per acre, according to size of seed—less of vetches than of peas for that reason—while burr clover would need about 15 pounds of seed per acre. They can all be broad-casted and covered in with a harrow if the orchard was well worked during the present season; if not they must be plowed in with a shallow furrow. Such shallow covering would not do except at the beginning of the rainy season and on light soil. Plow under after the heavy rains are over, but while there is expectation of some rain to rot the crop in the soil. Therefore do not allow the crop to grow too late in the spring.

### The Apple-Leaf Aphis.

To the Editor: I have a small ranch in Humboldt county which I purchased about three years ago. It has on it a very nice orchard, containing about one hundred bearing apple trees, but I found that quite a number would not pay for taking care of them. I am top grafting as fast as I can into varieties that do better in this foggy climate. The grafts are doing nicely, but are covered with a green louse or aphid. I also have about one hundred young trees, and many of them are completely covered with this aphid, especially the top branches, as the lice feed on the tender leaves. The lower leaves look as though a fire had been under them, and some are curled the whole length of the branch. I presume from the same cause. I am fighting them the best I can, but cannot say that I am making a success of it. I am afraid to spray with anything strong for fear of killing the trees. At present I am using lime and sulphur. Please let me know what I can do to save the trees and grafts.—A Beginner, Folk.

There is nothing that you can do now probably, unless the lice are still active and have not laid their winter eggs. You have not been fighting

right. As soon as you saw the first lice on the under side of the leaves you ought to have begun spraying with kerosene emulsion or whale oil soap (one pound to four gallons of water) or tobacco tea, or one of several other things which readily kill lice when active. If you had cut off the early comers that way you would not have had enough later to do the damage you describe. If they are still active, however, it is possible that you can get in ahead of the winter egg with one of these applications now. If, however, a magnifying glass shows you the twigs covered with oval, shiny-black eggs, there is nothing to do, for these eggs are very hard to kill. Next spring, however, you will get busy early and attack the young lice as they come out of the egg about the time the new growth starts. If you have some scale insects as well as lice, a winter spray of lime, salt and sulphur will kill them.

### The Moon in Agriculture.

To the Editor: I write to ask that you inform me where I will be able to obtain some literature regarding the moon's influence on this earth, its inhabitants and vegetation, and in aiding the yield of crops. I have been told that there was such literature.—Reader, Oakland.

Some years ago the United States Weather Bureau undertook to compile information concerning the mundane effects of the moon, and if you will address a request to Mr. Willis L. Moore, Chief of the Weather Bureau, United States Department of Agriculture, Washington, D. C., he will doubtless take pleasure in sending you anything which he has published on that subject.

We can only say in a general way that moonlight does influence vegetation, just as electric light does. The influence is essentially the same as is exerted by the sun, leaving out the heat influences, but in infinitely less degree. In this way moonlight lengthens the growing season, and must exert some influence upon plant products by such service. There are, of course, a whole lot of attributes which are superstitiously credited to the moon, of which the poor old dead planet must be declared innocent; but still, as holding up a mirror and directing to us more sunlight than we would otherwise receive, there is a certain definite influence exerted by the moon in mundane affairs.

### Grass Under Trees.

To the Editor: We have built a ranch house in a square of old cork elms. What grass or clover shall we plant to cover well up to the walls and stand the summer heat and drouth and shade? Will alfalfa do it? I do not want blue grass or white clover, on account of the need of so much water and care.—Reader, Yolo County.

The proposition is a difficult one. Your cork and elm roots have undoubtedly largely underrun the surface, and will give any grass a pretty stiff fight for moisture. Probably alfalfa would be too spindly and patchy to be satisfactory. Orchard grass is best worth trying, and, judging from its behavior under oaks and other trees, would probably give you a show of verdure, providing it had moderate moisture and was mown frequently enough to prevent its becoming bunchy and stemmy.

### Overgrown Eucalyptus Bed.

To the Editor: I have a bed of eucalyptus trees 10x15 feet square, estimated to contain 3,750 trees. I neglected to get them boxed. They are three to four feet high, thrifty red gums. What can I do with them? I want to put them out for field growth, but cannot do so until the rainy season. If you know how to handle such trees I will be pleased to hear from you through the Press.—Subscriber, Elsinore.

Water very lightly, watching carefully so as not

to have the roots injured by drying out until rains come. When the soil in the field is in condition for planting, wet down the bed well and begin at one end, drawing out the plants so as to disentangle and save the roots of each as much as possible and plant in a deep but not necessarily large hole, allowing the roots to string down in the hole as far as possible; water settle the soil and loosen the top soil to prevent caking. We presume your seed bed was sown broadcast so that it is impossible to take up blocks or balls of earth. Cut back the top considerably to reduce evaporation. That is the way we would try it, but we should be inclined to buy smaller trees which had been properly handled and expect to get so much better stand that the cost would be a good investment.

### Summer Use of Bordeaux Mixture on Vines.

To the Editor: Can lime and bluestone be used on grape vines in spring. Sulphur burns vines or leaves too much in the summer.—Subscriber, Winters.

Yes, it can be used. Vines take kindly to the use of the lime and bluestone mixture to which the name Bordeaux is usually applied. The old formula (4 pounds of bluestone, 4 pounds lime to 40 gallons of water) will do, or another pound of bluestone can be safely used. But this will only kill the mildew spores which it strikes or reaches by outflow from the spots of it, when the leaves become damp by dew, etc. But such treatment is much more expensive and not as effective as sulphuring, because the sulphur vapor chases the spores as a liquid cannot do. As for burning by sulphuring, it is not necessary; you have probably been sulphuring, not wisely, but too well.

### Speltz in California.

To the Editor: Has speltz, or emmer, been grown to any extent in this State? If so, has it proved a paying crop? Would you advise planting it in this part of the State?—Farmer, Riverside County.

So far as we know, speltz has never been grown to any extent in this State. It is, however, suited to rather more severe conditions than cereals now grown, being more hardy than barley, and where such conditions may prevail, speltz may be worth a trial. Otherwise, there is nothing to commend it, for where one can satisfactorily grow barley or wheat there seems to be no occasion for recourse to plant speltz, which is only grown in the extreme north of Europe and in the northern tier of the United States, where similar severe weather conditions are likely to occur.

### Cutting Back Blue Gums.

To the Editor: I have about 300 red gums and blue gums, 18 months old, and I am anxious to know if they could with safety be trimmed at this time of year. They have made a very heavy growth. We have very heavy north winds here, and it is blowing some of them over.—Grower, San Joaquin County.

We have never seen eucalyptus trees injured by cutting back, and see no reason to anticipate any trouble from treating them as you propose.

### Redwood Ashes.

To the Editor: Would redwood ashes be of any benefit to an orchard or grass land. I can get quite a quantity by hauling about two miles from a sawmill where the slabs and refuse are burned.—Reader, Humboldt county.

Yes, the average value of wood ashes which have not been rained on is nearly ten dollars per ton, estimated upon the market valuation of the potash and phosphoric acid they contain. They should therefore be worth hauling.



## Horticulture.

### BUILDING NEW TYPES OF STRAWBERRIES AT ETTERSBERG.—IV.

Written for the PACIFIC RURAL PRESS

By ALBERT F. ETTER, Briceland, Humboldt County.

In my last letter, which appeared in the issue of September 5, I was discussing No. 70, a combination of Crescent X Rose Ettersburg-Cape Mendocino beach, and in addition to what I said of it, I note that it is a good canner, very few of the berries come in contact with the ground, and it is a promising sort.

No. 124 is a full sister to the above No. 70, and of similar character but of a higher flavor and deeper red color. One of the finest for flavor.

No. 78 is a Dornan X Cape Mendocino beach. It is a unique and beautiful berry, about as large as a Mission grape and almost globular in form. In color it is a brilliant glossy crimson, with its beauty well brought out by the manner in which it is set in the fine-cut, large, open, green calyx, which it takes over from its beach ancestry. In flavor it is very good; in growth, rather low, but vigorous and of great runner capacity.

Michel's Early has proved a good parent with me. Being pistillate, it is very convenient to artificially hybridize with other species.

No. 74 and No. 75 are Michel X Rose Ettersburg-California, and are both good vigorous plants with fine red berries and lots of them.

No. 76 is a Michel X Rose Ettersburg-Cape Mendocino beach. It is somewhat of the Rose Ettersburg in growth, but the foliage shows the effect of the Cape Mendocino beach, as it is quite leathery. The fruit, too, is rather light colored, but exceedingly sweet and high-flavored.

No. 73 is a Michel X California; a good blend of the two and very tart.

Michel X Rose Ettersburg as a rule produces a vigorous progeny, but none of them so far has proved of more than ordinary promise in fruit. If I am to judge their capacity for future work by results I have obtained with a rather unpromising little specimen, No. 2, they are among the best.

**A Weakling, but Prepotent.**—This No. 2 is a weakling, but I am proud of it. The results obtained by crossing with the Alpine species shows only too well how much we don't know about a plant in combination until we have tried it. Some other Alpine crosses gave very unpromising results, having nothing to recommend them in any particular, but in something like 90 plants of the above No. 2 X Alpine, I got a splendid lot of varieties. In growth they resemble neither parent, and have more vigor than their parents ever thought of having. Many of these plants produced fine crops of berries, but one in particular overshadows them all. No. 87 is the one that had 80 ripe berries fit to pick all at one time, and none of them overripe. As this included practically the entire crop, in picking one could just clip the whole trusses, as the trusses are in structure like Alpine, long and branched well out from the crown of the plant. The berries resemble Michel in shape, and are of good size and quality and red to the center. The plant is unusually thrifty but, like the bush alpine species, it produces few if any runners, and will have to be propagated by division of the old plants. In resistance to heat and prolonged drouth it is a surprise to me, as it is always one of the freshest plants in the patch, regardless of temperature. Wm. Belt seedlings in the next row to it were so far gone from the heat that I doubt if some of them are not beyond recovery.

**Other Alpine Products.**—Another splendid lot of hybrid Alpines is a collection of about 50 seedlings of the white-fruited runner, Alpine X Rose Ettersburg-California. A rather strange characteristic of many Alpine hybrids is their brisk acidity, something we would hardly expect, as the Alpine is not an acid berry at all. In No. 94, of the above cross, we have what is probably the most acid strawberry of my entire collection. The berry is large, of good substance, of a very deep, almost dark red color, like the red Alpine, while the seeds are very numerous and of a high golden color, which makes it a charming berry indeed. It makes a high-flavored preserving berry, but

breaks up in cooking. The color, however, is extra red when cooked.

No. 96 is a full sister to the above. It is a big red berry with pink flesh and quite firm texture. It is sweet and one that everybody took a great fancy to, as it was among the very best. It resembles the Alpines in foliage more than most Alpine hybrids, and is almost as drouth resistant as No. 87.

No. 97 resembles the above, No. 96, but is very acid, like No. 94. Both No. 96 and No. 97, I think would be ever-bearing, like the Alpines, if irrigated. They are on the average strong growers, those I have described being four to seven times as large as Princess Alice under similar conditions in the next row alongside, and they also produced about seven times as much fruit as the Princess Alice suffered from the drouth early in the season.

I have a good number of Alpine X Rose Ettersburg-Cape Mendocino beach, and also crossed with the last named. Most of these resemble very strongly their Cape Mendocino beach father in foliage and fruit. In No. 121 we have a splendid blend of the Alpine-Cape Mendocino beach. The fruit is red like the Alpine and solid like the beach. Here again the hybrid Alpine picks up acidity from somewhere. The plant is vigorous, late in blooming, drouth-resistant and productive, and the fruit of high flavor.

**California Crosses.**—California hybrids from California seed are very often sterile and resemble the California in foliage. California X Wm. Belt has, however, proved an exception, and some very good results were secured.

No. 88 is one of this parentage. It is not over-vigorous, but much stronger than the California. The berries are small, about 1/2 inch in diameter, highly colored and freely produced. It has no equal as a canner, and even at that it has a good margin to spare. It holds its form when cooked and is as red as one could desire, and the flavor is unique and high. The quality of No. 88, with some improvements in size of fruit and a stronger growing plant, such as No. 87, would make a berry that would be almost perfect.

**The Outlook.**—As for the future of this strawberry experimental work, I am desirous of working along as fast as circumstances will permit. I wish to place the plants on the market, but the sun burns the runners on many varieties here, and lack of reliable transportation facilities hence in the wet season also will make it necessary to engage a reliable nurseryman in a more favorable locality to handle the commercial end of the project.

While I cannot deny that some of these varieties as individuals and only plants have made enviable records this season, I want to see them do it again before I make any move to send them out into the world. I trust it is almost unnecessary to say I have no plants for sale at this time, except possibly a few of the Rose Ettersburg.

In these articles I have tried at all times to stand by facts and give the reader intelligent bearings wherever possible by actual comparisons. I have assumed a difficult task, but if I have erred in my judgment, I wish to be the first man to find it out.

ALBERT F. ETTER.

Briceland, Humboldt County.

### PLANTS THAT LIVE NOT WELL TOGETHER.

To the Editor: I send you an article which was published some time ago in Collier's Weekly, the reading of which has caused a number of doubts and questions in many of our minds as to our present practice of allowing grass and clovers to grow in our orchards for plowing under. Would you kindly print such parts as you see fit, and discuss same in the RURAL PRESS? By so doing you will greatly oblige a number of us who have had some doubts about future practice.—E. B. HOMER, Visalia.

We comply with our correspondent's request because the subject is an interesting one for speculation and may pass as a hypothesis to cluster upon such observations as our readers may make in the course of their experience. The account, which must be regarded as rather free and popular in some of its conclusions, is as follows:

Nowhere is the struggle for existence more incessant or more remorselessly carried to a finish,

than in the vegetable world. We gaze with admiration upon the arrowlike straightness and mast-like height of the trunks of the lordly pines in the dense forest. They grew thus in a fierce struggle to reach the sunlight and smother all competitors striving with them in the race. The original seedlings stood thirty to the square yard; the pride of the lumbermen run fifteen to twenty to the acre. The difference represents the death rate in the struggle. Every tree, every plant has won the position that it holds by the hardest fighting. Obviously, since the strife from overcrowding by one's friends is so deadly, the best thing to do would seem to be to scatter out and cover the ground as thinly as possible. But here new risks are met. Evident enough are the dangers from high winds and storms, from lightning stroke, from the attacks of animal and insect enemies. But the foremost danger of all is from a wholly unexpected source, and that is from an influence no more formidable in appearance than the soft, green grass. This has been brought strikingly to the public eye by an announcement of Superintendent Parsons that the soil of Central Park, New York, is played out. The trees are dying, the grass is thinning, and nothing will save it but a re-coating with fresh, new soil. It has, of course, been long known that there was antagonism between grass and trees. Beautiful and picturesque as are the spreading oaks and gnarled beeches of the English park, drooping their branches over the greensward, with the deer reposing under their shade, their death-rate is enormous. They do not thrive nor live to such ages as do their companions in the dense woodland. Our orchardists found out the same thing practically a decade or so ago, and in the modern twentieth century orchard the soil is kept as bare and brown and thoroughly cultivated as a freshly sown wheat field.

**Science and Grass.**—That the grass took from the soil substances that were needed for the nourishment of the trees, and vice versa, was the first explanation; that the trees deprived the grass beneath them of sunlight and water. This explanation, however, would not stand the test of experiment; no matter how abundantly fertilizers of all sorts were applied to the trees of the grass-grown orchard, the trees still refused to yield their best quality of apples, and tended to die, and, on the other hand, no matter how high up pruning was carried, and how thoroughly the sunlight was permitted to penetrate to the very roots of the trees, grass would not flourish within the sphere of influence of trees. So that the orchardist who tried to grow two crops lost both. The subject was taken up by the National Bureau of Agriculture both in France and in the United States, and after prolonged research the principal cause was discovered to be the somewhat unexpected formation of substances in the soil by the grass which are directly toxic or injurious to trees. Seedlings and young trees were planted in pots and boxes filled with the same soil, and subjected to exactly the same conditions of moisture, heat and light. Part of these were then sown with grasses of various sorts, as well as clover, peas and various other crops, and the remainder left bare, but thoroughly cultivated. The result almost invariably was that those seedlings whose soil was kept clear of growth grew faster and more vigorously than any of the others, although some crops like clover and peas seemed to interfere but slightly with their growth; grass was most injurious of all. Thinking that the amount of cultivation and aeration of the soil might differ, two sets of seedlings were then planted, one in a soil shaken out of freshly dug old sod, and thus presumably charged with toxins; and the other in fresh soil from a plowed field, and both thoroughly cultivated. Again the difference was all in favor of the ungrassed soil. A dozen other variations of conditions were then made, as to fertilizer, moisture, heat, etc., but with practically one result. Possibly in future some method of detoxicating or purifying the soil of these products may be devised. It may be possible to renew the soil of Central Park by some less radical and expensive procedure than that of complete removal and substitution. It is even believed that a similar process of auto-intoxication plays a considerable part in the so-called "going stale," or loss of fertility in ground in which the same crop has been grown a number of seasons in succession; and that part of the value of that



time-honored device of laying fallow is due to the opportunity given both for weeds to neutralize or take up some of those toxic products, and for the rain, the sun and the wind to wash, blow and oxidize them out of the soil.

As we remarked at the beginning, all this is a good thing to know about, but it must be taken up as a piece of special pleading, and therefore one-sided, and as much effort made to contradict as to endorse it. When it is remembered that there is a settled disposition of some plants to live together and that the delectable word "symbiosis" has been made to cover all manifestations of such disposition, one must conclude that it is certainly a bad mistake to hold that all plants are in the divorce court or in the prize ring. For these reasons we advise our correspondent to think about the claims which he brings to our attention and establish the fact that some plants cannot get along well together and others delight in such association. And he can write us later what his conclusions are and what significance they have as to our culture policies.

## Citrus Fruits.

### ORCHARD CULTIVATION.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

In irrigated lands, cultivation as a distinct cultural operation is of such importance as to call for very careful thought. It may be stated in advance that irrigation affects the cultivation to such an extent that it makes it more or less difficult. An overdose of water in a soil that drains very slowly or imperfectly makes the soil so soggy or sticky that the result of cultivation is a lumpy condition on which the dust mulch is impractical. The object of cultivation following irrigation is to loosen the soil as deeply as possible, so that the circulation of air in it may be renewed. The operation of irrigation drives must of the air out of the soil, unless it is effected by sub-irrigation so as to allow the water to diffuse through the soil by capillary attraction. As our orchards are surface irrigated, it becomes necessary to replace the circulation of air. After an irrigation the soil is cold, and this circulation of air is necessary to warm up and make the soil a genial home for the rootlets of the trees. The bacteria of the soil that decompose the organic matter in it and convert soil material into food for plants, require air, and will die without it. The rootlets of the trees require air, or they will fail to perform their functions of feeding the tree.

The purpose of cultivation most frequently referred to is the conservation of moisture. This is effected by pulverizing a few inches of the surface soil and loosening it from the soil immediately below it, so as to cut off the capillary rise of water and thus reduce evaporation. If the soil is left intact after an irrigation, the water rises rapidly through a system of capillary soil-tubes, and ever as the water reaching the surface is evaporated by the sun and carried away by the winds, the supply from below climbs up to take its place and in its turn is evaporated. As long as there is water enough below to climb by capillarity this evaporation continues, until a condition of comparative dryness and perhaps hardness exists. Then gradually the point of evaporation is lowered by the free circulation of air in several inches of surface soil, and the roots of the trees suffer for want of water. Some soils are so well organized that the surface dust mulch or dust blanket is easily made and maintained. On other soils no such blanket can be made. What then should the grower do to put the soil in a condition to be surface mulched to conserve nature?

The best answer to this is: Grow mulch crops, commonly called cover crops. By disking the green hay of the mulch crops into the surface of the soil a mulch is effected, by making a strata on the surface of from four to five inches, which is so different in texture from the soil below that does not readily join with it and form capillary tubes. A good mulch for the conservation of moisture can be obtained in this way on soils which,

without the addition of organic matter, will not form a fine blanket by the simple use of the cultivator. This may seem a waste of material which has some fertilizing value, but as the conservation of moisture is a condition precedent to the feeding of the plant, it is really an economy.

As noted above, there are other important considerations for cultivation which the shallow working for dust mulch does not meet. For the purposes stated deep cultivation is necessary, but it should be done with cultivator teeth that will do the least damage to the rootlets which it is desirable not to cut off. When to cultivate deeply and when shallow is governed by the object in view. We must cultivate deep to aerate after irrigating, and shallow to finish a good mulch to conserve the water.

But some soils are so loose, and drain so thoroughly, that the deep cultivation is not necessary, and in such soils it has often proved a detriment. Some loose, well drained soils contain such a considerable amount of silt that deep cultivation is inclined to work it down, until it accumulates and forms a hardpan by a sort of cohesive action of silts. The danger of this is, however, much lessened by the growing of cover crops of the vetch, which fill the lower soils with a net of hairlike roots. As these roots decompose they organize the soil so that hardpan is not likely to form.

Notwithstanding these general principles, we must not lose sight of the fact that there are such a variety of conditions in soils that it is quite impossible to lay down an absolute rule. Each soil worker learns some fact in reference to the soil under his hand that often requires a change in procedure from the general rule, but if he has in mind the principles which govern the work, and the end sought, he should be able to bring theory and practice together successfully.

## The Vineyard.

### KEEPING QUALITY OF TABLE GRAPES IN TRANSIT AND IN STORAGE.

By MR. A. V. STEUBENRAUCH, expert in fruit transportation, of the Bureau of Plant Industry of the U. S. Dept. of Agriculture.

During the past seven years the Bureau of Plant Industry of the United States Department of Agriculture has conducted investigations to determine the factors that govern the successful shipment and storage of fruits. There have been included in these investigations apples, peaches, pears, plums, oranges, grapes, and small fruits.

It has been shown that the different kinds of moulds which cause the most common forms of decay in these fruits while in transit and in storage are unable to penetrate the sound, normal skin of the fruit. These moulds generally gain entrance through mechanical abrasions produced in the preparation of the fruit for market. It is not unusual to find 10 per cent of apples showing cuts or abrasions in the skin. Small fruits are more commonly injured, while oranges frequently show from 10 to 50 per cent of the fruit with the skin cut by the clippers in severing it from the trees or by rough handling of the fruit in the packing houses. It has been demonstrated that by careful handling in the picking and packing of oranges under commercial conditions the injuries can be overcome and the decay can be almost wholly eliminated.

**Investigations with Table Grapes.**—During the past two years the storage investigations have been extended to the table-grape industry of California. The investigations were started with two objects in view: A study of the factors which may affect the keeping quality of the grape in transit and in storage, on the one hand, and on the other, the possibility of extending the marketing season of California grapes by cold or common storage with a view to the possible replacing with the California product the \$1,500,000 annual importation of fresh Spanish grapes.

The preliminary investigations have shown that most of the injuries to grapes in handling occur at the point where the berry joins the stem—the pedicel. Other forms of injury are broken and cracked berries, produced by rough handling or excessive squeezing in packing. The pedicel breaks are perhaps the most difficult to control,

especially in tender varieties. The simple bending of a berry to one side may cause a break at the pedicel, frequently so slight as to be nearly invisible, but sufficient to allow the entrance of the mould. These broken berries under proper conditions of heat and moisture will show mould in a few days. After the mould has started it will continue to develop and spread in the ordinary grape package even at a temperature near the freezing point.

**Cold Storage Experiments.**—A few examples will suffice to show how great an influence careful handling and packing may exert on the keeping qualities of table grapes. Sixteen of the leading varieties of table grapes, some of which are grown commercially in California, were used in cold storage experiments. All of the grapes were handled with the greatest possible care, and were packed in different ways, after which the fruit was held in cold storage. The varieties studied are the Flame Tokay, Muscat, Thompson Seedless, Ferrera, Emperor, Verdal, Black Prince, Malaga, Cornichon, Huasco, Bowood, Pizzutella (Lady Finger), Perruno, Chasselas de Fontainebleau, Zabalanski, and Almeria.

The table shows some of the results obtained in the cold storage experiments in 1906 and 1907. The open crates were firmly packed, but not high enough to necessitate squeezing. The table also shows results with the same varieties packed in tight boxes, with fillings of ground cork and redwood sawdust, and, for comparison, the Flame Tokay and Emperor varieties packed for commercial shipment without extra precaution in handling.

Variety.	Packed in ordinary open crate. Days.	Packed with cork filling. Days.	Packed with red- wood saw- dust filling. Days.
Flame Tokay .....	40 to 60	65 to 100	...
Muscat .....	30 to 40	90 to 100	110
Malaga .....	30 to 35	90 to 115	120
Black Prince .....	20 to 30	70	...
Black Ferrara .....	40 to 60	90	...
Purple Cornichon ..	45 to 60	80 to 140	150
Verdal .....	20 to 25	100 to 110	130
Pizzutella .....	20 to 35	70 to 90	110
Almeira .....	80 to 100	95 to 150	170
*Flame Tokay .....	10 to 20	.....	...
†Emperor .....	30 to 40	.....	...

\*Commercial pack. Contained 25 to 40 per cent of injured berries. Delay of four days between picking and storing.

†Commercial pack. Contained 10 to 12 per cent of injured berries.

The commercial packs of Flame Tokay and Emperor were the usual high pack. The grapes were subjected to quite severe squeezing, although both lots were extra selected. The percentages of injured berries were too high to make long keeping possible.

The length of time given in the table refers to the limit of first class condition as indicated by freedom from mould, decay and dropping from the stems.

All varieties shown in the table, with the exception of the commercially packed Flame Tokay and Emperor, were packed soon after picking and were shipped immediately. Not more than thirty-six hours elapsed between picking and placing the fruit in cold storage.

It has been shown in the investigations with other fruits that one of the most important factors in the successful handling of fruits, either in storage or in transit, is quick shipment or quick cooling after the fruit is harvested. The sooner the fruit can be cooled after it leaves the tree or vine the longer time it will continue in first-class condition. This is especially true where there are any appreciable mechanical injuries in handling. It has been shown with oranges, for example, that after a delay in shipping or cooling of two to four days, the decay in transit may be from two to five times greater than under immediate shipment or cooling, depending upon the amount of mechanical injury in the fruit. These factors of quick shipment and quick cooling are likely to be as important and perhaps more important with grapes than they are with oranges, for the reason that the ordinary grape package offers ideal moisture conditions for the development of moulds, and if the proper heat conditions are present



moulds are almost sure to occur. In the case of the commercial pack of Tokays shown in the table, mould had already made its appearance on the arrival of the fruit at the storage house, four days after picking. These crates were shipped by express and consequently had no cooling in transit.

The data presented have an important bearing on the problems dealing with the safe handling and transportation of table grapes. They show that under proper conditions of handling and packing the more tender varieties may be held in sound condition beyond the time required to reach distant markets.

This circular is issued in order to call the special attention of grape growers and shippers to the value of careful handling and quick shipment and cooling, in the hope that its suggestions may be of service during the coming shipping season.

## Patrons of Husbandry.

### TULARE GRANGE MEETING.

To the Editor: Tulare Grange convened in its hall on Saturday the 5th. There was an enjoyable meeting, although not all of the members have yet returned from their summer vacation. A class of two was initiated in the third and fourth degrees.

A letter was read from the secretary of the Tulare County Fair Association, requesting a Grange exhibit at the county fair this month. Much consideration was given to the subject, and a committee was appointed, consisting of Brothers H. T. Hunsaker, I. N. Wright, J. T. Lawson and Thos. Jacob, to consult with the fair directors and the Tulare Board of Trade and make an exhibit of Tulare county products.

Circulars 37 and 39 from the University Farm School at Davis were distributed. Circular 37 tells of Short Course of Instruction for 1908. The short course consists of instruction in dairy manufacture, eight weeks, October 5 to November 25; irrigation, soils, forage crops and cereals, three weeks, October 12 to 31; poultry husbandry, eight days, October 12 to 20; animal industry and veterinary science, four weeks, October 21 to November 18; horticulture and viticulture, three weeks, November 4 to 25.

The short course at the University Farm School at Davis is for the benefit of those desiring both practical and scientific instruction in their special subject and who cannot give the time necessary for a full university course. After a short discussion the following resolution was passed unanimously:

"Tulare Grange, P. of H., Cal., is much gratified at the successful establishment of a University Farm and Farm School at Davis, in this State. In agricultural education it meets a long-felt want. We commend it to the favorable consideration and support of all engaged in agriculture or interested in its promotion. This Grange will do all it can to promote the school and its best interests."

The secretary read a letter from the Hon. S. C. Smith, representative in Congress for this district, that he will be present and address the Grange on the 19th of this month. A committee of three was appointed to meet and receive Mr. Smith, who that day will be the guest of Tulare Grange, and to arrange for a Grange public meeting.

On the subject of a revision of the tariff now talked of and contemplated, the following resolution was introduced:

"Whereas, All political parties being of accord that at the next session of Congress a revision of the tariff will be considered and changes made therein;

Resolved, That Tulare Grange No. 198, P. of H., Cal., respectfully requests of Congress to make no reduction in the duties now on agricultural products which when brought to the United States will compete with like products of this State. Any such reduction, if such is made, will be injurious to all similar products raised here, and destructive to the production, profitably, of many of them."

It was stated that, in as much as all political parties have agreed upon revising the tariff at the next session of Congress, this is no partisan subject, but that the agricultural products of our own State shall, in an adjustment of our revenue laws, receive that consideration and protection essential to their well-being.

J. T.

## The Field.

### FLAX AS A CHANGE-CROP WITH CEREALS.

Written for the PACIFIC RURAL PRESS  
By E. J. WICKSON.

There is a wide demand for a crop which can be used in California as an escape from continuous growth of cereals. It is not possible to follow the long rotations which are favored in older countries of larger rainfall, where diversified farming, including the keeping of much live stock, is planned to make profitable use of clovers and root crops, nor are our grain lands generally suited to such products until they are subdivided into small tracts to be farmed with an ample supply of home or low-priced labor and supplied with irrigation. We are making good progress in subdivision and more intensive farming, but it may be half a century or more before gain in population and development will call for all of the vast area which is now available for field crops and which has been made productive by dry farming processes since the Americans came to California.

A handy change-crop for occasional introduction on such lands which are suitable for cereals must be one which can be put in with about the same labor supply, teams, and implements which are now used for wheat, barley or oats, and can also be taken off in the sack with the same cutting, thrashing and cleaning machinery. Such a crop must be adapted to a wide range of soils; it must make a winter growth as grains do, and it must, if possible, be a little more profitable than grains, to give the farmer an appetite for it. All these requirements are met by a seed-crop of flax, and as there is now a local demand because the linseed oil makers are ready to contract for the crop and thus have the advantage of a local supply of raw material for their manufacture.

Questions naturally arise as to the character of the flax seed crop upon the land and its indirect effects upon the cereal crops which follow it.

First. It has been clearly shown by ample accurate experiments that flax is not more exhaustive to the land than wheat, although a wide impression exists that it is. Summing up the mass of evidence on this subject, Professor J. H. Sheppard, of the North Dakota Experiment Station, reaches this conclusion: An average crop of flax is no more exhaustive of soil fertility than one of wheat. Chemists have analyzed the two crops as taken from the fields, also the soil before and after producing them, and similar results are attained as to their drain upon the soil.

Second. In rotations decided upon after long experience in European countries, flax has a place after cereals and before cereals, showing that flax both follows and precedes cereals with good results to both crops. For example, in rotations favorably reported from Belgium, a very old flax-growing country, flax is put down as a good crop to follow oats, wheat, barley, and rye, and in other rotations it is found preceding wheat, barley, rye, and oats. This shows conclusively that all these crops are good to go ahead of or to follow flax, according to the convenience or chance for profit to the grower or the suitability of the soil.

Third. Not only are these change-crops of flax favored, with whatever cereal crop is grown to advantage in the district, but there is also clear testimony that the cereal which follows flax is apt to be improved, because of the different root growth of flax or to some other effect its culture may have upon the soil. The result reported from North Dakota is that wheat following flax gave 12½% greater yield than was had from wheat following wheat on the same land.

A general advantage to the agriculture of California from an increased product of flax seed and a free local manufacture of oil is to be found in a large supply of linseed cake and meal for stock feeding. Our dairy and stock interests need large quantities of these feeds, which are rich in protein, at fair prices. When our linseed oil is imported, the by-products are left behind to enrich the regions where the mills are operated. It is, therefore, important that flax seed should be grown as a change-crop in California, both for the direct results and for the benefit of all who are endeavoring to increase and improve California's live stock industry.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.   |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                            |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                             |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                            |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc. Persimmon, Pineapple, Avocado, etc. |
| 13 Cultivation.  | 32 The Banana, Loquat.                                       |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                     |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                    |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                  |
| 17 The Apricot.  | 36 Injurious Insects.  |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                              |
| 19 The Peach.  | 38 Injurious Animals and Birds.                              |
|  | 39 Protection from Winds and Frosts.                         |
|  | 40 Utilization of Fruit Wastes.                              |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy.  
Orders Now Booked for September Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The almond harvest about Lower Lake is being gathered.

The Glendora Citrus Association reports having shipped 199,909 boxes of oranges, netting the growers \$1.62 on Navels and \$3.94 on Valencia lates.

The Indian Hill Association of Pomona shipped 153,444 boxes of Navel oranges this season. The price received by growers was \$1.74 per 100 pounds.

A cherry tree of the Royal Anne variety near Newberry, Ore., is seventeen years old, and from it the owner took this year 2,600 pounds of fruit which sold for \$125.

Grape picking has commenced in the big 3,500-acre Italian Vineyard company at Cucamonga. The entire vineyard is set to wine grapes and the quantity will be fair and quality good.

The Mutual Orange Distributors of Redlands, controlling about 6,000 acres of orange groves, have decided to erect a fertilizer factory of their own, which will have a capacity exceeding 2,500 tons per year.

Twenty-seven carloads of apples were shipped from Watsonville by the Southern Pacific railroad in one day last week. This is the record for the present season. The shipment was composed principally of Bellefleurs.

It is conservatively estimated that at least \$80,000 will be paid to almond growers in eastern Contra Costa this year. The owner of one orchard of fifty acres, located near Antioch, will receive \$3,000 for his crop this year.

Pear growers of Nevada county are not making on an average within a dollar a box of last year's prices on their fine Bartlett pears. Returns from the Eastern markets are discouraging, but for all that a small profit is resulting.

Prunes are next to nothing in the Anderson valley this year. A hundred and fifty tons will be about all that the Anderson prune belt will produce. It is only the orchards in the foothills that are yielding any considerable amount.

Nine orange cling peaches to the yard holds the record at this time. Harry Say brought samples of this fruit, grown by him, to the Selma Land Co., and nine of the peaches placed side by side measured just three feet. The nine weighed 8½ pounds.

Chico will ship twelve to fourteen cars of hold-over prunes, consigned to various markets. This fruit has been held in storage from last year's crop. The fruit is now being processed at the packing house. The prunes are coming out of storage in excellent shape.

The pear crop of the Cone orchard at Red Bluff amounted to about 1,300 tons. The crop was unusually large and came as a surprise to those familiar with the orchard, as the pear blight had been doing its deadly work and some thought that this year's crop would be a failure.

Decisive action has been taken at Lodi by a committee of grape growers representing 6000 acres of vineyard land and who announce that they would organize for the purpose of resisting the offers of the California Wine Association, which is credited with the intention of paying only \$6 per ton for wine grapes.

The Pioneer Fruit Co., through its local manager at Lodi contracted to sell one-half of a Tokay crop for E. L. Davis at 70 cents per crate f. o. b., which is considered a big price this year. Davis has figured the cost of picking, packing, and in fact all other expense incident to the harvest of the crop to be 26 cents per

crate, which leaves him a net of 5 cents per crate or \$36 per ton.

For several years the growers of Bartletts and Hungarian prunes in Nevada county, particularly in the Chicago Park district, have received top prices and netted handsome profits on their output. This year there are no buyers in the field, as in the past, and all fruit is being sent out in consignment.

There are several agents of fruit companies trying to buy orange crops in the Oroville section. Oranges promise well this year in quantity and quality. The majority of the orange growers are members of the Butte County Citrus Association, and are confident that they will obtain better returns if they do not sell the fruit on the trees.

Fifty carloads of pears have been shipped to the East from Anderson this season. The bulk of the crop has gone forward. As nearly as can be estimated at this time the total for the season will be sixty-five or seventy carloads. The pears have sold in the East at from \$1 to \$3 a box, or from \$30 to \$60 a ton. The average price has been close to \$40 a ton.

The tomato crop at Whittier and La Habra in Los Angeles county will be very good this season, though the acreage is about half that of last year. Around Whittier there are about 300 acres and La Habra has half that amount. Harvesting and shipping will commence the latter part of September. Most of the crop is contracted for at prices ranging from \$25 to \$40 per ton.

Reports from Fair Oaks, Sacramento county, state that the almond crop is unusually large, and that the olive and citrus fruit production promises to be large also. Almonds have been picked during the last two weeks, and it is believed that when the harvest is all in a new record will be established for the vicinity. A single tree on the Stephenson farm yielded 103 pounds of nuts.

All the packing and dried fruit houses at Winters are very busy with peaches at the present time. The drying season is on in full blast and the local cannery is running night and day. The crop is large and it is probable that the present pack will be one of the heaviest in years. While prices are not high the demand is good and all the good lots are being rapidly cleaned up by the various buyers.

In many places in the upper part of Nevada county there have been frosts already. According to the farmers and orchardists living in the vicinity of Washington ridge, the frost was quite heavy and inflicted considerable damage. All the cucumbers, tomatoes and pumpkins have been completely destroyed. It is stated that this is the earliest heavy frost in several years, and it is taken to indicate an early autumn and winter.

The annual report of the San Antonio Fruit Exchange of Pomona was held last week and the reports made show that the past season has been very satisfactory to the growers. Good prices were received and the total shipments of oranges were 658,581 boxes of oranges and 146,513 boxes of lemons. By having a fund on hand to go into the box business on its own account the price was reduced from 21 cents to 13 cents and a contract made for four years on that basis.

Watsonville and Pajaro valley was visited by William Crossley of Liverpool, Glasgow and New York in order to learn something of the probable production of Newtown Pippin apples in the valley. This variety of apples commands the highest prices on the Liverpool market, and it is learned that his firm is looking forward with much pleasure to the large tonnage of Newtowns that will reach the market this season. He says that in all his trav-

els through Eastern and Southern apple districts he has not found a showing such as this valley presents.

The Gravenstein apple is still proving superior to all other varieties in the Sebastapol country. There has been a heavy crop, but the price has held up better than almost any other of the shipping fruits. The packing houses have paid \$20 a ton for good apples the season through, and some of the growers have done much better by doing their own marketing. The poorer grades have been bringing \$4 and \$5 a ton at the dryers and juice factories, while the Free Market at San Francisco has been netting the growers from \$12 to \$15 a ton on the poorer grades.

### AGRICULTURE.

Wheat growing sections of Oregon are elated over the dollar wheat market again.

The Alameda Sugar Co. is shipping from ten to fifteen cars of beets daily to the factory at Alvarado.

California vegetables are commanding fancy prices in Phoenix, but a campaign is under way by which it is hoped Arizona will produce more of its own "garden sass."

Six acres of land on the Kroegeer ranch on the Dublin road, Alameda county, produced forty-two tons of hay this season, seven tons to the acre, which is one of the largest crops for many years.

The beet harvest at Woodland is now on. It is expected that eleven cars will be loaded every day. Twenty teams are engaged to do the hauling. Ninety days will be required to harvest the crop.

Ross Nissen, who farms near Spreckels, Monterey county, has recently threshed 379 sacks of barley from six acres, which is a little more than 63 sacks to the acre. So far as heard from this is the record for 1908.

The Southern Pacific Milling Co. of Salinas has received so far this month 19,743 sacks of barley, and for the months of July and August over 100,000 sacks. There is a probability that another 100,000 sacks will be added to the above during the next two months.

Otis D. Wilbur of West Butte states that his crop of alfalfa seed this year gives promise of making a splendid yield. He says that land he formerly farmed to grain is now in alfalfa and besides the hay he gets annually from the tract, he realizes big returns from alfalfa seed.

Barbour & Clawson finished the season's run for their four steam harvesters operating at Delano, Salieta and Alpaugh, Kings county, over some seventeen sections of grain. Mr. Barbour stated that in the Alpaugh country was the only grain worth harvesting and they harvested 20,000 sacks from 3,500 acres there.

San Joaquin county will be the bean center of the State this season. A larger acreage has been planted this season than for many years. Weather conditions have been favorable and the yield this year will be enormous. It is estimated that there are fully a dozen threshing outfits at work on the bean lands. Ordinarily harvesting does not commence till after the 1st of October, but this year an early season will be a feature of the bean industry.

The gathering of the beet crop in the Salinas valley and other places tributary to the Spreckels sugar factory is on in earnest. The prospects are for a good yield of beets, and for the beets to yield a high percentage of sugar. It is estimated that not less than 180,000 tons will be delivered at the present outlook, but should early rains come the crop would be even larger, for the beets would take a fresh start before the ground would be dry enough to get them out.

### MISCELLANEOUS.

The olive oil output in the Beaumont section is expected to exceed 3,000 gallons this season.

From reports recently received from the land office showing the acreage of the public domain remaining undisposed of July 1st, there are in California 23,232,284 acres surveyed and 6,640,209 acres unsurveyed; total, 29,872,493 acres.

Our friend Crooks of the San Fernando Press is advocating the holding of an annual "citrus day" in his town. Its a good idea and ought to be made a permanent feature. Every town in the State ought to have its annual advertising day.

According to the Riverside Press the Southern Pacific railroad company is to lower its freight rate on baled hay from the Imperial Valley to Los Angeles to \$3.50 per ton. If this is done many tons of alfalfa will be shipped from that valley in competition with the lower San Joaquin country.

The Anaheim Gazette says that members of the Orange County Celery Association have just received \$29,000 from damages collected from the railroads. Celery shipped during January, February and March of 1897 was delivered in poor shape, and as a result the above amount has just been collected.

State Horticultural Commissioner Jeffrey attended a meeting of the agriculturists at Fair Oaks, Sacramento county, for the purpose of discussing means of eradicating the Johnson grass, which is invading the farms. As a result of the meeting it was decided to clear Fair Oaks of the pest and form a permanent agriculturists' club for the purpose of promoting the welfare of the region.

A self-adjustable grape crate capper has recently been invented by Charles Lupton, a well known Lodi blacksmith, that may mean much in time and labor to fruit shippers. The box of grapes is placed in the capper and the lid placed on top in the usual manner. With one stroke of the foot on the lever the top is adjusted into place.

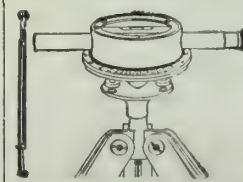
All over the State companies and associations and private individuals are arranging to plant areas to eucalyptus for wood, lumber and railroad ties. The largest of the eucalyptus enterprises has been started in Fresno county, where it is proposed to set out 5,000 acres of eucalypti. A company with a \$100,000 capital has been organized to finance the proposition and eight full sections of land will be planted.

### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

EXPERIENCED orchard manager wants permanent position. Advertiser a married man, aged 33; strong, energetic, reliable. Well up in all branches of his business, and general farming, capable of taking entire charge of large property. References. Address D. F. P., care Pacific Rural Press.

## BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

**Used for Irrigation and Drainage Work**

Has the latest patented improvements in simplicity and usefulness. Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

**Palace Hardware Co.,**

581 Market St., San Francisco  
Coast Agents. Send for Circular.



## Live Stock and Dairy.

### DAIRY AND POULTRY FARM COMBINED.

To the Editor: In the strong Grange community of Two Rock, near Petaluma, are many silos, for there dairying is carried on in such a way as to make it a very profitable industry. Probably one of the best in the State is on the ranch of Mr. Walter Church, who is in himself an authority on the construction of silos, having been recently called by the State to superintend the building of one for a State institution at Glen Ellen. Many visitors from a distance come to see the silo which he has made so valuable an adjunct of his dairy farm. For those who are interested in the subject this description is written.

It is a round tower 32 feet high and 16 feet in diameter. Its capacity is 120 tons, which furnishes feed for 35 cows for a year, exclusive of the pasture obtained on hillsides in early spring.

In October it is filled with the shredded corn, which is taken after it is dented but not hard, before the sap is gone out of the stalk, and timed so as to get the greatest amount of nutriment out of the stalk as well as the corn on the ear.

It requires the use of a steam cutter, 30 men and six or seven teams to harvest the crop and fill the silo in one and a half days. By the steam cutter it is shredded fine across the stalk and resembles sauer kraut prepared for the meal of a giant.

The building in which it is stored has a solid foundation of concrete. Its walls are composed of two by four studding placed one foot apart. This is covered on the inside by half-inch lumber cut into the necessary short lengths. This is again covered on the inside by heavy tarred building paper. Upon this is placed another course of surfaced, half inch lumber, closely fitted and so placed as to break joints with the outside course, so that no crack through admitting air is possible. A roof covers the whole.

The silo is filled from the top by an elevator, a man on the inside arranging and trampling down the successive layers. It is emptied by means of small doors three or four feet apart, extending down one side of the elevator.

A chute connects with the opening and carries the feed to a small car which runs on a track, perhaps 30 feet, to its terminus in the center of the barn. There a man quickly distributes the feed, putting two big shovelfuls in the manger in front of each cow, the stanchions all facing the center of the barn. The cows are very fond of the silage and do not seem to tire of it, eating it up very clean.

Some ten or twelve acres are put in oats hay, and this, with the native grass on the hillsides which affords early pasturage, supplies the feed for the year.

The conditions of the farm preclude the use of alfalfa, as it requires a deeper soil and more moisture than is found here, and to equal the amount of feed obtained from the corn there would have to be at least three crops a year cut, averaging three tons to the acre.

Mr. Church says that the advantage of having the silo of small diameter is that the entire surface-layer of the silage can be removed at each feeding. If a portion of it is left exposed to the air for any length of time it molds and is then entirely unfit for use.

There is another plan for the removal of the ensilage by which it is taken from the bottom, the superincumbent mass being supposed to press down and prevent the spread of mold, but there are serious objections to it in practice.

A separator is used and the cream dis-

posed of to a creamery and the milk is set until clabbered, the whey being fed to the hogs and the curd to the chickens.

**COWS AND HENS.**—The cows have a 60-acre pasture which they share with 3,000 White Leghorn hens who are disposed on the hillsides in colonies. Each house is moveable, being drawn onto fresh ground once a month. About 100 occupy each house. These houses are partitioned; on one side is the roosting apartment, on the other side is the laying apartment, with nests by the outside wall. In the center is a feeding apartment containing the water fountain, an automatic feeder with a hopper above into which a sack of grain is emptied and troughs in which the mash feed is placed. These are covered after the feed is put in them, space only being left for the hens to reach the food.

A two-horse wagon makes the rounds morning and afternoon, carrying water and feed; mash for the morning, grain in the evening. A hose is attached to the barrel and is placed so that it siphons the water into the fountain while the man puts the feed into the troughs. In the evening the eggs are collected and returned in the wagon which carries the feed.

At the present time, besides the 3,000 laying hens there are 4,000 young chicks, just out of the incubators, to be cared for.

On this farm is a fine apple orchard of ten acres, mostly Gravensteins. There is an abundant supply of water for all the needs of the farm, including the keeping up of a fine vegetable garden.

A gasoline engine is utilized to run the separator, to pump when there is not enough wind, and to run a feed-cutter which shreds up green feed for the poultry.

This farm seems to show that mixed farming can be carried on at a profit when the different departments are thus judiciously combined.

GRACE S. HURWOOD.

Geyserville.

War. anted to Give Satisfaction.

### Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL. West of San Pablo Ave.

### OUR BURR CLOVER IN TEXAS.

It seems, from a publication just issued by the Texas Experiment Station, that our burr clover is serving an excellent purpose in that State and is called "California clover." It is not, of course, a truly California plant, because it came from the south of Europe with the Spanish conquerors, or with the padres who followed them, but it is being distributed eastward through the United States from California. This is what is said of the plant in Texas:

In this climate burr clover always gives good grazing from one to two months before Bermuda and other summer grasses are ready. It thus enables us to almost fatten cattle before flies, heat and other annoying conditions appear. As grazing for dairy cows, it materially lightens feed bills, and in a large measure compensates for the lack of silage, one of the best and cheapest dairy feeds to be had.

For hogs it affords good grazing from November to May, say full half the year, and the grazing is just as nutritious, according to chemical analysis, as alfalfa. Alfalfa probably does not afford grazing more than eight months in the year, and yet it is one of the greatest pork producing crops known, when grazed in connection with light corn feeding. An acre of alfalfa has often produced pork enough to pay for the corn consumed, and from 500 to 750 pounds besides.

With plenty of winter and summer



Free Veterinary Book

Infallible guide. Makes every man his own horse doctor. Postage 3c.

**Tuttle's Elixir**

Insures sound horses. Cures splint, curb, spavin, etc. \$1.00 reward for failure where cure is possible.

TUTTLE'S ELIXIR CO., 33 Beverly St., Boston, Mass. Los Angeles, W. A. Shaw, Mgr., 1921 New England Av.

Beware of all blisters; only temporary relief, if any.

Coffin, Redington Co., 625 Third St., San Francisco, Cal.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY. BREEDERS OF SHORTHORN CATTLE 641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows

BERKSHIRE AND POLAND-CHINA HOGS C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

### The Fresno Scraper



Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS FRESNO CALIFORNIA.

### THERE is a MAN

In your locality who is making \$2.00 against every one that he made last year.



### HOW?

By doing mixed farming—running a dairy as an adjunct to his farm. Now he realizes that the dairy is a reliable source of income; and that it gives regular employment to all the members of the farm.

But, let us not forget to say, that upon the advice of the Dairy Station, he investigated all the standard makes of separators—and proved to his own satisfaction that the

### Tubular Separator

is 50 per cent better in every way than all other makes, and that it is a profit maker—a result giver.

For proofs of these claims write for free catalog 131.

THE SHARPLES SEPARATOR CO., West Chester, Penna. Toronto, Can. San Francisco, Calif. Chicago, Ill.

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS

Famous Blacow, Roberts, Glide French Merino Sheep.

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

RAMS FOR SALE AT ALL TIMES

P. O. Box Home Telephone 297 Sacramento, Cal. Dixon, Cal.

grazing, and a little corn feeding, hogs have often been produced for from 2 to 2½ cents a pound, while hogs raised and fattened on corn alone probably cost in the neighborhood of 10 cents a pound. It should not be forgotten, however, that no grazing crop alone will make hogs grow rapidly without some grain or other concentrated food in connection with it.

Burr clover on Bermuda grass is the finest kind of combination for an all the year around pasture. The clover grows in winter, while the Bermuda is dormant, and in the early spring before the latter gets a start. The grass sod holds up the stock while the clover is being grazed. The clover dies root and top in time to rot and fertilize the soil by the time the weather is warm enough to start the grass.

The nitrogen gathered from the air by the clover, and gradually given to the grass through the summer as the clover stems, roots and leaves rot, makes the grass larger, greener, tenderer and more nutritious.

Before the clover dies in the spring, it makes a great quantity of burrs, containing the seed, from 50 to 200 bushels per acre, and these are left on the ground to come up again in the fall, which they never fail to do when the fall rains come, and without any further preparation of the land whatever. If, for any reason, the land is plowed or harrowed or otherwise treated it makes no difference—they come up anyhow. The writer has seen old burr clover land planted in cotton or other hoed crops, and yet the burr clover would continue to come up each fall for three years.

Sheep are said to be able to graze this plant close enough to prevent seeding, but the author never saw this done, and never saw any other stock eat it close enough to prevent an abundant seeding. So, after being once well started, one has it always, unless he chooses to get rid of it.



## UNIVERSITY FARM CREAMERY.

The creamery at the University Farm at Davis opened on September 1st and will be in splendid running order when the short course begins on October 5th. Mechanically, the creamery is the best fitted on the coast. It has a 40-horse-power boiler and 20-horse-power engine. Either steam or electric power may be used, since a 15-kilowatt motor is also in place, connected with the Bay Counties Power Co. An eight-ton ice machine, with brine and cooling tanks, has been installed, and six rooms for butter and cheese storage are piped with direct expansion coils. Two makes of factory-size churn and a large cream ripener are in place, besides a number of separators of different sizes, starter cans, cheese vats, presses and curd mills. The creamery will be run on a commercial basis the entire year, and thus be in excellent order for practical instruction for creamery operators. The applications thus far received are from men who have had from one to four years' experience, and with this standard set, a high grade of work is assured. Every creamery operator should be there when the course opens on October 5th. Write for more information to University Farm, Davis Cal.

## NATIONAL DAIRY CONVENTION

Under the direct supervision of Chief Ed H. Webster of the Dairy Division there will be held a dairymen's convention at the third annual National Dairy Show, which takes place in Chicago at the Coliseum, December 2 to 10 inclusive. It is the purpose of this convention to deal with subjects of national importance, and the program will be filled with men who will be eminently capable of dealing with subjects of the highest interests to dairy farmers.

There will be a large exhibit of dairy machinery and cattle at that time.

A suit involving the question of the rights of the State authorities in compelling stock men to clean up their ranches, that the Texas fever tick may be eradicated, was decided in the courts of San Luis Obispo county last week. The State Veterinarian was upheld in his efforts to force owners to dip their cattle to kill the tick.

Hog cholera has been prevalent near Red Bluff during the summer months, and many of the small hog raisers have lost very heavily. In some places nearly every hog on the place died from the disease.

The horse buyers are active in the upper Sacramento valley. Last week three carloads of horses were shipped from Marysville to Los Angeles, having been purchased from the farmers in the locality.

Dairymen in southern California are using great quantities of sugar-beet pulp, shipped from the Los Alamitos factory. The factory charges 50 cents per ton for the pulp after the sugar has been extracted.

The Hazelwood Creamery at Greenwood, Siskiyou county, is having a good season's run and is turning out about 18,000 pounds of butter per month.

## Apiculture.

## BEES IN THE SAN JOAQUIN VALLEY.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

During the month of August Mr. J. T. Dunne, inspector of apiaries for Fresno county, reports having visited twenty-nine apiaries having a total of some 1,904 colonies. He found twenty-one infected colonies of foul brood of which he destroyed fourteen and treated four. The remaining three were destroyed by the owners. This is a good record for Fresno county.

Honey conditions in Fresno county and the lower San Joaquin valley in general are not the best. So far ten carloads have been bought by local buyers of Fresno. This deficiency is due to the hot weather and also somewhat due to the presence of an abnormal number of yellow butterflies on the alfalfa which steal the nectar away from the bees. Now and then butterflies of this species do become abundant locally, but they fluctuate in numbers, and another year will probably find matters reversed and the butterflies less abundant.

It is interesting to note that migratory bee-keeping is growing in favor in Fresno county, as many bee-keepers are reported as moving their bees from the West Side to the clover and blue-curl fields in the vicinity of Rolinda. Mr. H. T. Christman has recently moved three carloads of bees to Rolinda to take advantage of the better honey yield in that section.

## Bee Questions and Answers.

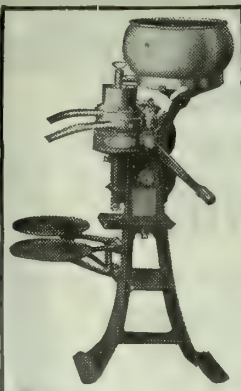
"PACIFIC RURAL PRESS,

"Dear Sirs: I have been watching the PRESS lately for ads of bee-keepers' supplies. As I have not found any, will you kindly write me where such can be bought; also where papers devoted especially to the interests of bee-keepers can be secured. And oblige, yours truly, J. S. Witherell, care Business Office Stanford University."

We think our friend Witherell's point is a good one, for we, too, have been looking for advertisements of bee-keepers' supplies and of bee papers in our columns. Locally we have two general supply houses. Madary's planing mill of Fresno, and H. J. Mercer, 731 East Third street, Los Angeles. Mr. Mercer's specialty is the manufacture of comb foundation. Besides these two we know of two other agencies handling supplies of the A. I. Root Co. of Medina, Ohio, B. H. Hogaboom of Elk Grove, supplying the northern end of the State, and the Aliso Apiary at El Toro, aiming at southern trade. Madary's planing mill at one time had an agency in San Jose, but we do not know whether this has been kept up or not. We would think it a most excellent thing if our supply dealers would let us know where they are and keep us and our readers posted by regular advertisements in our columns.

The bee journal question is a hard one for California bee-keepers, as there is no distinctive bee journal published west of Chicago. Undoubtedly, for beginners, Gleanings in Bee Culture, published semi-monthly by the A. I. Root Co., Medina, Ohio, is the best. This really is a "bee magazine," well illustrated and comprehensive, affording some sixty to seventy pages of good reading matter each month for \$1 a year. For the honey producer The Bee Keepers Review, appearing monthly from Flint, Mich., at the same price, is a good paper. The American Bee Journal, published monthly by George W. York & Co., 118 W. Jackson boulevard, Chicago, at 50 cents a year, is a good general periodical.

In turning the pages of any of these



EVERYBODY  
BUYING  
DE LAVAL  
CREAM

## SEPARATORS

The wonderful improvements made in the 1908 DE LAVAL CREAM SEPARATORS—added to their THIRTY YEARS record of ONE MILLION prosperous users throughout the world—have convinced practically all WELL-INFORMED buyers of their overwhelming superiority, as well as actual cheapness, and they are being bought in even greater proportion this fall than in the spring or ever before.

A catalogue to be had for the asking shows the reasons WHY.

## DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## HOG FEED FOR SALE

Barley from the wrecked steamer "Anubis."

This barley has been wet with salt water but is drying out rapidly. It is in good condition and improving daily.

For sale in quantities of not less than 15 tons.

FOR PARTICULARS APPLY TO

G. W. McNEAR

210 Battery St. - - - San Francisco.

## STOCK FOODS THAT GIVE RESULTS!

FOR CATTLE, HOGS, AND POULTRY

Linseed Oil Cake Meal, 24.4 Digestible Protein

Cocoa Cake or Meal, 16.4 Digestible Protein

Best Results Lowest Cost

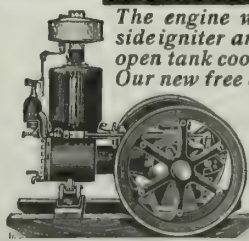
Ask your jobber for prices, or write

PACIFIC OIL & LEAD WORKS, SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, PORTLAND, ORE.

worthy periodicals, while we see much of interest to the beginner and the general bee-keeper, we are struck with the lack of much of real worth and profit to California bee-keepers. This is no special adverse criticism of our contemporaries, but quite natural, since they are published a long ways away from California. It is rather a criticism of California bee-keepers that they do not have their own bee periodical. We take pleasure in a small way of supplying this need, and, being a weekly periodical, in the course of a month seek to cover our field in a general way.

QUEENS—CARNIOLANS, BAYATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$4.00 each. FRANK BENTON, Box 17, Washington, D. C.

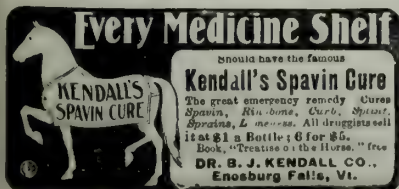
## Stickney Gasoline Engines ARE THE BEST



The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine Stationary and Portable 1 1/2 to 18 H. P.

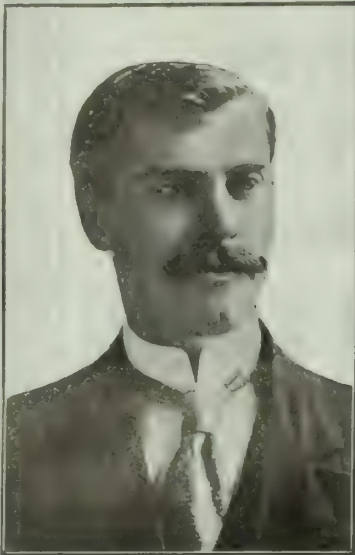
SEND FOR FREE CATALOG 1 1/2 to 18 H. P. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

DeLaval Dairy Supply Co. SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE





**Have You Tried the Feed Put Up by this New Company in San Francisco?**



## THE WESTERN FEED CO.

The Original  
**A. R. Coulson**  
Formerly of Petaluma  
MANAGER.

## A. R. COULSON

Known as the Poultry Feed Man  
ORIGINATOR OF THE  
**COULSON POULTRY FOODS**  
Now Manager of the  
**WESTERN FEED CO., Inc.**  
San Francisco.

**Some Wide Awake Agents Who Handle This Feed in Car Lots.**

Raley & Co., San Jose.  
Farmers' Exchange, Hollister.  
Soquel Grange, Soquel.  
W. H. Crowe, Santa Cruz.  
Watsonville Produce Co., Watsonville.  
Escondido Rochdale Co., Escondido.  
W. H. Quilty, Salinas.  
Geo. F. Bell, Paso Robles.

Pereria & Co., Haywards.  
Hatt Warehouse Co., Napa.  
Levy Bros., San Mateo.  
J. G. Lubben, Alameda.  
Max Straus & Co., Turlock.  
Schmidt Mercantile Co., St. Helena.  
Marcum Bros., Tres Pinos.  
And many others.

**GET NEXT.** Write for samples, circulars, and prices on quantities of feed you usually purchase.

Manufactured by

## WESTERN FEED CO., Inc.

The Original **A. R. COULSON**, Mgr.

365-371 McAllister Street - - - SAN FRANCISCO

## California's Largest Modern Poultry Farm

Nearly 5000 Laying Hens



MAMMOTH POULTRY FARM.

Where they feed every morning to their thousands of laying hens, **THE EGG MAKER**, the most economical and profitable feed in use.

**THE EGG MAKER** is the feed manufactured by the **WESTERN FEED CO.**, the original **A. R. COULSON**, manager, formerly of Petaluma.



C. F. GRANT, Mgr.

E. H. WINSHIP

C. F. GRANT

## Mammoth Poultry Farm

C. F. GRANT & CO.

NAPA, CAL.

WESTERN FEED CO., San Francisco, Calif.

Gentlemen:—We wish to state that we have been using your Egg Maker, and have found it more than satisfactory.

It has increased our egg yield far above our expectations, and we will certainly continue to use it.

We feel that we cannot recommend it too highly.

Yours truly,

C. F. GRANT & CO.

## The Poultry Yard.

### PLACES FOR POULTRY FARMING IN CALIFORNIA.

Written for the PACIFIC RURAL PRESS  
By A. WARREN ROBINSON.

Which is the best part of the State in which to establish a large poultry plant, or to engage in the business on a small scale? is a question frequently asked the writer by parties who have a decided interest in the matter. While many hesitate to obtain new stock or to enlarge their old flocks because poultry feed has ruled quite high of late, there are not a few who this fall will invest in the business for the first time.

How propitious the time and what locality has the preference depends very much upon one's circumstances and the selection of environment. As to the latter, it may safely be asserted that poultry has proved a success in every one of our counties: in the distant south, as well as in the upper counties bordering the coast, and in the far interior valleys of the Sacramento and the San Joaquin.

During the warm summer months the coast counties may seem to have superior advantages and many is the poultry keeper who prefers such a climate, as witness the very large and numerous flocks in the neighborhood of Petaluma. Sonoma county, as a whole, has an enviable reputation as a poultry-producing region. Yet we can point with pride to Santa Clara, Alameda, Los Angeles and neighboring counties; to Napa and Solano; to Sacramento and to San Joaquin. The selection of location depends very often upon the health of the manager, for it is not every one who can endure the fogs of the coast, nor does everybody

prefer the heated plains of the interior. A situation near the large marts of trade has decided advantages, among the many being the lessened cost of transportation, which means a very great deal to both the large and the small poultry producer. Yet, farther away, the price of land is generally lower and feed stuffs are cheaper. In a way one offsets the other, and yet always the larger plants will be found near our more populous centers.

It is a beautiful sight to see the large, contented flocks of White Leghorns roaming over the broad elevations in the vicinity of Petaluma during this summer weather. They seem to greatly enjoy the fogs and cool sea breezes. But away down in the San Joaquin valley and in various portions of the large Sacramento valley flocks, apparently as contented, may be observed, providing they are furnished, as they always should be, both for their own comfort and for their owner's profit, with a very liberal supply of shade, natural or artificial. We have been much pleased to see in several of the far interior counties some of the best cared for and profitable flocks of the ever-popular White Leghorns.

In the higher mountainous counties, where needed care was taken, the same profit seemed to attend the keeping of flocks, but here we find few or no large yards. Ofttimes the places which seemed to possess few advantages afforded the owner opportunity to obtain higher prices than in other environments. There are always good markets to be found in the mountain counties, where an egg diet has long been a favorite one, and these localities have often to draw largely upon other sections of the State for full supplies. Far away Arizona is not infrequently supplied from dealers in Tulare, Visalia and vicinity. The

lower counties do an immense business in poultry lines. The large population always to be found at Los Angeles, more especially in the winter months, demand enormous quantities of both eggs and fowls, and here and in contiguous counties may be found some of our best flocks.

So the choice of location will depend very much upon one's health and inclinations—idiosyncracies, if you will. As long as we of California import every month of the year large quantities of both hens and eggs for immediate consumption, there will be found profit and pleasure, in any portion of the State, in raising poultry.

But let it always be the very best birds that can be reared. In every locality the standard is not as high as it should be. With the very fine climate everywhere to be found, and with the large and continuous demand for eggs for market, eggs for breeding and fowls for both, one need not hesitate to engage in the business, or to enlarge, if already in it, providing one has the experience and the business ability and tact to succeed.

Some of the most interesting occasions that have come under our observation have been, here and there, in many a county, as we were shown by the proud owners—hard-working house wives—the well cared for fowls that yielded rich returns for labor bestowed; labor that resulted in a material lightening of household expenses.

## CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

BIHN BROS.

Petaluma, Cal.

## POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements Cal. Large size, good plumage, early maturity

## BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

## POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

## OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## PIPE

### PRICE LIST.

Second Hand Pipe—Merchantable Lengths, Standard Threads and New Standard Couplings. Dipped in a solution of hot Asphaltum, maintained at a Temperature of over 300 Degrees. Closely Inspected and fully Guaranteed. All prices F.O.B., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1/2 inch	.84 lb.	\$2.50
3/4 "	1.12 "	3.85
1 "	1.87 "	4.50
1 1/4 "	2.24 "	6.25
1 1/2 "	2.68 "	7.25
2 "	3.61 "	10.00
2 1/2 "	5.74 "	16.00
3 "	7.54 "	19.75
4 "	10.66 "	30.00
5 "	14.50 "	42.50
6 "	18.76 "	50.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.



## THE HEART OF A "SOULLESS CORPORATION."

(An excerpt from an article in Harper's Weekly, by John Kimberley Mumford.)

I have been observing the human side of the business problem, the difficult process of injecting sentiment into business without bringing both to grief.

Practical, tangible altruism, which is felt in the daily life of the workman and can be seen with the naked eye, is the "new face at the door."

Not so far back manufacturers had no notion of conserving by good treatment the subtle but enormous energy that is born in a workingman from good housing, good working conditions, mental uplift, and a consciousness that he is looked on by his employer as a man and a brother and not as a pack animal. Today the employer who makes his workmen and workwomen toil in the midst of filth, physical and moral, bad air and hopeless depression, is a man branded and a man doomed, as surely as the Mississippi flows to the Gulf. And sentiment has done that. They say it is just pure business, but it isn't. The manufacturer may do it for dollars, but behind him and inside him there is at work something bigger and deeper, although he may not know it—to wit, a subconsciousness of the brotherhood of man.

Chicago is keen on the welfare problem, because, from the nature of its population, perhaps, the problem presses on it persistently, and its Moseses, both the hired and the volunteer, never rest from their labors.

In the general solution of the welfare problem the small shop, the individual manufacturer, does not at the moment cut so much of a figure. In the final aggregate he will be an enormous factor, but in making the custom he is not the most effective agent. It is the huge corporation, carrying the burden of anathema and responsibility, and the invested money of a hundred thousand persons whom it never saw nor heard of, which is foreordained, willing or unwilling, to be the promoter of the great purpose, to make decency and fair play universal institutions that shall endure while the world stands. To the men on the watchtower this truth is as plain as the morning light. Perhaps it may be thus, and not by bloodshed, that we shall at last come to peace on earth.

I elected, therefore, to see what the biggest corporation in Chicago had to say by word of mouth or through the medium of its actions touching this problem of the hour.

The International Harvester Co. has \$120,000,000 of capital, it dispensed \$21,763,307.95 in pay-roll wages alone last year, and \$16,783,000 in sales commissions; it makes 85 per cent of the harvesting machinery, and a good part of everything else the farmer uses in planting, tilling and garnering his crops. It takes ore from its own iron mines and wood from its own forests, makes its own pig iron and steel, owns its own coal lands, and at every step of the multifarious processes of manufacture up to the moment when the grain pours, like the stream of gold it is, into the farmers' bins, clears something by way of profit. That is what it is in business for.

A little before noon, after an hour in the twine mill at the McCormick plant of the Harvester Company, I started to leave the building. It is a vast place, with its floors upon floors of whirling machinery, its bales and skeins and ever-lengthening lines of Yucatan sisal, the maguey hemp, shining like yellow gold in the gloom. As I skirted the long rows of carding-machines, where men were at work skeining the bales and coiling the skeins into metal barrels for the spinning, the hoarse mill whistle brayed out noon, the power giant in the basement left off its turning, and with a moribund spasm all the maze of machinery came to a standstill. Every man grabbed his hat and coat and fled for daylight. From the corridors where they had vanished, a moment later bounded a girl in working clothes, laughing, hurrying, talking Polish, and behind her another. Then they poured in, an ever-increasing, volubly happy, and, above all, swift-footed throng. I looked for the sad color of humanity in masses, but it wasn't there. It was much more like the outpouring of children from a school room. One thing seemed certain—that the place for mere man was in the safe lee of some motionless machinery that was bolted to the floor, until this headlong current of working-girl had gone by.



The long, low-ceilinged basement of the twine mill is divided through its middle by a gangway enclosed between two quarter partitions. In these are gateways upon either hand. Those on the left lead into the restaurant, and at each of them sits a checker, in a snowy white apron that envelops her from neck to heel, handing lunch checks to the girls as they pass in. Besides the checker's desk is a long counter, where other white-aproned attendants have set out a fine array of coffee and cakes and pie and pudding and dinners of soup, roast and vegetables. Each girl takes her own and finds a place at one of the numberless tables. Some bring their lunches from home in paper bags and buy coffee or tea at the counter at a cent or so the cup.

In two minutes the midday meal was under way. There was all the jollity and freedom and good nature that you would find anywhere. The first girl that finished crossed the gangway to the space opposite, raised the cover of the upright piano that stood against a pillar in the center of the room, and started the "Merry Widow" waltz. That was the signal for a general pushing back of coffee cups, and in no time a dozen couples were whirling around the floor. More were chatting in the easy chairs about the wall. In the "rest room" adjoining there were girls lounging on sofas, girls reading magazines and funny papers, and half a dozen girls waiting for their turn to take counsel of a uniformed nurse, who at every noontime, with her little bag of ointments and bandages and simple medicaments, holds "office hours" here for the consideration of minor ills.

This may all seem nonsensical. From the hard-headed mill owner of a quarter of a century ago it would probably have provoked something stronger than exclamations of surprise. A piano jingling out waltzes in a factory on a week day, a warm meal served in civilized fashion on clean dishes, and a nurse bandaging shapely wrists on which machine oil had set up a rash, would have been a strange sight in the factories of our boyhood. But these are not much—only one or two of the visible signs of a new order, a change of the world's heart. The vital and significant part of it was what underlay it; the spirit of the place. There was little, if any, trace of the old-time cowed mill-girl air that prevailed, when girls in manufacturing establishments sat around at noon time like feeding animals, perched on a box, or on a lumber pile in the yard.

Watching these spinners of binder twine at their little noonday diversions, I realized the force of one other thing Mr. McCormick had said. It was this:

"Wherever women and girls are employed, this work is an absolute necessity. In fact, it was because of the effort to better their conditions of work everywhere that the whole welfare system arose, and the results are greater even than they appear on the surface. The improvement in the morale of all the surroundings, as well as the physical environment, makes the task of women and girls happier, but the benefit by no means ends there. You will find that the moral improvement extends to those em-

ployed in every department of the business."

He was right. Here lies one of the fundamentals; for, as we in America recognize perhaps more clearly than any other people in the world, woman is the starting-point of all social improvement. These mill girls do not stay mill girls. They marry, and they marry mill men, if not from their own mill, then from some other. They become the mothers of other girls, and of hard-sinewed, clear-headed men, many of whom in another thirty years will be running our factories, our railroads and our politics. They are to be home-makers and teachers and models to the next generation of the working class.

These are not matters for mincing. They reach down to the moral foundation of the new race. Who that has ever dwelt in an old-fashioned manufacturing town does not know the estimate placed by the local libertine on the "mill girls"? There were mills enough where a decent girl could bring herself to work only when hunger left her no other recourse. More insistent than the timekeeper's clock, I find less reduceable than the wage scale, is the company's demand that every girl who earns her living in any of this corporation's dozen or more scattered plants shall receive from every man in the employ, whether he be high or low, the respect to which womanhood entitles her. There have been some luminous illustrations, fortunately few, of the fact that for a man to fail of obedience to this rule is a much quicker way of relinquishing his job with the Harvester Company than to submit a written resignation. And whether he is a good man in that job or a commonplace one is a secondary consideration. Greed certainly never prompted this.

This, indeed, is the basis of welfare work, and all the rest in the way of improved conditions comes after, and is made triply effective thereby. There are dressing-rooms and private lockers and lavatory structures apart from the mill buildings and connected by bridges from every floor. In this, as in every place where there are girls, there is a matron. The walls and the machinery in the shops are cleaned of dust every night by pneumatic process, ventilation is perfect, the conditions are inspected at every hour of the day, and the air of the shops kept as clear of dust and ill odors as may be. But the moral atmosphere is cleaner

(Continued on Page 191.)

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

**JOHNSON & MUSSER SEED CO.,**  
113 N. Main St., Los Angeles, Cal.

# Dutch and Japanese BULBS

Now ready. Send for our new Illustrated Fall Catalogue, now ready to mail. Remember, we are headquarters for

**PLANTS SEEDS TREES**

We are headquarters on the Pacific Coast for

**EUCALYPTUS SEED and YOUNG TREES**

Write Us for Special Quotations

Retail Store: 125 Market Street, San Francisco

In Writing, Address

**C. C. Morse & Co.,** 44 Jackson St. San Francisco.

**\$30,000,000**

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

**San Dimas Citrus Nursery**  
SAN DIMAS, CAL.  
**R. M. TEAGUE,**  
PROPRIETOR.

## Berry Plants.

Hopkins Improved Strawberry Plants in all standard varieties. We still have one year old plants of the Brandywines, A-1 and Lady Thompson; also one year old plants of the Himalaya Blackberry and California Surprise Raspberry. Catalog soon ready.

**G. H. Hopkins & Son,**  
Burbank, Cal.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.  
Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

**CHICO NURSERY COMPANY**  
Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## Almond Hullers

—For Sale by—  
A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.



## The Home Circle.

### Cussin' the Climate.

Old Sid Smith was the blessedest one  
For cussin' the climate:  
'Peared that his only idee of fun  
Was cussin' the climate.  
No matter where old Sid would go,  
Whether 'twould rain or whether 'twould  
snow,  
Shinin' or stormin', ca'm or blow,  
He was cussin' the climate.

Lived in Mizzioury for quite a spell,  
A-cussin' the climate;  
Said it was hotter than—I won't tell!  
Then, cussin' the climate,  
Sid moved down into Arkansaw,  
Where he continued to work his jaw—  
Seemed obeyin' a sort o' law  
In cussin' the climate.

Then old Sid he moseyed East,  
Still cussin' the climate;  
Frothed at the mouth like a ragin' beast,  
A-cussin' the climate;  
Massachusetts, Connecticut, Maine,  
Each one goin' agin his grain.  
Old Sid's mission was always plain—  
Jest cussin' the climate.

After a while he went out West,  
Still cussin' the climate,  
Swearin' that somewheres else was best:  
So, cussin' the climate  
Clean from Oregon down the coast,  
Finally Sid give up the ghost,  
Now he's gone where grumblers roast—  
Still cussin' the climate!

—ROBERTUS LOVE.

### The Stone Fireplace.

As far as the eye could see, stretched  
the limitless expanse of snow. Miss  
Frazier, pacing from window to win-  
dow of her little cottage, felt imprison-  
ed.

"Oh, pussy cat, pussy cat," she said  
to the cat curled up on the window seat,  
"I shall die of loneliness."

The cat gave sleepy attention, and  
Miss Frazier shook her gently. "Of  
course you don't care," she said, "but  
who could have believed that snow and  
cold weather would have come so early.  
And all the other cottagers have gone  
back to town. But I can't. My rent is  
paid for six months and I can't afford to  
lose it."

Once more she began her excited walk  
across the floor, and the cat went to  
sleep, and deadly quiet reigned. At  
last Miss Frazier could stand it no longer.  
She put on her hat and coat and a  
pair of rubbers. Pausing on the thresh-  
old as she went out, she addressed the  
cat theatrically.

"Sleep on," she said, "I go to seek  
my fortune," and she floundered through  
the snow to the gate.

The road, deep with drifts, offered  
new discouragements. Miss Frazier's  
long skirts dragged and grew heavy,  
and at last she stopped and sobbed aloud,  
"I can't go on."

Help came in the person of a little man  
in high boots, who appeared from the  
other side of the drift.

"Got stuck, did ye?" he asked,  
cheerily. "Well, you ought ter stayed  
at home. 'Taint weather fer wimmin  
to be out."

Miss Frazier looked at him haughtily.  
In her code there was no place for bad  
grammar, and, besides as a spinster of  
spirit, his reproof grated on her.

"Women can't stay in and die of lone-  
liness," she told him stiffly.

The little man looked at her with  
sympathetic gray eyes. "Lonesome,  
was ye?" he said. "Well, now, that's  
too bad."

His sympathy warmed the cockles of  
Miss Frazier's heart. It was so long  
since any one had cared. The last of  
her family, she had taught school in a  
big city until ill health had forced her  
to resign. Then she rented the little  
cottage at the unfashionable resort, and  
had prepared to live there for six  
months, hoping for benefits of fresh air  
and a free life. There had been other  
cottagers near, but they had their own  
interests, so that even in the warmer  
months Miss Frazier had been lonely,

and now that snow had come, her situa-  
tion seemed unbearable.

There were tears in her eyes as she  
stood there, forlorn and cold in the drift,  
and the little man said again, "Well,  
now, that's too bad. You'd better git  
into the house. You'll ketch cold."

"I hate the house," said Miss Frazier  
fiercely. There isn't a soul there but  
the pussy cat."

"I live up at the farm," he informed  
her. I'm the new manager, and there  
ain't anybody there but a lot of men  
and a colored woman to cook for us.  
There's a good deal of work, you know."

Miss Frazier didn't know, but she  
found herself listening eagerly to his  
talk of Guernsey cattle, and of blue-rib-  
bon horses, with all the rest of the  
homely farm details.

The little man helped her up the path,  
and landed her on her own doorstep  
safely. In spite of the biting air he  
jerked his cap off as he bade her "good-  
by."

"Come in," she urged. "Oh, please  
come in. I don't think I can stand it to  
face the pussy cat all alone."

His kindly blue eyes smiled at her.  
"I'd like to come in," he said. "Tain't  
very sociable up at the farm."

The little room was cheerless enough.  
Miss Frazier's ginger jars and Mexi-  
can hats had been artistic summer acces-  
sories, but in the gray light of the snowy  
day they merely served to emphasize the  
bleakness. In the stone fireplace was a  
bunch of goldenrod gone to seed. The  
only warmth came feebly from a rickety  
old stove in the summer kitchen.

"Why ain't you got a fire in the fire-  
place?" the little man demanded as he  
surveyed the cavernous structure.

"I haven't any wood," shivered Miss  
Frazier. "I—I couldn't get any."

Perhaps he read in her hesitation a  
confession of poverty, but he did not  
ask any more questions.

"I'll be back in a minute," he said  
presently, and went out, and when he  
returned he was bent Atlas-like under  
the weight of a great log that had lain  
for days by the roadside.

"There," he said, as he deposited it  
in the fireplace, "if you will take out  
them wild flowers, we'll have a fire."

Miss Frazier obeyed meekly.

"How strong you are," she breath-  
ed.

"Oh, law, yes," said the little man.  
"I kin lift most anything."

He made several trips after that find-  
ing enough dry wood in the shed to  
start the fire, and soon it was roaring  
furiously.

The black cat came and curled up on  
the hearth looking at the flames with  
fathomless eyes.

"Oh, it's lovely, lovely," said Miss  
Frazier. "It's something alive."

"I allus did like a fire," said the little  
man. "I came from down South, an'  
we don't think much of stoves there.  
Not fer bein' sociable. You've got to  
see the flames to be real friendly."

"I am going to make you a cup of  
tea," Miss Frazier said flutteringly, and  
when it was ready she brought it in on a  
dainty tray, flanked by a half dozen  
stale crackers. "I wish I had some-  
thing nicer to offer," she said, "but it  
is so hard to get things."

The little man smiled, and as he took  
in the details of the poor room, some  
knowledge of her plight seemed to come  
to him, and he found a way to help her.

"I bet you don't know what good  
things you kin cook over a fireplace,"  
he said eagerly.

"I never heard of such a thing," she  
said. "What could I cook?"

"Well, Brunswick is fine—it's got  
squirrels and corn and onions and to-  
matoes—you jus' let me show you—"

"But I can't get those things—" her  
face flamed.

"Of course you can't—'taint to be ex-  
pected that a woman kin kill a squirrel.  
But I'm goin' hunting tomorrow—and  
I'll bring the thing—"

He left her later, and when he had  
gone Miss Frazier stood for a long time  
looking into the glowing coals. "Oh,  
pussy cat," she said, when at last the  
two of them were curled up for the  
night, "he uses dreadful grammar, but

he is the kindest man I have ever  
known."

The man came the next day and  
made the stew, and that afternoon the  
savory food simmered and bubbled, and  
the black cat watched it with eager  
eyes. Miss Frazier in her best blue  
gown set the table for two, flitting from  
one room to the other with all the gay-  
ety of a young girl.

The little man's table manners proved  
to be much better than his grammar,  
and it was at the end of the feast that  
he told Miss Frazier the story of his  
life, and as he talked his hostess weigh-  
ed his dignity, his manliness, against  
his defects, and found grammar losing  
its relative importance.

He came often after that, and the  
black cat learned to know his footsteps,  
and to meet him at the door, and to  
curl up on his knees as he sat in front of  
the fireplace, while the two good friends  
basked and chatted in the golden glow.

And then came the beginning of the  
new quarter and with it Miss Frazier's  
remittance.

"And next week I must go," she told  
the man when he came that evening.  
He looked at her calmly.

"You ain't goin'," he said.

Miss Frazier, thrilling at his master-  
fulness, asked faintly, "why not?"

"Because I can't git along without  
you," said he; "I can't, Annabel."

"How did you know my first name?"  
Miss Frazier demanded.

"I seen it in one of your books," he  
said, "an it's a pretty name."

Then he reached out and took her  
hands in his. "You're such a lonely  
little thing," he said, "an I jes' can't  
live without you. I think it's settin'  
around this hearthstone that gave me  
the feelin' that I wanted to marry you.  
And you'll never want nothin', honey,  
not so long as I kin give it."

With a little impulsive movement,  
she slipped on her knees beside his chair  
and hid her face against the roughness  
of his coat. "I've been so lonely all my  
life," she sobbed.

"There, there, honey," he whispered,  
with his kindly hand against her cheek,  
"you ain't goin' to be lonesome any  
more," and with that vista of rest and  
peace and happiness, poor, tired Miss  
Frazier was content. — Philadelphia  
Bulletin.

### American Railways.

To say that in the last quarter of a  
century the mileage of American rail-  
ways has doubled is telling the least of  
the remarkable advance of the iron  
horse. The locomotive itself has quad-  
rupled in numerical force, and that is  
striking no balance between its pulling  
power and efficiency today and 25 years  
ago.

In 1882 there were 114,667 miles of  
railway in operation, and in 1907 there  
were 228,128 miles, or almost exactly  
double. Traffic has increased, however,  
much more rapidly than mileage. The  
15,000 locomotives in service are con-  
trasted with 58,300 in 1907, and the  
new locomotives probably average fully  
double the traffic capacity of the old,  
says the Engineering News. The 15,-  
000 passenger cars of 1882 have become  
35,300 in 1907. The increase was less  
rapid than in the case of the locomotives.  
This is due to the large relative growth  
of freight traffic and the diversion of a  
considerable proportion of the passenger  
traffic to electric railways.

The 730,000 freight cars of 1882 be-  
came 2,084,000 in 1907, and here again  
capacity per car was certainly doubled.  
The total miles of track and sidings,  
grew from 141,000 miles in 1882 to 324,-  
000 miles in 1907. In 1882 over half the  
railway mileage was still laid with iron  
rails, the total being 74,267 miles, com-  
pared with 67,000 miles of steel rails.  
In 1907 were only 9,320 miles of iron  
rails left, which one would suppose  
must by this time resemble "two streaks  
of rust."

Why is it that every time a girl goes  
out with a young man of whom she is  
ashamed she meets all her friends?

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls,  
with a full corps of teachers for all de-  
partments in the English branches, Latin,  
Greek, and the Modern Languages, also  
accredited by the University of Califor-  
nia, Leland Stanford Junior University,  
and by Eastern Colleges.

Special attention is given to lessons in  
elucution, singing, the violin, the piano,  
and to drawing and painting.

Lectures are given by professors from  
the University of California, and a course  
of study for High School graduates and  
for young women who have left school is  
also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and  
Lassen Counties.

These lands were acquired by the late John  
Crouch of Butte County. They now belong to  
the John Crouch Land Company, a corporation  
having its principal place of business at Chico.

That corporation now offers for sale these ex-  
tensive holdings.

The agricultural lands in Butte and Glenn  
Counties are in the richest part of northern  
California and are all highly improved and will  
be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged  
in stock raising, devoting his attention to high  
class sheep and cattle.

This sale offers the greatest advantages to  
persons desiring to purchase stock properties,  
which are now exceedingly scarce.

The corporation owns in the foothills east of  
Chico some 25,000 acres of land, all under fence  
and with ample barns and improvements. It is  
the finest winter range in the Sacramento  
Valley. It would be sold as a whole or cut up, as  
it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn  
and Colusa Counties, extending for a number of  
miles along Butte Creek, including the rich bot-  
tom lands of that stream, upon which feed of all  
kinds grows luxuriantly. This place would  
make a magnificent stock ranch.

It also offers large tracts of land in Glenn  
County a little northeast of Butte City, fenced  
and improved, which could be most admirably  
utilized for stock purposes and other rich lands  
in the same vicinity for agricultural purposes.

The properties offered include the celebrated  
Bowers Ranch on the Sacramento River in Butte  
County, composed of the richest river bottom  
agricultural land and upon which alfalfa grows  
most luxuriantly. This ranch is improved with  
a fine residence, many barns, good fences and is  
the best high class stock and agricultural ranch  
for sale along the Sacramento River. The soil is  
adapted not only to alfalfa, but to beets and all  
the grains.

The Home Ranch of the late Mr. Crouch, near  
Chico, is so well known as not to require any  
description. It will be mostly sold in small  
subdivisions. It can be irrigated by a ditch  
from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest  
mountain ranches in the Sierra Nevada—the  
Crouch lands in Mountain Meadows, comprising  
some 15,000 acres, and upon which an enormous  
tonnage of hay can be cut. This property is  
also highly improved with barns conveniently  
located for the storage of hay for winter  
purposes. It is sufficiently timbered to make it  
attractive from that point of view and possesses  
great value for the storage of water thereon  
for power purposes. The Feather River runs  
through it and the topography of the ground  
admits of great reservoir sites.

Purchasers desiring information about any of  
these properties, or to examine the same, will  
apply to the undersigned personally, or by  
letter, at the Bank of Butte County in Chico,  
California.

JOHN R. ROBINSON,

President John Crouch Land Company

### FARMERS, ATTENTION!

BRIGHTEN YOUR HOMES

with a good light. The "Ideal" Kerosene  
Oil Burner will give you 100 candle-power  
on a common coal oil lamp. No smoke, no  
smell. Can be turned high or low. Uses  
less oil. Absolutely safe. Most wonderful  
invention of the age. For particulars ad-  
dress A. R. IMMISCH, 2423 McGee St., Ber-  
keley, California.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds  
for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.

ORCHARD HOMES FOR SALE—5 acres  
and upward; fine citrus and deciduous fruit  
lands on easy installments and low inter-  
est. Write us today. Wyatt & Wilson,  
Winters, California.



## Does Ma Wish She Was Pa?

"I wish I had a lot o' cash,"  
Sez pa, one winter's night;  
"I'd go down South an' stay a while  
Where days are warm an' bright."  
He set an' watched the fire die  
(Seemed lost in thoughtful daze),  
Till ma brought in some fresh pine knots  
An' made a cheerful blaze.

"I wish I had a million shares  
O' stock in Standard Oil,"  
Sez pa; "I wouldn't do a thing."  
Ma made the kettle boil,  
An' mixed hot biscuits, fried some ham  
An' eggs (smelt good, you bet!)  
Fetched cheese an' doughnuts, made the  
tea,  
Then pa—set down an' et!

"I wish I was a millionaire,"  
Sez pa; "I'd have a snap."  
Next, from the lounge, we heard a snore;  
Pa—at his ev'nin' nap!  
Ma did the dishes, shook the cloth,  
Brushed up, put things away,  
An' fed the cat, then started up  
Her plans for bakin' day.

She washed an' put some beans to soak,  
An' set some bread to rise;  
Unstrung dried apples, soaked 'em, too,  
All ready for the pies;  
She brought more wood, put out the cat,  
Then darned four pair o' socks;  
Pa woke, an sez, "It's time for bed;  
Ma, have you wound both clocks?"

—MARY F. K. HUTCHINSON.

## A Rash Conclusion.

"Then I am to understand that this is  
your final answer, Miss Stubbles?"

"My final answer."

"Nothing can move you?"

"Nothing."

"Then my life will be a lonely one  
and my fate a harsh one, for my uncle  
with whom I lived has just died and  
left me—"

"That fact somewhat alters the case,  
Henry. I cannot be harsh to one who  
has sustained such recent beravement.  
If I could believe that you are sin-  
cere—"

"Sincere! Oh, Miss Stubbles!"

"You have certainly made an im-  
pression on my heart. Give me time to  
think of it."

"How long?"

"After all, why think of it? Henry,  
I am yours!"

"Oh, Genevieve!"

"Do not squeeze me so hard, Henry.  
Your uncle! Was he long ill?"

"Three days."

"It is too bad! You say he left you?"

"Yes, he has left me."

"How much?"

"How much? I said he had left me.  
He had nothing else to leave. I am  
alone in the world now, homeless, pen-  
niless, but with you by my side—why,  
she's fainted!"

## Pointed Paragraphs.

Even a rich girl may make a poor  
wife.

After saying that you intend to do a  
thing, do it.

How harsh it sounds to hear a man  
criticize your pet hobby!

Moth-eaten jokes of a Croesus never  
fail to produce a laugh.

But few dancing masters are to be  
found in the hop districts.

No, Alonzo, a pile of filthy lucre isn't  
necessarily a heap of dirt.

A lot of entanglements result from  
promises with strings attached.

The honeymoon ends when the hus-  
band lets his wife know that he heard  
about peroxide.

Even a first class wood-worker cannot  
necessarily fill a position in a chop  
house.

Joy comes not in the early morn to  
the man who has been making a night  
of it.

The story of the average woman's life  
would make an interesting novel—so  
she thinks

A man may not be able to heap up a  
mountain, but he can usually put up a  
bluff.

## Domestic Recipes.

**CREAM OF SWEET POTATO SOUP.**—  
This southern delicacy is made by  
peeling four sweet potatoes, covering  
with boiling water, and cooking five  
minutes, after which they should be  
drained and the water thrown away.  
Then cover them with one pint of boil-  
ing water, adding a slice of onion, a  
stalk of chopped celery, a bay leaf, and  
a pinch of thyme. Cover and cook un-  
til the potatoes are tender; then press  
them through a colander. Add one  
quart of milk and turn into the double  
boiler; rub together two tablespoonfuls  
of butter and flour; add to the soup and  
cook until smooth; season with a tea-  
spoon of salt and a dash of cayenne and  
strain through a fine sieve. Re-heat  
and stir in two tablespoonfuls of thick  
cream.

**CHOW CHOW.**—Slice one-half bushel  
of green tomatoes which are as free from  
imperfections as possible. To this add  
one dozen sliced onions and one-half  
dozen green peppers. Mix well and chop  
fine with a kraut cutter. Add about a  
pint of salt and allow to stand 16 hours.  
Drain off the surplus fluid, cover with  
good cider vinegar and boil for an hour,  
then drain off the vinegar. In another  
vessel mix two pounds of sugar, one  
tablespoonful of ground cinnamon, one  
pound of ground horse-radish root, one  
tablespoonful of ground cloves and one  
tablespoonful of ground black pepper  
with each gallon of good cider vinegar.  
Place the chow chow in the jar and pour  
over enough of the vinegar and spices  
to cover. On top place a plate or saucer  
and hold it down with a light weight.

**SPICE FINGERS.**—Beat to a cream one  
heaping tablespoonful of butter, one tea-  
spoonful of lard and a scant cupful of  
brown sugar, adding one teaspoonful of  
powdered cinnamon, half a teaspoonful  
each of nutmeg and ground allspice, a  
saltspoonful of ginger, one teaspoonful  
of soda dissolved in a cupful of sour  
milk (or sour cream if you can get it) and  
enough graham and white flour  
mixed to form a slack dough. Turn on a  
floured board and knead thoroughly,  
mixing in two tablespoonfuls of chopped  
and seeded raisins, three tablespoonfuls  
of currants and one tablespoonful each  
of minced citron and candied orange peel.  
Roll out as thin as possible, cutting into  
strips three inches long and one finger  
in width. Bake in a moderate oven  
until brown and crisp.

**CANNING TOMATOES.**—Cans, covers  
and rubbers must be thoroughly steriliz-  
ed, and for this strong soda water is  
best. A granite or porcelain kettle  
should be used and cans and covers  
should be hot. Select fair, not over-  
ripe tomatoes and with a sharp, pointed  
knife cut out the hard substance of the  
stem end. Be sure to remove all of it,  
for this is one of the secrets of success  
in tomato canning. Now drop the toma-  
toes into scalding water and leave them  
until the skin cracks, then lift them out  
into cold water with a wire dipper.  
Drop a few more into the hot water to  
scald while the others are being peeled.  
This is a quick and easy way of peeling  
the fruit. If the tomatoes are not all of  
one size, cut the largest in two. Place  
over the fire in their own liquid and add  
enough salt to make them palatable.  
Scald until thoroughly heated through,  
but do not cook until soft and mushy.  
When the fruit is heated through fill  
the cans, adjust the rubbers and screw  
down the covers as tightly as possible  
and turn the cans top down until cold.  
This effectually seals them from the air  
and they are warranted to keep. Chili  
sauce and catsup can be made of canned  
tomatoes as wanted for use.

## Use Many Barrels.

Upwards of 150,000,000 barrels and  
circular packages are manufactured in  
the United States annually. Few peo-  
ple, except those whose business it is to  
know, realize the extensiveness of the  
cooperage industry in this country.

The heaviest demand comes from the  
cement business. The flour business  
ranks next, closely followed by sugar.

## One Kind of Courage.

There is a little Irish tailor in Harlem  
who prides himself on a reputation for  
courage. The reputation, however, says  
the New York Times, was won and is  
maintained much like that of the tailor  
in the old story who "killed nine at one  
blow." Fortunately, this knight of the  
scissors has discretion. One morning  
Mrs. Murphy, a customer, entered the  
shop, and finding the tailor busy with  
pencil and paper, asked him what he  
was doing. "I'm making a list av the  
min on this block who I can lick," said  
he, pompously. "Have ye Murphy's  
name down?" asked she. "Murphy  
heads the list," was his reply. Mrs.  
Murphy hurried home with the news,  
and Mr. Murphy came down to the  
shop with fire in his eye. "Me woman  
tells me," he roared, "thot you're after  
making a list of the men you can lick,  
and that you've got me down at the  
head of it. Is it true?" "Sure, and it's  
true. What of it?" "Why, you good-  
for-nothing little grasshopper, I could  
wipe you out with my little finger. I  
could wipe the floor with you with both  
me hands tied." "Are you sure about  
that?" asked the tailor, anxiously.  
"Sure? Sure I'm sure about it."  
"Well," sighed the tailor, regretfully,  
"then I'll have to scratch you off the  
list."

## No Doubt About It.

Lawyer—Are you sure that occur-  
rence was on the 17th of the month?

Witness—Yes, it was the 17th.

Lawyer—Now, remember, you are  
under oath. How do you know it was  
the 17th?

Witness—'Cause the day before that—

Lawyer—Be careful what you say  
now. Go on.

Witness— was the 16th, and the  
day after it was the 18th.

When is a fish like a drunkard?  
When it is a bloater.

**TOWER'S**  
**FISH BRAND**  
The cleanest, lightest  
and most comfortable  
**POMMEL**  
**SLICKER**  
At the same time  
cheapest in the  
end because it  
wears longest  
\$3.50 Everywhere  
Every garment  
guaranteed  
waterproof Catalog free 308  
A. J. TOWER CO. BOSTON, U.S.A.  
TOWER CANADIAN CO. LIMITED, TORONTO, CAN.

"THE OLD RELIABLE"  
**DIETZ**  
**LANTERNS**  
THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## PATENTS

Write for our Guide to Inventors, sent  
free on request; containing nearly 100 me-  
chanical movements and full information  
about Patents, Caveats, Trademarks, and  
Infringements.

**DEWEY, STRONG & CO.,**  
1105-6 Merchants Exchange Bldg., San  
Francisco. Established 1860.

"I suppose there is a certain fascination  
that keeps you in the racing game?"

"Yes," admitted the bookmaker,  
"there is. I've tried hardware, cloth-  
ing, groceries and shoes, but I've never  
struck another line where people simply  
struggle to hand you their coin."

## LEARN

## Plumbing, Electricity, Bricklaying or Plastering

## NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Positions Secured.

Day and Night Classes.—You can enter at any time.

Our Scholars are from 15 to 50 years old.—No previous knowledge  
required.

WRITE FOR FREE CATALOGUE.

**COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco, Cal.**

## TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

## SOME RATES:

Sioux City	- - -	\$31.95	New Orleans	- - -	\$35.50
Council Bluffs	- - -	30.00	Peoria	- - -	36.75
Omaha	- - -	30.00	Pittsburg	- - -	47.00
St. Joseph	- - -	30.00	Memphis	- - -	36.70
Kansas City	- - -	30.00	Bloomington	- - -	36.75
Leavenworth	- - -	30.00	St. Paul	- - -	36.75
Denver	- - -	30.00	Minneapolis	- - -	36.75
Houston	- - -	30.00	Chicago	- - -	38.00
St. Louis	- - -	35.50	New York	- - -	55.00

Many more from other points on application. Long time-  
limits on tickets, and choice of routes. Write to Dept. Ad. 948  
Flood Building for literature and details about California and  
the personally conducted parties coming from Chicago, Cincin-  
nati, St. Louis, New Orleans and Washington.

## Southern Pacific



## THE MARKETS.

San Francisco, Sept. 16, 1908.  
(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

The movement of Northern wheat to tidewater is very active this year, and foreign shipments within the next few weeks will be large. Some large shipments are also being brought to San Francisco from the North. In the local market there is very little speculative trading, and the spot market has not changed much, being only moderately active, with comparatively few holders willing to sell at the prices offered. Sales on the Exchange are made at the following figures.

California White Australian	\$1.75 @ 1.80
California Club	1.67½ @ 1.70
California Milling	1.70 @ 1.72½
California lower grades	1.45 @ 1.60
Northern Club	1.67½ @ 1.70
Northern Bluestem	1.75 @ 1.80
Northern Red	1.65
Turkey Red	1.75 @ 1.80

## BARLEY.

A slightly weaker feeling has developed in barley, the feed grade being about 2½ cents lower than last week, though brewing and shipping are unchanged. Receipts here are moderate, and with a light local demand the market is by no means active. There is less movement for foreign shipment than a week or two ago, and no great demand for brewing.

Brewing	\$1.37½ @ 1.40
Shipping	1.35 @ 1.37½
Chivalier	1.55 @ 1.60
Good to Choice Feed, per ctt.	1.30 @ 1.32½
Common feed	1.25 @ 1.28½

## OATS.

Oats in general are still very firm, with a slight advance quoted on whites, though the feeling in reds is less firm than a week ago. Receipts of this variety have been quite liberal this week, and while supplies are badly needed in some quarters, buyers are inclined to hold off for the anticipated decline. Most varieties are still scarce, and offerings are readily disposed of at former prices.

Choice white, per ctt.	\$1.70 @ 1.72½
No. 1, white	1.65 @ 1.67½
Gray	1.55 @ 1.62½
Red, seed	1.90 @ 2.10
Red, feed	1.40 @ 1.90
Black	2.00 @ 2.60

## CORN.

Firm prices on corn are still the rule, all Western grades having advanced several cents. This market, however, shows no increase in activity, as local buyers regard the present range of prices as too high, and there is practically no spot stock on hand.

California Small Round Yellow, per ctt.	Nominal
Large Yellow	\$1.85
White	Nominal
Western State Yellow	1.90
White, in bulk	1.83
Mixed, in bulk	1.81

## RYE.

Rye shows no change in price, and the market remains in the dull condition formerly noted. There are occasional small sales, but no movement of any consequence.

California	\$1.40 @ 1.45
------------	---------------

## BEANS.

Arrivals of new beans continue very light, consisting mainly of Lady Washingtons. It will probably be several weeks before any small white beans arrive. A car of new Limas was shipped last Saturday, but none have yet appeared in this market. The harvest of this variety, however, is now going on, and arrivals will soon be plentiful. Pinks and small whites are ripening very unevenly, and it is reported that parts of the fields are ready to cut, while others are still in the bloom. This will delay the harvest and increase the danger from frost and rain. There is little activity in spot goods, but a good shipping inquiry for new crop. Prices show more or less readjustment to the new crop basis, and lower prices are looked for on small whites and Limas. Future sales of bayos and pinks are at lower quotations than those on spot goods. Stocks are light, and the carry-over is considered unusually light.

Bayos, per ctt.	\$2.90 @ 3.00
Blackeyes	3.00 @ 3.40
Cranberry Beans	2.50 @ 2.75
Garvanzos	1.75 @ 2.90
Horse Beans	1.50 @ 2.00

Small White	4.25 @ 4.50
Large White	3.50
Limas	4.60 @ 4.75
Pea	4.50 @ 4.60
Pink	2.90 @ 3.00
Red	3.25 @ 3.50
Red Kidneys	2.75 @ 3.00

## SEEDS.

It is still too early for much movement of seeds for fall planting, though the dealers are now buying up the crops of some varieties. The new crop of alfalfa seed is coming in, and prices show considerable reduction. A large new acreage of alfalfa is to be planted this fall, and an active market is expected.

Alfalfa, per lb.	14½ @ 18c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3½ @ 3¾c
Canary	4½c
Flaxseed	3c
Hemp	4½ @ 4¾c
Millet	2½ @ 3¾c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

A material improvement in the flour trade is reported in the Northwest, but the local trade shows little change, being about up to the average. Prices are steady as last quoted.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

## HAY.

Shipments of hay have increased somewhat this week, the total showing 3,820 tons, in comparison with 3,680 last week. The market shows little new feature, though straw and alfalfa are inclined to drag. Fancy grades of wheat hay are in light supply, and prices are fairly strong, though the medium grades are weak. The export and shipping trade is very quiet, and but little can be looked for in this line during the remainder of the season. From all appearances the only hope of a better market is the possibility of a good demand in the interior of the State, especially where the crop was a bit short. Holders seem unwilling to lessen their shipments, and already choice hay is being taken from storage for shipment here. This course, if maintained, will prevent any chance for an advance over present prices until well into the spring.

Choice Wheat, per ton	\$17.00 @ 18.00
Other Grades Wheat	11.00 @ 16.50
Wheat and Oat	11.00 @ 16.00
Tame Oat	11.00 @ 16.00
Wild Oat	10.00 @ 14.00
Alfalfa	9.50 @ 13.50
Stock	8.50 @ 10.00
Straw, per bale	45 @ 70c

## MILLSTUFFS.

Prices on millstuffs show very little change, bran, shorts and middlings standing exactly as last quoted. Notwithstanding liberal offerings of Japanese bran, the market remains decidedly firm, with some increase in the demand, while the northern mills are now producing very little surplus.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	29.50 @ 30.50
Red	28.00 @ 29.50
Broom Corn Feed, per ctt.	1.25 @ 1.30
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00
Jobbing	26.00
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	32.50 @ 35.00
Mixed Feeds	23.00 @ 28.00
Oil Cake Meal, per ton	36.75 @ 38.25
Rolled Barley	29.00 @ 30.00
Shorts	30.00 @ 31.50

## VEGETABLES.

Onions are still arriving liberally, and stocks are larger than the local trade can absorb. The market is duller than before, as the retail price is also well supplied, and prices show some reduction. Miscellaneous garden truck is moving off well, and the market is in rather better condition than last week, though arrivals of most articles are large. Prices show some reduction on tomatoes, summer squash, green peppers and egg plant, but other lines are well sustained, with some firmness on green corn.

Garlic, per lb.	6 @ 7c
Green Peas, lb.	4 @ 5c

String beans, lb.	2½ @ 4c
Cabbage, per ctt.	65 @ 75c
Onions—	
New Yellow ctt.	50c
Summer Squash, large box	40 @ 50c
Tomatoes, box	25 @ 50c
Turnips, sack	75c
Green Peppers, box	25 @ 35c
Cucumbers, box	35 @ 50c
Green corn, sack	\$1.25 @ 2.25
Egg Plant, box	35 @ 50c
Cauliflower, doz	65 @ 75c
Okra, box	50 @ 60c

## POULTRY.

Arrivals of Eastern poultry have been very large this week, three cars coming during the first two days, and two more later on. Local stock, however, has been less plentiful. Young and extra roosters are a little lower than last week, but most descriptions bring good prices, with an advance on some lines. An extra good demand is expected next week on account of the Jewish New Year, which begins September 26, but poultry intended for this trade should be in the city as early in the week as possible, by Thursday at least. Choice turkeys are very firm, with some advance in prices.

Broilers	\$4.00 @ 4.50
Small Broilers	3.00 @ 4.00
Fryers	5.00 @ 6.00
Hens, extra	7.00 @ 8.00
Hens, per doz	5.00 @ 6.00
Small Hens	4.00 @ 4.50
Old Roosters	3.50 @ 4.50
Young Roosters	6.00 @ 7.00
Young Roosters, full grown	7.00 @ 8.00
Pigeons	1.25
Squabs	2.00 @ 2.50
Ducks	3.50 @ 7.00
Geese	2.00 @ 2.50
Spring Turkey, lb.	23 @ 25c
Gobblers, live	22 @ 24c
Hen Turkeys, live	22 @ 24c

## BUTTER.

There is considerably more activity in butter this week, and the market is in a good condition for sellers, as all grades are in good demand. Extra stock is being sold off almost as fast as it comes in, and the upper grades show a decided advance over last week's figures, extras being 6 cents higher, and firsts showing an advance of 3 cents. The lower grades are also active, and storage stock is coming out in considerable quantities, though it is not yet quoted on the exchange. There is a good demand for Eastern extras, which are also higher.

Cal. (extras) per lb.	32 c
Firsts	26 c
Seconds	22 c
Thirds	20 c
Eastern extras	25 c
Fresh Packing Stock, No. 1	20½c
Fresh Packing Stock, No. 2	19 c

## EGGS.

Eggs show increasing firmness, with a decided jump on extras, which are now moving on the exchange at 40 cents, and retailing at 50 cents. This price, however, necessarily causes a decrease in the consumption, and the greatest demand is now for the lower grades and storage stock, the prices on which stand as formerly quoted.

California (extra) per doz	40 c
Firsts	32½c
Seconds	26½c
Thirds	22 c
Eastern Selected	25 c
Eastern firsts	23 c
Eastern seconds	21 c
Storage, Cal., extras	29 c

## CHEESE.

Cheese is in a little better condition than before, with a good demand for fancy flats, which are higher. Other varieties still remain quiet, with no change in prices.

Fancy California Flats, per lb.	11½c
Firsts	10½c
New Young Americas, Fancy	12½c
Oregon Flats	13 c
Oregon Y. A.	14½c

## POTATOES.

There is a better demand for choice stock for table use, and the market is kept well cleaned up, though prices are somewhat lower. Supplies of ordinary potatoes are still very large, and such stock finds little demand, even at low prices. Sweet potatoes are also easier, with large supplies on hand.

New Whites	50 @ 90c
Salinas Burbank	\$1.35 @ \$1.55
Sweet Potatoes, lb.	1 @ 1½c

## FRESH FRUITS.

Arrivals of fresh fruits are large this week, and the market is rather overloaded, in spite of a good local demand and considerable shipping business. A

large shipment of apples and pears is being made up to be sent to Australia next week. Choice apples are in good demand, while common stock arouses little interest. A large lot of Bartlett pears has arrived from the North, and ripe stock is pressed for sale at lower prices. Ordinary lots of peaches are weak and very plentiful, though carriers are in strong demand. Melons are weak at former prices, and grapes show a lower range of values.

Apples, fancy	90c @ \$1.15
Apples, common	40 @ 75c
Strawberries—	
Chest	\$3.50 @ 7.00
Blackberries, chest	2.00 @ 4.00
Raspberries	5.00 @ 7.00
Huckleberries, lb.	12½ @ 15 c
Plums, crate	35 @ 60c
Peaches, box	30 @ 65c
Figs, box	35 @ 65
Nutmeg Melons, box	25 @ 50
Cantaloupes, crate	75 @ 1.50
Watermelons, doz	1.25 @ 2.00
Grapes, crate, Seedless	60 @ 85
Muscats	50 @ 65c
Black	35 @ 50c
Tokays	50 @ 75
Pears, Bartlett, box	1.00 @ 1.50
Quinces, box	40 @ 75c

## CITRUS FRUITS.

Citrus fruits show little feature at present, though there is a fair demand for all lines. Valencia oranges do not bring over \$3.50, and a lot of small grape fruit has arrived, which sells as low as \$3.50, prices on choice stock remaining as before.

Choice Lemons	\$1.75 @ 2.50
Fancy Lemons	3.00 @ 3.50
Standard	1.00 @ 1.25
Limes	4.00 @ 5.00
Oranges—	
Valencias	2.50 @ 3.50
Grape Fruit	3.50 @ 4.50

## DRIED FRUITS.

The Eastern market is dull on most lines, and some varieties are inclined to weakness, though apricots are quite firm. The local market has been dull for several weeks, and many packers are buying little at present, though there is more movement in some lines now than last week. There is little business in prunes. Peaches show a little weakness, and the local packers are quoting somewhat lower prices. There is little business in raisins, either locally or in the East. Under the influence of an offer of 4 cents for the remaining crop, most growers are holding out to await developments, while very few of the packers are showing any interest in the market at 4 cents sweatbox. The following prices are quoted by local packers.

Evaporated Apples	5½ @ 7 c
Figs, black	3 @ 3½c
Figs, white	3½ @ 4c
Apricots, new crop	7 @ 10½c
Peaches, new crop	5½ @ 7 c
Prunes, 4-size basis	3½ @ 4 c
Pears, new crop	6 @ 8c

## RAISINS.

2 Crown	4½c
3 Crown	5 c
4 Crown	5½c
Seeded, per lb.	7 c
Seedless Sultanias	4½c

## NEW CROP.

Loose Muscatels, 4 crown	6 c
3 Crown	5½c
2 Crown	5c
Thompson seedless	4½c
Seedless	6 c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	1.25 @ 1.35

## NUTS.

There is some movement of new almonds to the East, though it has not yet assumed any large proportion. The crop is gradually moving out of growers' hands. The southern California walnut growers have fixed the prices on the new crop, which appear below. Prices are lower than last year, and the crop on the whole is in good condition.

Almonds, Nonpareils	11½ @ 12c
I X L	10½ @ 11c
Ne Plus Ultra	10 c
Drakes	9½c
Languedoc	9 c
Hardshell	— c
Walnuts, Softshell No. 1	13 c
Softshell, No. 2	10 c
NEW CROP.	
Softshell, No. 1	12½c
Softshell, No. 2	8½c
Hardshells	½c less

## HONEY.

Honey shows little feature, prices remaining as formerly quoted. There is



not much moving at present, as the bulk of the crop has been bought up, and there is less Eastern demand than when the first of the crop was marketed. There is a fair local demand for the upper grades.

Water White, Comb lb.....	16 @	17c
White .....		15
Water-white, extracted .....	8 @	8½c
Light Amber .....	7 @	7½c
Dark Amber.....	5½ @	5½c
Candied.....	5½ @	5½c

WOOL.

The fall clip is now in progress in several localities, and some fall clips have been stored. Many of the growers, however, are considering omitting the fall clip on account of the poor condition of the market. Buyers show little interest in the fall clip, and the Eastern demand shows no improvement. Prices are unchanged.

Humboldt, year's staple.....	15 @	18 c
Northern Coast.....	11 @	13 c
San Joaquin .....	7 @	9 c
Northern, Mountain, free.....	6 @	8 c
Southern Coast.....	6 @	8 c
Nevada.....	9 @	12 c
Oregon.....	8 @	15½c

MEAT.

Supplies of calves are quite plentiful, but small veal is a little higher than last week. Dressed lambs are also higher, though live lambs are plentiful and easy. Pork is a little lower.

Beef: Steers, per lb....	6½ @	6½c
Cows .....	5 @	6 c
Heifers .....	5 @	6 c
Veal: Large.....	6 @	7 c
Small.....	8½ @	9 c
Mutton: Wethers .....	7 @	8 c
Ewes.....	6½ @	7 c
Lambs.....	8½ @	9½c
Hogs, dressed.....	8 @	9½c

LIVESTOCK

Steers, No. 1.....	3½ @	4c
No. 2.....		3½c
No. 3.....	2 @	3 c
Cows and Heifers, No. 1.....		3 c
No. 2.....		2½c
Bulls and Stags.....	1½ @	1½c
Calves, Light.....	4½ @	4½c
Medium .....		4 c
Heavy .....		3½c
Sheep, Wethers.....	3½c	
Ewes.....	3 c	
Spring Lambs, lb.....	4 @	4½c
Hogs, 100 to 150 lbs .....		6 c
150 to 250 lbs.....		6½c
250 to 325 lb.....	5½ @	5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Sept. 15.—The demand for grapes is very good, and as a consequence fair values are being realized. The first car of Lodi Tokays sold in Chicago on the 10th. The fruit was of fair quality, with the exception of a few lines being a trifle ripe. Range of prices on this car were 85 cents to \$1.20; average, \$1.06.

The second car from Lodi, sold in auction on the 11th, averaged \$1.20, and on the 14th three cars were sold in auction, averages being \$1.15, \$1.20 and \$1.15 respectively. Quite a few sales of Lodi Tokays have been made on a basis of 90 cents f.o.b.

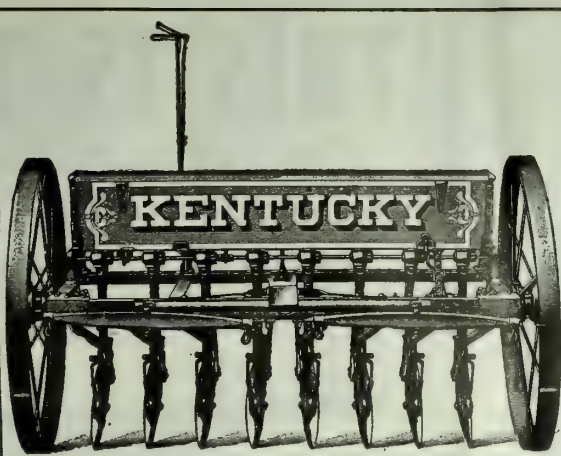
Florin averages have been very good. On the 11th two cars sold in New York at an average of \$2.22 and \$2.12 respectively. On the 14th five cars sold in New York at an average of \$1.85, \$2.00, \$1.81, \$1.70 and \$2.00 respectively. Judging from the above it will be seen that the Tokay market is quite firm and it is expected it will remain so.

Salway peaches are going forward in large quantities, and they are a drug on the Eastern markets. Prices are low, sales being made at 25 cents f. o. b. Clings are going forward in large quantities. This is partially due to a shortage of cans at the local canneries, and as they are protecting their contract customers only, this forces some fruit on the Eastern market. However, there is no demand and prices will rule very low.

Placer county pears have sold at auction very low, owing to poor condition. Bartletts from Winters, however, have sold quite well, and one car was disposed of in New York today from \$2.00 to \$2.20.

No change is anticipated in the deciduous market the coming week. Shipments of Tokays will be perhaps a little heavier.

Comparative shipments for the seasons of 1907 and 1908 up to September 9, are as follows: 1907, 4,000½ cars; 1908, 6,755 cars.



Kentucky Disc Drills

meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete KENTUCKY LINE.

Pacific Implement Company  
135 KANSAS ST., SAN FRANCISCO.

SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Sept. 15, 1908.—The orange market is weak, and \$2.50 f.o.b. is about the top price for the ordinary run of Valencias, though some of the well known high grade brands will bring more than that figure, though this fruit is being generally sent to the New York auction.

Auction prices opened Monday at from 25 to 40c. lower than at the close of last week, the poorer grades suffering the most. No reaction is looked for right away, and it is probable that demand will be light and prices low for the balance of this month.

Reports on the new crop navels continue to be to the effect that the output will not be as large as during the year just passing. Considerable splitting is prevalent in the Redlands-Highland district, and this will further reduce the crop. No splitting has yet developed in the foothill sections from Monrovia to Ontario, though the fruit is fully as large as at Redlands.

At Glendora nearly every ranchman says that his navels will produce heavier the coming year, and that Valencias will nearly double in quantity on the same trees. There has been very little drop and no splitting.

The lemon market is all shot to pieces, and in fact there is no lemon market. The Exchange report that they are trying to maintain prices at \$3.25 delivered, but that there is almost no demand at any price. Other shippers report that plenty of good extra choice lemons can be bought for \$2 f.o.b.

The last sale of foreign lemons was on Thursday of last week. The best 300s brought from \$2.70 to \$3.20, and best 360s \$3.15 to \$3.55. The next sale will be on Thursday of this week, at which 12,000 boxes will be offered.

California shipments up to and including Monday of this week are 28,644 cars, of which 4493 cars are lemons, while to same date in 1907 the shipments were 26,607 cars, of which 3114 cars were lemons.

The Department of Agriculture at Washington reports on September 1 the orange crop was 88.2 per cent of normal, as compared with 84.1 in 1907. Lemons, 92.9, against 91.4. Louisiana has already commenced the shipment of its 1908 crop of oranges. Florida will send some to market next week from the southern end of the State.

PUBLISHER'S DEPARTMENT.

We are pleased to announce two good articles soon to appear in the PACIFIC RURAL PRESS, one by F. T. Bioletti on "Grafting Over Grape Vines," and the other by Mr. Morse, of the big seed concern of his name, on "Seed Growing in California." The Morse seed company is perhaps the largest of its kind in the West, having a large acreage planted and maintaining two stores in San Francisco. While the two articles mentioned are widely different in horticulture, yet each will appeal to thousands of farmers on the coast, and we believe each will be taken as authoritative.

To the many who have already ordered the new edition of "California Fruits," by Prof. E. J. Wickson, we wish to say that the book will not be issued till some

GREENBANK

time in October. While we are sorry for the delay, yet it seems to have been unavoidable, owing to the great quantity of extra information being put into the new, over the former editions of this book.

A very interesting pamphlet has just been published by the Mountain Copper Co., 150 Pine street, San Francisco, giving the result of a test in fertilizing wheat last season on the Miller & Lux ranch in Fresno county. Every farmer should send for the pamphlet. It is free for the asking.

THE HEART OF A "SOULLESS CORPORATION."

(Continued from Page 187.)

still. When you sift the whole matter down, the most that betterment work can do is to create in workpeople self-respect and a desire to better themselves, to reveal the possibilities, in the coin of happiness and contentment, that abide in higher living.

The twine mill girls have a relief association conducted entirely by themselves. Every member is assessed a small percentage of her wages. When one of them is ill, flowers and books are sent to her, a comrade is assigned to sit up nights with her, if necessary, or to lend a hand to her comfort in whatever way it may be required. The core girls of the foundry have a similar society, a restaurant to themselves, and, incidentally a forewomen in the department instead of a foreman. Thus welfare work gradually reproduces itself.

But the system goes further back than the girl in the mill. It aims at something more basic even than her improvement. By the side of the club-house you will see a little peak-roofed building. It was formerly a workman's cottage. There are thousands and thousands like it through the working districts of Chicago. This cottage was bought and turned into a school—an unusual school, a sort of domestic kindergarten for workmen's little girls. Now, children can't go into the mills in Illinois until they are fourteen years old. So at nine they are taken into this school and taught to cook and sew; not to cook ter-rapin, nor to make lace shirt-waists, but to cook the things and sew the things that a workman's wages, whether he be a father or a husband, will buy. They are taught to buy things and get their money's worth. The place is furnished, not like a decorative school, but like a workman's home. This course of instruction extends over five years. When a girl is old enough to go to work and make money, she knows how to sew her own clothes or run a home. In the evening this school is open to the mill girls. When these co-ordinate systems are established in all the works of the Harvester Company a pretty straight way will have been found for a host of girls from childhood to motherhood, and that's about as good and as human a work as any money power could busy itself with.

(Continued in Our Next Issue.)

Blake, Moffitt & Towne  
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

INDEX TO ADVERTISERS  
Pacific Rural Press

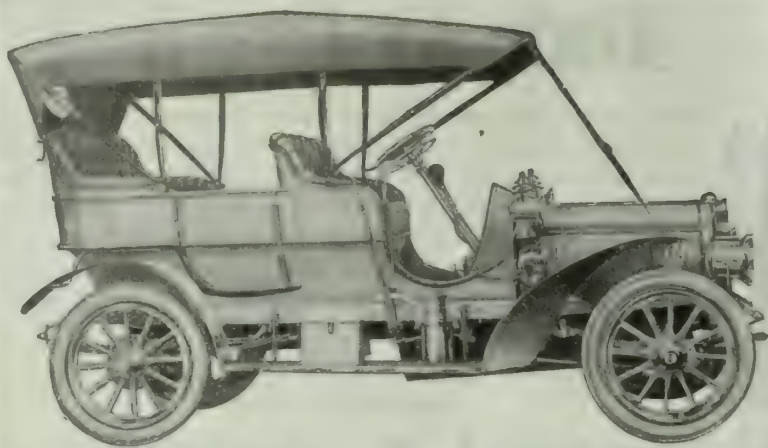
(—) Indicates every other week or once a month

	Page.
Alexander Pipe Co.....	186
Beckman, Geo. V.....	184
Bihn Bros.....	186
Bird & Co., J. A. & W.....	186
Benton, Frank.....	185
Blake, Moffitt & Towne.....	191
Bray Brothers.....	191
Breeders' Directory.....	184, 186
Chicago Steel Tape Co.....	187
Chico Nursery Co.....	187
Clark Wise & Co.....	189
Coyne National Trade School.....	189
Croley, George H.....	186
Cutter Laboratory, The.....	184
De Laval Dairy Supply Co.....	185
Dewey, Strong & Co.....	189
Dietz Company, R. E.....	189
Disbrow, F. H.....	187
Driver, E. S.....	184
Fresno Agricultural Works.....	184
German Kall Works.....	184
Gilde Brothers.....	184
Hamlin, Miss Sarah D.....	188
Hart, Ed.....	186
Healds Business College.....	173
Hopkins & Son, G. H.....	187
Howard Cattle Co.....	184
Immisch, A. R.....	188
International Harvester Co.....	175
Jackson & Co., T. W.....	191
Jeffrey & Co., Thomas B.....	192
Johnson & Musser Seed Co.....	187
Kendall, Dr. B. J., Co.....	185
Krogh Mfg. Co.....	184
Lawrence-Williams Co.....	184
Lister, Henry B.....	188
Lynch, John.....	184
McNear, G. W.....	185
Meacham, Frank A.....	187
Morse & Co., C. C.....	187
Mountain Copper Co.....	192
Murphy, P. H.....	184
Murphy, G. A.....	184
National Wood Pipe Co.....	192
Oakland Poultry Yards.....	186
Pacific Implement Co.....	191
Pacific Oil & Lead Works.....	185
Palace Hardware Co.....	183
Pear Blight Remedy Co.....	192
Rix, O. A.....	187
Robinson, John R.....	188
Roeding, Geo. C.....	184
San Francisco Business College.....	181
Sharples Separator Co.....	192
Shaw Co., H. C.....	192
Silva & Bergholdt Co.....	192
Simmons Hardware Co.....	183
Situations and Help Wanted.....	183
Smith, Francis.....	189
Southern Pacific Railway.....	168, 169
Standard Oil Co.....	184
Stowe, C. A.....	186
Sullivan, W.....	187
Teague, R. M.....	187
Temple Pump Co.....	189
Towler Co., A. J.....	189
Tuttle's Elixir Co.....	184
Vermont Farm Machine Co.....	187
Wagner, J. B.....	186
Western Feed Co.....	186
Western Gas & Power Co.....	192
Wilson, R. F.....	192
Windeler, Geo.....	192
Woodin & Little.....	192
Wyatt & Winters.....	188

SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.  
BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans. San Francisco, Cal.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited.





## The Car of Steady Service

There is nothing quite so important as reliability in an automobile. All cars will run sometimes, but it takes a good car to run all the time. This is what we claim for the

# Rambler

and this is what our customers will tell you, and that is why we advertise it, "THE CAR OF STEADY SERVICE."

Thousands are now in practical use by farmers, who carry their milk to the creamery, fruit, berries and chickens to market, haul sacks of grain to the fields, go on hurry calls to the city, and in a thousand ways make it an absolute necessity, and then use it for an outing when the horse is tired after a hard day's work.

You can buy cheaper and higher priced cars, but **YOU CANNOT BUY CARS QUITE SO GOOD** at any price. We prove our statements.

Better investigate before buying. Catalogue and further information from the manufacturers' branch house.

**THOMAS B. JEFFREY & COMPANY,**

117-125 VALENCIA ST., SAN FRANCISCO.

HOME OFFICE AND FACTORY, KENOSHA, WIS.

## THIS IS THE PLOW

THAT ALL WANT, AFTER SEEING ONE IN USE.



THE SHAW STOCKTON IMPROVED GANG PLOW

Drop us a card for Circular with Prices.

MANUFACTURED BY

**THE H. C. SHAW CO., Stockton, Cal.**

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**

Newcastle, Cal.

## PEAR-BLIGHT

**We can CURE IT**

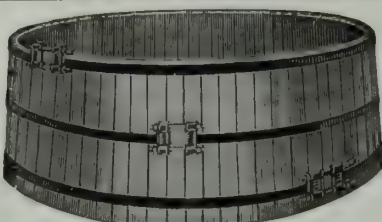
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tanks built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

**R. F. WILSON,**

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

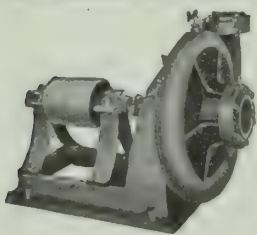
## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir.

**National Wood Pipe Co.**  
Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—401 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

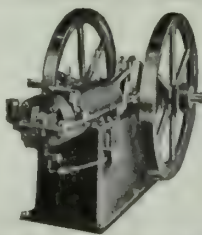
Prices, specifications, hydraulic data and general information furnished upon request.



**Gould's Centrifugal Pump**  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right. Runs in light wind. Has ball bearing Turntable and outer thrust.



**Stover Gasoline Engines**  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

**PUMPS FOR EVERY SERVICE AND USE.**

**WOODIN & LITTLE  
PUMP HOUSE**

70-72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings. Send for Catalogue.



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

**Mococo Superphosphate**

Land FERTILIZED with Mococo Superphosphate yielded per acre.....

1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

FOR SALE BY

**THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO**



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 13.

SAN FRANCISCO, SATURDAY, SEPTEMBER 26, 1908.

Thirty-eighth Year.

## A Successful Agricultural High School.

We have often told our readers of the establishment and progress of the California Polytechnic School at San Luis Obispo which undertakes to receive pupils at the completion of their grammar school courses and continue their work in the high school largely on the basis of training in agriculture and the mechanical arts. The school was established by an act passed by the California legislature of 1901, and received its first pupils in

and other minor structures. The legislature has been liberal in providing for the growth and improvement of the school and the plant of buildings, which occupies a prominent site just north of the picturesquely situated town of San Luis Obispo, is worth looking for as one passes along the Coast Line of the Southern Pacific.

The purpose of the school is well described in the law which established it: "To furnish to young people of both sexes mental and manual training in the arts and sciences, including agriculture, mechanics, engineering, business meth-

of instructors now includes ten well trained specialists in practical arts and handicrafts, in addition to teachers of general culture subjects. The spirit of the institution is excellent, and the early achievements commendable. Former students and graduates in agriculture are today practical and intelligent farmers, managers of fruit farms, dairymen and stock raisers. Some of the practical knowledge which they have could perhaps have been gained at home on the farm, but much certainly would not have been thus gained. The student's vision of his opportunities in agricul-



Teaching to Judge Percheron Horses.



Outfit for Teaching Plant Propagation.



Students at Butter and Cheese Making.



Shop for Individual Instruction in Carpentry.

## A FEW PHASES OF PRACTICAL EDUCATION AT THE CALIFORNIA POLYTECHNIC SCHOOL.

1903. It occupies 310 acres of land, the most of which is rolling and typical of a large portion of the coast counties. Thirty acres of rich and level land was added by an appropriation by the last legislature. The farm has a full equipment of tools and machinery, and is stocked with Jersey, Ayrshire, and Short-horn cattle, Percheron and Clydesdale horses, Berkshire and Poland-China swine, and poultry. It has a good outfit of buildings for general educational purposes, also shops for wood and iron working, green-houses, and special buildings for different kinds of live stock, and has now under construction a good creamery and a capacious dormitory, and several cottages

ods, domestic economy, and such other branches as will fit the student for the non-professional walks of life." The peculiar aim is to give boys and girls a training in the arts and sciences which deal peculiarly with country life—the life of the home, the farm, the orchard, the dairy, and the shop.

The growth of the school has been most gratifying to the friends of industrial training. The baker's dozen of pupils which gathered at the opening in 1903 has multiplied more than ten-fold during the first five years, and not less than 175 pupils are expected during the present year, which opens during the present month. The corps

tural pursuits has been increased beyond his earlier powers to believe.

The course in agriculture is planned to turn out the actual farmer, rather than the teacher or experimenter. The course of three years includes instruction in such subjects as botany and plant propagation, soils and fertilizers, horticulture, dairying, animal husbandry, carpentry and forge work, together with the usual high school courses in English, algebra, geometry, and American history. The student devotes the morning hours to regular class work, while the afternoons are spent in the field, the shop and the laboratory.

(Continued on Page 204.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor

FRANK HONEYWELL - - - - - Business Manager

## The Week.

We took a run up the San Joaquin valley on Monday, as far as Tulare, to help open a county fair, and returned with an addition to our common stock of confidence in the future of that grand subdivision of the State. Progress must result from the energy, enterprise and generosity which the people are now manifesting. One manifestation which appeals to us as especially significant is the holding of county fairs. We doubt if there is any group of counties in the State which is doing anything in this line to compare with the chain of fairs now in progress from Kern to Stanislaus county. They are not merely "meets" for speed and sociability (which we do not mean to reflect upon by using such terms), but they are fully fledged agricultural fairs, with good pavilion displays, live stock, implements, speed programmes—in fact, epitomes of the broad activities in production and trade which well developed irrigated districts can show forth to such advantage. The Tulare fair was, in fact, one of the best county fairs we ever saw. A number of enterprising citizens have worked for months and spent their money freely upon the equipment of buildings, and have added several new and important structures. They have awakened local interest to such an extent that the space allotted to exhibits is well taken in all classes. They have secured working displays of some of the largest implement and machine firms in the State, and have drawn fine stock exhibits from long distances. The result is that the county fair was not only an exposition of the resources of the county, but was a great educational affair and brought the constantly growing population of the region into acquaintance with better ways to work and better things to work with. Similar efforts will be made at Bakersfield, Hanford, Fresno and Modesto, and there can be no doubt that their influence will be strongly for the development of these districts. The State does not help in such local efforts now, as we believe it should, and the fact that the people are willing to do the work and pay the cost without State aid speaks well for the people, even if it does not speak well for the State.

We are glad to hear from Mr. Lubin that the Washington authorities are manifesting much interest in the work of the International Agricultural Institute. Instructions to the delegates from the United States will be duly prepared, and it is expected that expert representatives of this country will be sent to participate in one great purpose of the institute: to make uniform in action the law of supply and demand which governs the distribution of the world's foodstuffs, and thereby to control, within safe bounds, the fluctuation of food prices the world over. The United States is the only country whose Government accomplishes the systematic gathering, compiling and periodic publishing of crop reports. This work, performed by the Department of Agriculture, has become a

basic essential in the commerce of the country, both domestic and foreign. If this work were carried on individually by the several States, instead of by the National Government, each State setting up its own scale of measurements and fixing its own periods of dissemination, regardless of the other States, there would be brought into effect just such a state of commercial confusion and uncertainty in this country as there now is in the world because each country acts on its own initiative. The institute's plan is universal and uniform gathering of reports and expert estimates of all staple products and their distribution to the public from the central point of tabulation through the various governments which co-operate. This, in a word, is Mr. Lubin's California notion, which now seems approaching realization, as 46 nations have agreed to stand in. Instructions have been sent from Washington to an agent in Rome for the decorating of the United States room, anticipatory of the throngs that will visit the palace of the institute in October and November.

We have long known that there is a peculiar corner in southwestern Nevada which must have blown over the ridge from California, judging by the fruits which they can grow there, but then, there does not seem to be any reason to stretch the truth about them. When we read that "Thompson's Seedless grapes averaging three-quarters of an inch in thickness and being nearly an inch in length were grown by N. J. Gibson of St. Thomas, Lincoln county," we wonder whether Mr. Gibson secured his cuttings before California passed a law that plants must be sold true to name. But then, we never did fully appreciate Nevada conditions, and we are not assured by another statement to the effect that the Nevada Station is trying to find something that will grow on a stretch of land which lies sweltering in the heat, absolutely barren, where the temperature reaches 130 degrees and remains there for several hours. It is out of our line, of course, but why not try those wonderful grapes?

But Nevada is not slow these days. A citizen of Nevada has sued the President of the United States—which is said to be a proceeding new to history—because he is mixed up with a lot of other arbitrary persons, like Secretary Wilson and Forester Pinchot, in making reservations out of lands which belong to the Government. The Nevada party shows that he was grazing about 10,000 sheep on the reserve before it was withdrawn, and now is refused that right; also alleging that the reserve withdrawn is more suited for agricultural and mineral purposes than it is for timber, and therefore should not be withdrawn. As we read the account, it does not appear that the plaintiff claims that he has any right or title to the land, except that he has been using it for his sheep and in that way has increased the general wool and mutton output of the United States. It does seem strange that the President of the United States would deliberately go to work to knock national prosperity in this way, and the Nevada man has certainly taken the best way in the world to show up the hollow pretenses of the President as chief conservator of national resources. Of course, it does not matter that the making of a reservation includes the plan of leasing it, or parts of it, later for grazing if the character of the land justifies that course. Probably a tenant of a city flat who has not paid his rent would object to the landlord's asking him to move out so he could fix up the painting and plumbing. But then, there are some things in Nevada which we do not understand.

Silk culture is to be tried again in California, and this time under more promising auspices, because Father Cowdery of the Youths' Directory at Rutherford, Napa county, has set apart several acres on which to grow mulberry trees, and the old Silk Culture Society has been revived to encourage the enterprise. We consider the auspices favorable because Father Cowdery has a lot of wide awake boys in his charge, and they can be kept busy with the worm feeding and cocoon spinning, and can demonstrate what can be made out of it. It will not work as a household industry because the women won't spin—they are too much like the lilies of the field. Adult labor is altogether too high to think of employing people for silk in this country. If Father Cowdery cannot make it work with his boys, the Silk Culture Society had better go to sleep again for a generation, or until we have people who cannot make easy money in ways they like better than caterpillars.

Really, there is more chance for money in seaweed than in silk, as things now are. Our seaside readers sometimes write us about this, and they will have to learn by experience how far they can indulge in such beach industry. We read in a recent English exchange that the different seaweeds vary considerably in manurial constituents, but potash is the chief one in all of them. The potash may vary from 4 to over 20 per cent. Some sorts contain also a good deal of nitrogen and some phosphates. Sea-weed rapidly decays, and it is important to get it onto the land before it dries. In the Channel Islands it is used as a top dressing for the rich pastures, its potash encouraging the clovers and fine grasses. A layer two or three inches thick is also plowed into the arable land in autumn for parsnips and other roots, farmyard manure being added in the spring. The Scottish and Irish crofters use the seaweed year after year, particularly for potatoes, plowing it in at the rate of 20 to 30 tons per acre. On account of its bulk, seaweed can be used only on farms near the coast.

Referring to the account which we published in our issue of September 12 of the growth of seedlings for reforestation in southern California, it is interesting that Hungary is doing much in this line of government work. In the State forest nurseries a stock of 200,000,000 young trees is maintained, from which over 40,000,000 are transferred to the State forests annually, besides 10,000,000 to 12,000,000 sold at a low rate to private persons. In addition, the Hungarian State possesses many fruit nursery farms, from which about 4,000,000 young trees are yearly distributed to parish communities and others. We do not need such paternalism in this country. We see no reason why the Government should grow trees for private planters, any more than they should grow potatoes for them, unless it be for some quasi-public planting so remote in possible return that it would not be legitimately private to pursue it. The State should teach how to grow trees, and then let its citizens produce them, just as other producers produce other things for a livelihood. We do not feel like calling upon the Government for permission to breathe: it is not American. Nor is it American for the Government to dole out trees and common seeds for private use.

Mr. W. A. Orton, pathologist of the Bureau of Plant Industry of the U. S. Department of Agriculture, who has been at work of late in the Stockton region, in answer to the request through our congressman that the department ascertain why potatoes cannot be continuously grown with more



profit, has, we understand, about concluded that it is not so much a question of plant food as of plant disease, and will pursue the matter from that point of view, if so instructed from Washington. This broadens the question and gives the work a wider bearing, for probably all the potato growers in the State are more or less affected in the same way.

Some of our sheep men propose to throw the burden of tariff revision on the sheep. No one will buy wool now if he can help it, because some of the presidential candidates are trying to pull the wool over the eyes of the electors by declaring the tariff should be removed. Some flock owners therefore propose to allow the sheep to go unshorn. One of them recently said: "It is not worth while to cut off wool and keep it stored for better prices. The sheep can carry it through the winter and the clip will be greatly increased for the spring. For this reason only about one-third or perhaps not over a fourth of the usual fall shearing is contemplated this year, and for the same reason the sheepmen are remaining with their flocks up in the mountains very much later than usual." It is not quite true that as much wool can be had by one shearing as by two, but when wool is low that, of course, does not matter so much. Besides, if the tariff revisors get the upper hand, the sheep might as well stay in the mountains all winter, unless the winter demand for mutton should be keen, and that is not to be thought of with the number of sheep which will be for sale if the tariff goes off.

California orange growers should never forget the constant menace in the shipment to this country of Mexican fruit. It is reported from the City of Mexico that the railroads of Mexico are doing a good business in handling orange shipments for the United States. The movement of fruit began the latter part of August, and as the crop is said to be unusually large, several hundred carloads will be shipped to the United States. The first carload shipments of oranges made from the Isthmus of Tehuantepec, destined for United States points, passed through the City of Mexico, and it is stated that large shipments will be made from Tampico territory and from the older orange districts of Jalisco and Sonora. We understand that there are orange trees growing near the place where the railway passes from Mexico into the United States, and an out-throw of a wormy orange from a disgusted passenger might let the pest loose in this country. We cannot watch that border too carefully.

## Queries and Replies.

### What Is the Matter With Australian Salt-Bush?

To the Editor: I have an old bulletin of the California Experiment Station on Australian salt-bush. Has anything indicating its value in your State been published recently? As I remember, the U. S. Department of Agriculture also published a circular about the plant and distributed a good deal of seed in California, but has not, so far as I know, ever published any account of results. What is there to say about the plant?—Reader, Colorado.

The Australian salt-bush has never reached the position which early publications marked out for it. The acreage in California is exceedingly small and hard to find, probably not more than a small fraction of one per cent of the amount which was contemplated, and yet, based upon the way it will grow, and its nutritive content as shown by analysis, it ought to have become more popular. Some time ago an agent of the Washington Department

was in California trying to follow up the distribution of seed by the Department, with a view to making a report as to the use which was being made of the plant, and could not find anything to make a report on. Is the plant a false alarm? Who has it and found value in having it?

### Lice and Eucalypts.

To the Editor: I have a lot of young eucalypts growing, and about two weeks ago lice began to destroy them. I purchased whale-oil soap and sprayed as directed, and burned up some four or five thousand trees. The lice are still on the trees that are alive. Can you direct me what to spray with? In your "California Fruits" you recommend a resin wash for leaf lice. Do you think it will burn a young tender tree. I also need advice on planting. I tried planting last winter, but was not very successful.—Amateur, San Francisco.

Whale-oil soap solution will certainly kill aphids if the spray is applied so as to reach the insect, without injury to the plant unless it is used too strong. It ought to be effective against the insects and innocent to the plant at the rate of one pound to four gallons of water, and it should be applied in a fine spray, and not sprinkled in such a way as to soak the ground in which the young trees are growing. Aphids can also be killed with kerosene emulsion without injury to tree if properly made. The resin wash is also satisfactory, but it is more trouble to prepare than either of those before mentioned. Lice are very easily killed if the spraying is done correctly, and mixtures can therefore be used in much weaker solution than for many other insects.

As for planting out eucalyptus trees, it should be done after the cold weather and the heavy rains of winter are over, and when the ground has become warmer by the spring sunshine. Possibly your transplanted trees were caught in the frost, or else were planted when the ground was saturated with cold water, either of which would be very injurious to them.

### Apricots and Johnson Grass.

To the Editor: Will topping old and large apricot trees improve their bearing? What is the best way to kill Johnson grass in a vineyard?—E. B., San Francisco.

If the trees are very old and decrepit and making very little new wood, it will give them a fresh start to cut back and get a lot of new growth. If the trees are, however, strong and vigorous, and are making enough new growth each year, it is not likely that cutting back will help them to bear unless you graft in a variety which is naturally a better bearer. About four out of every five varieties of apricots seem to be naturally shy bearers.

Plow, harrow and drag out all the Johnson grass roots you can now. The dry heat will kill many roots which you leave near the surface, and you can burn up all you get out. Begin just as soon as the grass starts to grow with a flat, sharp-tooth cultivator and cut the shoots under ground once a week. Do not let them come to the surface and get green. Keep grubbing and pulling out all the grass which is too near the vine stump to be cut by the cultivator. In this way you can keep the grass down. You will not be likely to kill it out.

### Not Wheat, but Barley.

To the Editor: I am sending you herewith a few heads of wheat. Will you kindly tell me what kind of grain and if it is a good yielder?—Subscriber, Nevada.

It is not a wheat, but a bald, beardless barley; bald, because it does not have adherent chaff like ordinary barley; beardless, because the chaff has

no awns. It is an old variety, introduced into California more than a third of a century ago, and not much grown because it shatters out badly, for one thing. In some places near the coast it is grown a little. It is grown also in Wyoming, but is not notably prolific, though good. It is not a thing to get excited about, unless you wish to start in on another Idaho-Alaska wheat enterprise.

### September Roses.

To the Editor: I am sending you by same mail some La France roses which fall off before they open. All the roses on this bush have the same trouble. Am also sending you some buds from another bush that do not mature. Some roses on this bush, however, develop very well and look healthy. I should like very much to know what the trouble is and what remedy would be advisable to use.—Reader, Concord.

There is no pest or disease present. The irregularity in the behavior of the two bushes is due to the different stage of growth they have been brought to in the trying conditions of heat and drouth. The bushes ought to be at the end of their midsummer rest, and just ready to awaken for fall and early winter bloom. Only a few roses are good at this season, and this ought to suggest treatment which would allow them rest and partial dormancy to gather strength for new growth and bloom later.

### Raspberries Need Water.

To the Editor: I have a half acre of raspberries on adobe ground. This is the first bearing season. The canes seem to crisp up; the edges of the leaves turn brown and wither; the berries grew to about half the usual size and turned an ash color. I have been told it was mildew. Can you tell me if there is any remedy?—Beginner, Haywards.

There are fungi affecting raspberries, but plants are more likely to come into distress for lack of moisture, especially on adobe ground. Good cultivation is necessary, and irrigation to assist them through the long dry season. Whenever a plant gets into distress for lack of moisture it is apt to put on such appearances as you describe. A remedy for mildew is sulphur, but it will avail nothing unless the plants have the moisture they need for thrifty growth.

### What to Do with Apricots.

To the Editor: I have about an acre of healthy looking apricot trees that have not borne a crop for four years. Will you kindly advise me whether it would be better to bud or graft the trees to prunes or peaches, or grub them out? If you advise the former, kindly state what variety is the best.—Subscriber, Selma.

If we were sure that we did not want apricots, we should try grafting over to good drying or canning peaches, rather than to prunes. But to have an acre of apricots ought to be a good thing, and if you will graft over the trees to the Tilton apricot, our observation is that they will bear regularly.

### The Pistachio.

To the Editor: What kind of a plant does the pistachio nut grow on? Is it a tree or shrub? How is it propagated? Do you think it would grow in the Imperial valley? Any information in regard to its habits would be greatly appreciated.—Reader, Imperial Valley.

The pistachio grows on a small tree or large shrub. The best varieties are generally grown by grafting on a wild seedling. Probably the most confident man on pistachio growing is Mr. George C. Roeding, and if he succeeds there ought to be a good chance for the Imperial valley.



## Horticulture.

### SOIL BACTERIA AND SOIL FERTILITY.

Written for the PACIFIC RURAL PRESS

By ALBERT SCHNEIDER, of the University of California.

The exact relationship of soil bacteria to soil fertility is not generally understood, although it is well known that bacteria are abundantly present in all soils. In fact, soil would be impossible without bacterial action. The number of microbes in one gram of dry soil varies considerably, ranging from about one million to six millions and more. That these minute organisms must perform some important work is almost self-evident. Recent investigations have demonstrated that the fertility of the soil is approximately proportional to the number or quantity of bacteria present.

We recognize what is known as potential fertility and kinetic soil fertility, or in other words, unavailable and available fertility. By potential or unavailable fertility, we mean the existence in the soil of plant foods which are, so to speak, locked up and cannot be used by plants in the form or chemical combination in which they then exist. By kinetic fertility, we mean that condition of the soil in which foods are directly available to the plants growing therein. If all the plant food substances occurring in the soil were directly or kinetically available, the productivity of the soil would not lessen appreciably for many years, say one hundred years or more. Why then is it necessary to use fertilizers, to rotate crops, to rest the soil, etc., in a few years, in order to prevent soil exhaustion? This is due simply to the fact that in a few years the crop plants use up most of the available food, and unless more is supplied, the crop yield will grow less and less until profitable culture is impossible.

We are familiar in a general way with soil exhaustion and the beneficial influence of soil tilling, of crop rotation, and the use and value of the various fertilizers. It is known that to let crop lands lie fallow for a season or two renews the productiveness. What is the true explanation of these phenomena? As already indicated, soil exhaustion means that the crop plants in a few years use up a high percentage of the available food-stuffs. By proper tillage the moisture retaining power of the soil is increased and air is introduced, conditions which are favorable to the development of soil bacteria which have the power of converting a new supply of unavailable plant food into available plant foods. When a fertilizer, as manure or guano, is added to the soil, it is first attacked by myriads of rotting bacteria, which convert some of the insoluble organic manure compounds into soluble compounds, known as peptons and albumoses. These are in turn converted into ammonia by other microbes, and the ammonia is converted into nitric acid by the so-called nitrifying bacteria. The nitric acid at once combines with the potash and lime in the soil, forming nitrate of potassium and nitrate of calcium, in which form these substances are available as plant foods.

In green manuring, microbes and higher fungi cause the starch, sugar, and cellulose of the plants used for this purpose to undergo fermentation, organic acids are liberated which render the insoluble soil phosphates (of calcium) soluble. That is, the insoluble basic phosphates are converted into neutral phosphates, which are soluble. Carbon-dioxide, another very important bacterial product, combines with potash to form carbonates, and these in turn act upon the silica in the soil, forming the potash zeolites (hydrates of silica). Certain microbes, lower hyphal fungi and soil algae have the power of chemically binding the free nitrogen of the air, thus rendering this abundant element available as plant food.

By means of thorough soil cultivation and the systematic use of fertilizers we simply encourage the development of the particular microbes that will set free or render available the food substances required by the crop plants under cultivation. Agricultural bacteriology is beginning to make practical use of certain plant food forming microbes. Of these the free nitrogen-binding microbes are most promising from the standpoint of practical commercial utility, and have received much attention in recent years. The more important species are: *Rhizobium mutabile* (Phytomyxa

leguminosarum), Schroeter; *Rhizobium leguminosarum*, Frank; *Pseudomonas radiclecola*, Moore; *Bacillus ellenbachiensis*, Caron; *Azotobacter chroococcum*; *Bacillus subtilis*; *Bacillus californiensis*, and a few others. Of these, *Rhizobium mutabile*, the root-nodule bacterium of the leguminosae has received most attention.

The first to suggest a plan for practically utilizing the root nodule bacteria (rhizobia) and to secure letters patent for the process in Germany and the United States, were Nobbe and Hiltner, of Tharand, Germany. Patent No. 570,876 was granted Nobbe and Hiltner in the United States, November 3, 1896. This patented fertilizer for leguminous plants consisted of pure cultures of the several species *B. mutabile*, each species of plant, as bean, pea, clover, alfalfa, etc., having the cultures derived from the root nodules peculiar to it.

This commercial preparation was given the name, "nitragin," and its efficiency was quite carefully and extensively tested and commented upon by European and American investigators. The consensus of opinion seems to be that it was of doubtful practical utility for agricultural purposes. Some authorities maintained that it was of unquestionable value in virgin soil. In rich and otherwise favorable soil conditions it is of only slight value. It is maintained that nitragin aids very materially in developing and ripening the fruit. As becomes evident from careful consideration, the value of this microbial fertilizer depends upon whether it will cause an increased development in the number and size of root tubercles over and above those which would develop without the presence of this artificial aid. If the soil is already well supplied with rhizobia or root tubercle bacteria, as soil would naturally be if the leguminous plants under consideration had been grown in it for one or more seasons, nitragin would in all probability be of little or no value. In any case, the anticipated results have not been realized fully, and nitragin is withdrawn from the market, and is no longer manufactured.

A second and later improvement in the method of inoculating seeds with root tubercle bacteria (rhizobia) is given by Hartleb in the specifications forming part of letters patent No. 674,765, granted May 21, 1901, at Washington, D. C. Although not specifically stated in the specifications, it is evident that the Hartleb process is a method of applying pure rhizobia cultures to seed of leguminous plants. Whether the method offers any advantages over the method of Nobbe and Hiltner is questionable. In any case it would prove practically advantageous only under the conditions referred to under the discussion of nitragin. Although the method has been freely discussed and experimented upon in Germany, the fertilizer is no longer on the market, certainly not in the United States. There is on the market a third patented germ or microbe soil fertilizer of German origin, known as "alinit." It consists essentially of a pure culture of the soil bacillus known as *Bacillus ellenbachiensis* alpha or *Bacillus ellenbachiensis*, Caron. The germ was first brought to the attention of the agriculturists by Caron, a land owner of Germany, who first isolated it and called attention to the fact that it had the power of chemically binding the free nitrogen of the air. The microbe is said to be closely allied to *B. megatherium* and *B. subtilis*. According to some authorities it is especially concerned in assimilating free nitrogen for gramineous plants (grass family, Graminae). If it is true it may prove of great value to grain growers.

The commercial alinit is a dry pulverulent substance of a yellowish gray color, with about 10% moisture and 2.5% nitrogen. It is evidently prepared by mixing spore-bearing pure cultures of the bacillus of Caron with a base of starch and albumen. It is used to inoculate soil either by spreading it broadcast or by sowing or otherwise planting it with the seeds. It is not a nodule or root tubercle-forming organism and does not enter into intimate symbiotic or biologic relationship with plants. Its work is simply that of binding free nitrogen, forming nitrogenous compounds which enrich the soil, thus increasing the yield of any crop benefited by such compounds.

It is known that there are soil bacteria which are more specially active with certain plants or groups of related plants, and this peculiarity has suggested the possibility of isolating them, artificially increasing their potency, and using them

commercially for fertilizing purposes. It is also true that not all soil bacteria are beneficent. Under certain conditions, pathogenic and otherwise, harmful microbes are present in great numbers and become very destructive to crop plants, causing diseases of roots and other plant organs. *Bacillus californiensis*, isolated from sugar beets and from sugar beet soil, appears to promote the growth of sugar beets, particularly the seedlings. The much lauded microbial leguminous fertilizer of the Department of Agriculture, Washington, D. C., is simply a slight modification of the Hiltner method. The process is patented in the United States, and free samples have been liberally distributed among farmers for test purposes, but the results reported have been rather variable, and as a whole quite unsatisfactory. The indications are, however, that future experiments will clear up the present difficulties, and some of these so-called vest-pocket microbial fertilizers will no doubt prove highly beneficial.

The following schematic table will serve to explain the relationship between unavailable or undigestible plant foods, the plant food digesting microbes, and the higher plants requiring such foods:

#### Unavailable or Undigestible Plant Foods.

1. Free nitrogen of the air.
2. Organic vegetable compounds, as cellulose starch, sugar, etc.
3. Insoluble salts.

#### I.—Digesting Microbes.

1. Peptonizers.
2. Ammonifiers.
3. Nitrifiers.
4. Free nitrogen assimilators.

#### II.—Mutualistic Symbionts.

1. Leguminosae.—Root nodule microbes.
2. Gramineae.—*B. subtilis*, *B. ellenbachiensis*.
3. Cupiliferæ.—Higher fungi and microbes.
4. Other plants.—Soil microbes generally.

The above is a mere outline of this very important subject, without entering into full discussion or a consideration of the theoretical possibilities of the future. It would be easy to conjure up a glowing picture of how the agriculturist of the future may add to each particular crop its special digesting microbes, leaving it to them to prepare and digest the food required, but it is wiser to await actual results, which will in all probability be attained in the near future.

In conclusion, we desire to give some practical suggestions based on the above statement.

1. Free stirring up and tilling of the soil increases the moisture retaining power of the soil. Moisture is essential to bacterial activity.
2. Tilling and loosening up the soil admits air. Air (oxygen) is essential to bacterial activity.
3. An acid condition of the soil is very detrimental to plants, because it prevents bacterial activity. Microbes generally prefer a neutral or very slightly alkaline medium for active development.
4. Free tilling of the soil not only admits air, but it admits sun-warmth. Microbes develop most actively in a moderately warm medium.
5. Soil bacteria are most active at a moderate depth, three to eight inches below the surface. Deep plowing (12 to 20 inches and more) is, as a rule, objectionable, because it takes some time for the deep upturned layers to become bacterially active. This does not apply to deep subsoiling. In this case the deep layers are simply loosened, without being turned on top.
6. Proper tilling of soil induces the enormous development of soil bacteria, which are mostly beneficent, and these kill and prevent the rapid increase of pathogenic or otherwise objectionable microbes, which are generally present in small numbers only.

Berkeley, August 18, 1908.

Dr. L. O. Howard, chief of the U. S. entomological work, was in California last week and visited the stations at Santa Rosa and Los Angeles. While attending a meeting of the State Board of Trade in San Francisco, Dr. Howard said that he had not realized the extent of the headway made by the thrips, and that he would now commence a war of extermination, and thought it could be controlled by a special fertilizer.



## Citrus Fruits.

### METHODS OF FIGHTING SCALE.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

The methods to be used in fighting the scale insects are not intricate, yet problems arise that keep this phase of the work in interest. Since Craw and Malatt introduced fumigation, all kinds of methods of spraying have been tried with varying success. No method has been devised which will do the work of destroying scale as effectively as fumigation with hydro-cyanide gas generated from potassium cyanide and sulphuric acid. In the hands of careful experienced operators the gas is safe and will not harm trees. In the Riverside district there are many orchards of large seedling trees on which the use of the gas is impractical, owing to the size of the trees, the density of the orchards owing to close setting, and the cost. Another difficulty in the Riverside district is the capital required to keep a large enough outfit of tents, etc., to provide for the widespread fumigation. There is no longer the trouble of low grade chemicals to worry the fumigator, as in the early days. Instead of 40 to 80 per cent cyanide, they now get only 98 to 99 per cent pure chemical. They use for black scale about three-quarters of an ounce of cyanide for each 100 cubic feet of air surrounding the tree, which is enveloped in a tent. If the fumigator is careful to generate sufficient gas, and has perfect tents carefully covering the tree, nearly all the scale will be killed, but if insufficient chemical is used or the tents carelessly handled at the base, or if the tents have holes in them, burned by acid or snagged by careless handling, so as to allow the escape of gas, the work will not be efficient. In any case, it is not known to be possible to kill all the scale. The scale that escape destruction are always at the base of the tree. The reason of this is that the gas rises rapidly and the concentration is consequently denser at the top of the tent. If there is any escape of the gas by seepage through the tent, or if through miscalculation the amount of cyanide used is not sufficient to maintain a sure killing density all the way down to the ground, some of the scale low down may not be smothered beyond recovery. It is sometimes asserted that a given method of eradication kills 99 per cent of the scale. Taking 100,000 scale as the colony of a single tree before treatment. With 99 per cent destroyed 1000 scale are left to produce their broods. Allow 500 as an average hatch per scale, though they are known to produce 1000 and 1200, or even three or four thousand, but so many of them die that half the amount may be a fair average. One thousand scale could produce half a million. But let us presume that only one-quarter of the scale escape death; there would still be a possible hatch for the next season of 125,000 young scale, or more than there was before treatment. Allow again the half of these to die in infancy, and yet over 60,000 would be left to prey upon the tree and breed an army of millions. When it is considered that a single female scale when impregnated can in two seasons load a tree with scale, and the practical impossibility of surely destroying every scale insect, the only sane conclusion the grower can arrive at is that some method of scale destruction is an essential detail of fruit production, and an expense that must be liberally counted in the cost of maintenance of a grove.

**Comparing Methods.**—Owing, therefore, to the cost, which for large seedling trees is nearly \$1.50 per tree, and actual impracticability of fumigating large, thickly set trees, Mr. Cundiff, Riverside Horticultural Commissioner, has closely followed experimentation with sprays to get a suitable method. His method has embraced something more than the finding of a scale killed that would not harm trees; he must find something that can be applied under all existing conditions. The spraying easily reduces the cost one-half on the large trees, but it does not give such a saving on the budded trees, only about one-quarter the expense being saved. The saving effected on the budded trees by the use of the sprays is more than offset by the greater efficiency of the gas, as can easily be understood by a study of the wonderful fecundity of the scale we have shown. Both the distillate and kerosene sprays will kill all the scale

they touch, but they do not so fully search out the scale as the gas does. The spray kills the low down scale more effectively than those higher up, but even the most painstaking work too often fails to equal the gas. The distillate spray is practically discarded, owing to the asphalt, wax, and analine compounds it carries. The kerosene emulsion, at a strength of about 9 or 10 per cent, does no harm to the tree and kills all the scale reached by it, and while it does very good work, cannot be recommended to supersede fumigation on budded trees. Where fumigation is impractical or too costly, owing to attendant conditions, the kerosene emulsion is the best alternative yet found; but while fumigation properly applied will allow the skipping of a year or the treating every other year, there is no surety that spraying will not have to be repeated annually to keep a fairly clean orchard. If the method employed does not kill more than 99 per cent of the scale, it must be applied annually to be effective. The cost and maintenance of a tent outfit for fumigation is very considerable, each tent and fittings calling for an expenditure of fully \$150, while the life of the canvas is not over three years, when a new set must be purchased, at a cost of about \$130 each, or the leakage of gas will render the work of fumigation abortive. As against this a good spraying outfit costs about \$300 to \$350, and will last from ten to twenty years, according to the care it gets.

After a study of all the facts that bear upon the subject of war upon scale insects in citrus culture, the conclusion is forced upon us that with present knowledge of methods, fumigation is the most businesslike and surest method for the work of killing scale on budded trees, but on very large trees, such as old seedlings, and in closely planted orchards, the spray is the more practical. The best emulsion for spraying with, so far as is now known, is the simple mixture of kerosene and water at about 9 or 10 per cent strength. More than this amount of kerosene has been used on citrus trees without noted damage to the tree, but also without any greater efficiency. It is not so much in the strength of the mixture that the merit lies, as in the thorough wetting of the leaves and bark so as to carry some kerosene to every part of the tree above ground. Growers sometimes make the mistake of having the fumigation confined to just the trees which the horticultural inspectors mark as found infected, but a safer way is to fumigate a plat taking in the infected trees. By attempting to be penny wise we sometimes prove ourselves pound foolish.

## The Vineyard.

### FRENCH EFFORTS AGAINST FROST.

We are indebted to Judge Leib of San Jose for calling to our attention an outline in a recent consular report of the way the French are fighting frost in the vineyard district of Bordeaux. We see nothing in it so good as our own method of oil pots or briquettes. The writer of the report suggests that "something similar might be used with advantage by Americans," being apparently ignorant of what has been done in California for a decade. It also does not look well to us for the Department of Labor and Commerce to print such a thing when the United States Weather Bureau has published the full and satisfactory reports on frost occurrence and protection against ill effects, prepared by Professor McAdie of the San Francisco district. Sometimes it seems to us that our Government is too big—so big that one bureau does not know what another is doing, and gives us away to foreigners as dull and backward.

But this protest does not take interest from the way the French go at it, as follows:

The process, the invention of Mr. Edouard Lestout, of Bordeaux, consists in filling small wooden boxes, open at top, with an inflammable composition consisting of a mixture of equal parts of resinous with earthy matters (clay, terra alba, and the like) reduced to a fine powder and pressed into a compact mass. In the center a wick extends through the compound and serves to kindle it. The wick, however, may be dispensed with and the composition ignited by pouring a few drops of alcohol, petroleum or other inflammable oil over the mass and applying a match. These boxes, about 8 inches long by 6 wide, made of pine wood

ordinarily, are placed in line, about 30 feet apart, around certain areas, say of 50 acres.

So far as grape vines are concerned, the most dangerous period of the year is in April, when the young shoots are showing some vigor and the juices running freely. Then a slight frost may mean disaster unless the plants are protected in some way. There is but little danger when a dark or cloudy morning follows a cold night. The trouble comes when the first rays of the morning sun strike the almost frozen and unprotected plant. Rapid disorganization is sure to follow, cases being known where entire vineyards have been so destroyed. By the Lestout process a dense cloud of smoke is produced, hanging over the vineyard long enough to protect the plants from the sun's rays and give them a chance to recuperate from the dangerous effects of the frost.

The composition in the boxes to windward only is ignited, the thick, black, heavy smoke hangnig over the field, forming a shield against the sun's rays. If it is desired to extinguish the fires it is only necessary to have an open box a trifle larger than the others, by means of which the flames are quickly smothered. It is claimed that the protection of 50 acres by this method of producing smudges can be achieved at an expenditure of \$2.

The inventor declares also that his process may be used for masking the movements of an army, hiding the erection of field works, etc.; also as a rain producer, and even for driving off grasshoppers and locusts.

## Cereal Crops.

### PREPARATION OF LAND FOR GRAIN.

It is just the time to talk about this operation, and there is much inducement to talk, because our agricultural teachers are so much wiser than their predecessors that they are giving us thoroughly rational and practical advice. It is not long since the teachers could not teach anything but plowing deep, whether deep plowing suited the crop or not, and the result was that people who plowed deep for certain crops nearly lost the crop where there was not rain enough to re-firm the lower soil. Now we are learning much from the experts who have studied closely dry farming methods, and California readers will find in what we give below an explanation of many facts which they have observed. Also some suggestions which may enable them to do better work along lines which they know to be right.

At a recent meeting of the Co-operative Experiment Association of the Great Plains Area in North Dakota, Prof. A. M. Ten Eyck, agronomist of the Kansas Experiment Station, gave an address on the "seed bed for wheat," from which we take the following:

**An Ideal Seed Bed.**—In order to secure the ideal conditions for seed germination, a seed bed for wheat or other small grains or grasses should not be too deep and mellow, rather the soil should be mellow and yet finely pulverized only about as deep as the seed is planted. Below the depth at which the seed is planted the soil should be firm (not hard), making a good connection with the subsoil, so that the soil water may be drawn up into the surface soil. The firm soil beneath the seed, being well connected with the subsoil, supplies the moisture to the seed, while the mellow soil above the seed allows sufficient circulation of air to supply oxygen and favors the warming of the soil, gathering the heat of the sunshine during the day and acting as a blanket to conserve the soil heat and maintaining a more uniform temperature in the soil during the night. Meanwhile, also, the mellow soil conserves the soil moisture, acting as a soil mulch to keep the water from reaching the surface, where it would be rapidly lost by evaporation, and the same condition favors the growth of the young shoot upward into the air and sunshine, where in the presence of oxygen, light, and a favorable degree of heat, the green leaves quickly begin the work of assimilation and the soluble plant food elements absorbed by the roots are rapidly transformed into protoplasm and starch, and the various cells and tissues which build up the plant structure, and the young plant grows and is soon independent of the seed, established upon its own roots.

With a deep, loose seed bed the conditions for



seed germination are less favorable than in the "ideal" seed bed described. The mellow soil may be warm enough and well aerated, perhaps too well aerated, causing the soil to dry out, but with the deep, mellow seed bed the moisture in the sub-soil is not available for the use of the germinating seeds, because the capillary rise of the water is checked at the bottom of the mellow soil. Such a seed bed is almost wholly dependent upon rain for sufficient moisture to germinate the seed and start the young plants, and even if such favorable weather conditions prevail at seeding time so that seeds may germinate and the crop start, yet at almost any time during the growing season if drouth prevail, the crop in the deep, loose seed bed is more apt to be injured because of the rapid drying out of the surface soil. In such a seed bed the crop is not only apt to "burn out" in summer, but it is also more apt to "freeze out" in winter than a crop grown in the ideal seed bed described above, since loose soil is more apt to heave by winter freezing than firm soil.

**Methods of Preparing the Seed Bed.**—The ideal seed bed may be prepared for seeding spring wheat by simply disking and harrowing corn stubble land, and not only may a favorable seed bed be prepared at small expense on such land, but corn makes an excellent rotation for wheat. Potatoes also make a good rotation for wheat, and a suitable seed-bed may be prepared on potato

ground as described for corn ground. In fact, wheat may follow almost any cultivated crop without plowing, provided such crop has been given clean cultivation and weeds not allowed to seed. If the ground is foul with weeds, then it would be best to plow, as disking in the wheat may give a weedier crop than plowing. As a rule, however, the better seed bed may be prepared by disking. On a surface free from weed seeds a cleaner crop of wheat may be grown by disking than by plowing, since many weed seeds which were covered too deeply to germinate during the previous season of thorough cultivation, when the weed seeds in the surface soil were sprouted and destroyed, are brought to the surface by plowing, and under favorable conditions readily sprout and grow.

(To be Continued.)

## Patrons of Husbandry.

### MEETING OF CALIFORNIA STATE GRANGE.

The State Grange will meet in Sacramento October 6. Of course every subordinate Grange will be represented. But many members whose attendance is not officially required should plan to be present. If unable to take any other vacation,

this should be the annual outing. As a social event, we are not likely to meet more interesting and agreeable people than our fellow-grangers at any resort, nor to obtain greater intellectual stimulus in the same time anywhere else.

Attendance should not be regarded as a privilege only, but a duty. A large gathering gives the order importance in the public estimation. It is not sufficient to be present only, to confer and receive the greatest benefit. There should be preparation for, and participation in, the work and discussions. The published conclusions of any subordinate Grange have a certain influence. But it is largely local. When the same matters are brought up in the State Grange and endorsed, the action is the voice of all the Granges, and carries great weight. For this reason the State Grange should take no forward step hastily, but resolutions should be pre-digested, as it were, in the subordinate Granges.

The lecturer's hour will be devoted to the pressing question of "Soil Exhaustion and Restoration." While the subject will be introduced by some papers or addresses from special investigators, it is designed to devote the time mainly to practical discussion and questioning, in which it is hoped that many will take part. The State Grange will visit the new University Farm at Davis and participate in the State Institute.

F. H. BABB, Lecturer State Grange.

## REX Lime and Sulphur Solution For Fruit Spray and Stock Dip.

This solution is guaranteed, when diluted according to directions for the dipping of Sheep and Cattle, to contain not to exceed one per cent of Lime (CaO), and not less than two per cent of Sulphur, combined in the form of Calcium Sulphides, and made according to Government formula.

The Department of Agriculture at Washington, D. C., has authorized the use of REX for Sheep Scab and Cattle Mange in the proportions of 1 gallon of REX to 15 gallons of water, making 800 gallons of Spray out of every barrel. Full directions for its use on every barrel. Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.  
Prepared by THE REX COMPANY, Omaha, Neb.

### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

### Berry Plants.

Hopkins Improved Strawberry Plants in all standard varieties. We still have one year old plants of the Brandywines, A-1 and Lady Thompson; also one year old plants of the Himalaya Blackberry and California Surprise Raspberry. Catalog soon ready.

G. H. Hopkins & Son,  
Burbank, Cal.

### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520 Main 949.

CHICO NURSERY COMPANY  
FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

CHICO NURSERY COMPANY  
Office: Cor. Third and Walnut Sts. Phone: Red 1241.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000  
Now is good time to plant. Pedigreed Stock.  
500 Valencia, one year, extra fine, \$60 per 100.  
J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### Almond Hullers

—For Sale by—  
A. O. RIX, IRVINGTON, ALAMEDA COUNTY, CALIFORNIA.



TELL THE FOLK AT HOME  
THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

### SOME RATES:

Sioux City	- - -	\$31.95	New Orleans	- - -	\$35.50
Council Bluffs	- - -	30.00	Peoria	- - -	36.75
Omaha	- - -	30.00	Pittsburg	- - -	47.00
St. Joseph	- - -	30.00	Memphis	- - -	36.70
Kansas City	- - -	30.00	Bloomington	- - -	36.75
Leavenworth	- - -	30.00	St. Paul	- - -	36.75
Denver	- - -	30.00	Minneapolis	- - -	36.75
Houston	- - -	30.00	Chicago	- - -	38.00
St. Louis	- - -	35.50	New York	- - -	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

## Southern Pacific

## Dutch and Japanese BULBS

Now ready. Send for our new Illustrated Fall Catalogue, now ready to mail. Remember, we are headquarters for

### PLANTS SEEDS TREES

We are headquarters on the Pacific Coast for

### EUCALYPTUS SEED and YOUNG TREES

Write Us for Special Quotations

Retail Store: 125 Market Street, San Francisco

In Writing, Address

C. C. Morse & Co., 44 Jackson St.  
San Francisco.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The raisin crop of Kings county for 1908 will exceed that of 1907.

Pear growers of Shasta county have finished gathering the best crop in years.

The Bartlett pear crop at Dutch Flat, Placer county, is above the average this season.

The first cars of seedless Sultana raisins of the season were shipped from Selma last week.

Orange packers' supplies, such as wrappers and boxes, are cheaper this year than last, which will help the grower.

O. M. Anderson of Antelope Valley, Tehama county, got 2000 boxes of Muir peaches from his nine-acre orchard.

P. D. Bane of Oroville has sold his crop of 17 acres of almonds at 10 cents per pound, receiving a total sum of \$3400.

It is stated that Eastern shipments of Florin Tokays are ranging from \$1500 to \$1900 per car, or \$1.30 to \$2.25 per crate.

L. S. Chittenden reports having a crop of 32 tons of raisin grapes from 13 acres of Muscat vines on his place near Hanford.

Owing to unusually heavy foliage the picking of Muscat grapes in the San Joaquin was a little late in starting this season.

The Biggs fruit district shipped 80 cars of green fruit, through the Earl Fruit Co., during the season, of which 65 cars were peaches.

It is stated that Rosenberg & Co. are buying many crops of almonds in the vicinity of Woodland and Yolo. The almond crop is good in that locality.

According to the Vacaville Reporter, a 20-acre cherry orchard located near that town, owned by Henry Watson, produced a crop this season that netted \$11,500.

The Giblin peach orchard near Yuba City has produced a fine crop this season, amounting to between 300 and 400 tons. The fruit was shipped to a cannery at Oakland.

Geo. C. Roeding of Fresno has been appointed Chief of Agriculture and Horticulture in the California exhibits at the Yukon-Alaska Exposition to be held in Seattle next year.

Most places about Porterville report a good crop of oranges, somewhat in excess of last year. In others, however, the fruit has been dropping and there is not over half a crop.

Wine grape growers of the Livermore valley are now harvesting their crop, which will be less than last year. The price has not yet been settled by the California Wine Association.

Tokay grapes are going out of the Lodi district very fast at present, and good prices are realized in the Eastern market. It is stated that shipments will be about 200 cars short of last year.

The Imperial valley melon growers at a recent meeting discussed the advisability of forming local associations to handle the melon crop next season, and to secure the aid of the California Fruit Growers' Exchange.

The Katella walnut ranch of 80 acres, near Anaheim, which last year netted to owners \$10,000, has a much larger crop this year, and the receipts are expected to go several thousand above those of former years.

The annual convention of the California Fruit Growers' Exchange will be held in Kansas City this year, beginning September 29. Arrangements are being made to take a large number of southern California growers on a special train.

J. P. Onstott of Yuba county has a force

of 156 men at work in his vineyard, gathering Thomson Seedless grapes. About 80 tons of fruit is gathered daily, and there were 465 acres to be harvested. The crop this year is good and the price fair.

Last year M. L. Featherstone of Visalia cut three of his peach trees back till there was nothing left but the stump. Now the three trees are loaded with peaches of exceptional size. The trees are of the Lemon Cling variety.

Of the 200 acres planted to choice vines imported from France, by the California Wine Association, on land near Gilroy this season, nearly all have grown well. This company is now picking its crop of grapes, which will be about 500 tons.

A new lemon growing company has been formed, under the name of the Adiramled Co., which will plant out 40 acres to lemons on a tract just east of Oxnard. It is stated that a much larger acreage will ultimately be planted.

Owing to the fact that the canneries around Newcastle would make no offer for cling peaches until the crop commenced to drop, many tons of fruit will not be marketed. At present the price being paid growers is from \$10 to \$18 a ton.

A majority of the Lodi wine grape growers, rather than sell their wine grapes to the several manufacturing combines for \$6 a ton, a price that does not pay the expense of hauling, cultivating and picking, have agreed to turn hogs into the vineyards.

Professor Swingle, in charge of the Government experiment stations, has been in the State for the past two weeks. One of his plans at this time is to introduce a new fig, which he believes will be very valuable as a commercial acquisition. To aid in the propagation he has rented the old Maslin seedling fig orchard at Auburn and will commence work there soon.

It is stated that the price of wine grapes for the season in Napa county has been fixed at from \$11 to \$13 per ton. Around Healdsburg the price is stated to be from \$10 to \$12, and by some outside parties as high as \$14. At Cloverdale it is announced that the winery there will advance the growers \$4 per ton and allow the growers to participate in the profits, if any, when the wine is disposed of.

### AGRICULTURE.

The hop crop in Sonoma county does not amount to over two-thirds of the yield of last year.

Wm. Duburrow of San Francisco is making arrangements to plant a large tract of land in Glenn county to alfalfa.

From three acres of measured ground E. W. Hampton of Laton harvested and delivered to the sugar company over 57 tons of sugar beets.

The hay crop around Hollister amounts to about 24,000 tons this year, for which the growers received \$13 per ton. Owing to car shortage most of the hay is held in storage.

The Spreckels sugar factory commenced slicing beets last week. Some difficulty is experienced in getting growers to furnish beets fast enough, as the beets are gaining in weight by delay.

From 1400 acres near Red Bluff, George Vogelsang has harvested 16,800 sacks of grain. He received \$1.60 for his wheat and \$1.25 for the barley, which makes a good showing for a dry year.

The beet sugar factory at Visalia closed work for the season last week. During the 100 days it ran, the factory sliced 20,000 tons of beets, for which the growers received an average of \$5.70 per ton.

Hop picking in the Ukiah valley was completed last week. There were about five million pounds picked, for which the pickers received \$40,000. The market quo-

tations on hops are now 7 to 9 cents, according to quality.

E. L. Cloer of Poplar, Tulare county, had 26 acres of barley, from which he harvested 500 sacks, or nearly 18 sacks to the acre. The grain was so large that much of it was down, and there was considerable waste in cutting, otherwise it would have gone much more, probably enough to have raised it to 20 sacks to the acre. The grain was of excellent quality.

One of the best posted men on the bean situation in Orange county estimates that the crop this year will bring the growers in the neighborhood of \$500,000. On the 15,000 acres under cultivation to lima beans he estimates there will be 20,000 sacks, which will bring \$3.30 a sack. There are 5000 acres devoted to black-eyes, from which 45,000 sacks will be taken. These will average about \$2.25 a sack.

### LIVE STOCK.

Over three million sheep have been dipped already this year, and good results have been obtained.

J. A. Yoakum, formerly of the San Joaquin country, has purchased an alfalfa ranch near Gridley and will install a large dairy ranch on it.

A land company in Glenn and Colusa counties is preparing to let contracts for the planting of 4000 acres of land near Princeton to alfalfa, showing that the community is to become one of importance in dairy pursuits.

John Lynch of Petaluma reports having a good demand for fine stock. He has recently sold a fine bull to be sent to Central America, seven head of registered bulls to go to Los Angeles, six head to go to San Luis Obispo, and one to be sent to Galt.

Poultrymen at Petaluma have pulled away from the Sonoma County Association and have organized one of their own. However, they expect to work in harmony with the old association, and also co-operate with the Hollister and Haywards associations.

It is stated that but few of the sheep men in the Sacramento valley are shearing their sheep this fall. Prices are low, and there is little demand for wool, and the sheep men have concluded to let the wool remain on the sheep in preference to shearing it.

H. M. Cole, bee inspector for Stanislaus county, reports one of the best honey seasons that the bee men have had in that section for some time, and that the number of bee colonies is increasing steadily. He further states that four carloads of comb honey will be shipped from Newman to Kansas City soon.

### MISCELLANEOUS.

Two firms are each figuring on building a cannery at Merced.

Oroville will hold a citrus fair from November 30 to December 5.

A party of capitalists is figuring on reclaiming the tule lands in Sutter Basin.

A company has been organized at Turlock to manufacture unfermented grape juice.

The cannery at Ukiah has an output of 250 cases of 24 cans each per day, of vegetables and fruit.

The Marysville cannery has about completed its run for the season. The output will exceed that of other years.

The big cannery at Hanford closed a long season's run last week. The output is 15,000 cases more than last year.

A four-horse load of grapes, weighing 4000 pounds, led the parade at Escondido which opened the first Grape Day celebration.

The Southern Pacific Co. is preparing to dispose of the standing timber on 25,-

000 acres of its holdings in Nevada and Sierra counties.

Kings county fair will be held at Hanford, October 5 to 10. A fine display of live stock and agricultural products is expected.

The Fresno county fair will open at Fresno September 28 and will run to October 3. The association has sent out a very fine premium list.

A grape juice and fruit-preserving plant has been completed at Lodi. The plant cost about \$40,000 and has a capacity of 60 tons of grapes a day.

A vineyardist of Tischerberg, on the Ben Lomond grant, Santa Cruz county, reports that deer have destroyed six tons of grapes in his vineyard.

An irrigation company has been organized by land owners near Davis, Yolo county, for the purpose of irrigating the lands of the members of the company.

The Turlock Fruit Juice Co. has been incorporated, and will soon erect a big plant to manufacture all kinds of fruit juices, besides canning fruits and vegetables.

Thirty wells are to be sunk on seven sections of land near Willows, that plenty of irrigation water may be had to grow alfalfa, which will be planted as soon as the land is in shape.

A seven foot well near Willows, Glenn county, supplies water for a three-inch centrifugal pump. At 12 to 20 feet water is found for irrigation purposes anywhere in the county.

Owing to the large increase in assessed values in the Modesto irrigation district, the irrigation tax has been reduced from \$3 per hundred dollars, last year's rate, to \$2.60 per hundred value.

The press dispatches state that 50 gasoline motor cars are to be put into service by the Southern Pacific railway as fast as they can get the cars from the East. They will be run on the lines over the State for inter-urban traffic.

Work on excavating in the Butte county Drainage District No. 1 is soon to be commenced, and it is hoped to have the system completed in time to carry off the surplus waters the coming winter. The cost of the work is estimated at \$15,000.

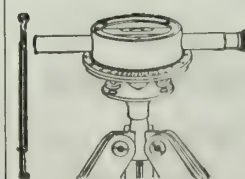
The Olive Growers' Association of Santa Barbara, which is believed to be the first association of the kind to be organized in California for the protection of the growers of olives and securing of a market for the cured olive or for oil, has been organized.

### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

EXPERIENCED orchard manager wants permanent position. Advertiser a married man, aged 33; strong, energetic, reliable. Well up in all branches of his business, and general farming, capable of taking entire charge of large property. References. Address D. F. P., care Pacific Rural Press.

## BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

**Used for Irrigation and Drainage Work**

Has the latest patented improvements in simplicity and usefulness. Can be operated by anyone.

**Price, Including Telescope Tripod and Target Rod, \$15.00.**

**Palace Hardware Co.,**

581 Market St., San Francisco

Coast Agents. Send for Circular.



## Live Stock and Dairy.

### FINE JERSEY ENTERPRISE FOR CALIFORNIA.

Written for the PACIFIC RURAL PRESS  
By Prof. E. W. MAJOR.

During the past few years Jersey cattle have not been in such great demand as have individuals of some of the other breeds. The reason for this has been that there were very few breeders who were working with this breed in anything like an intelligent manner. There is every indication, however, that this condition has changed, and dairymen will again appreciate the wonderful capacity cows of this breed have for the production of butter fat economically.

Visitors at the State Fair will recall the splendid showing of Jerseys that was made, and particularly the exhibits of George A. Smith of Corcoran and of Guy H. Miller of Modesto. The writer has just returned from a visit to Mr. Smith's farm, and while there he had the pleasure of meeting Mr. Smith and his family. He also had the pleasure while there of meeting Mr. Reuben Gentry, who expects to take up his residence in California soon, and will be associated with Mr. Smith in the Jersey business. Mr. Gentry is from Nashville, Tenn., where he has had charge of the Overton Hall Farm. Before that he was for some time in charge of the Jersey and Berkshire departments of the Vanderbilt Farms at Ashville, N. C. He comes to California, therefore, with a wide experience in the breeding and handling of Jerseys.

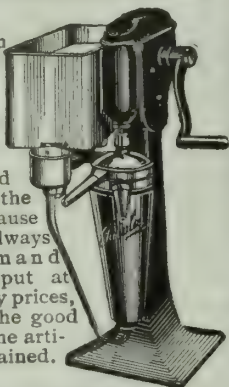
The idea of these men is to build up a large herd of pure bred stock, probably to milk 300 head, and produce certified milk and cream for the Los Angeles market. At the present time they have a very choice herd that contains animals not only of the very finest breeding, but also those of great individual merit. Among the bulls of this herd are Sergeant Fox, a son of the great Champion Flying Fox and Golden Fern of Oakhurst, and the only son of Golden Fern's Lad on the Pacific Coast. They have also a number of daughters of these bulls. The intention, however, is not to specialize on the fine Island type of Jerseys, but to breed animals that will be not only good to look at, but most important great producers.

In addition to Jerseys, Messrs. Smith and Gentry will breed Berkshire hogs, and a large shipment is now on the way from the East, and later will be followed by several carloads of Jerseys.

The farm is well located for a dairy

## Famous Institutions

are located in every large city of the globe but the most important institution established anywhere is the dairy—because there is always certain demand for its output at good, steady prices, as long as the good quality of the article is maintained.



### Tubular Separators

are carefully and finely constructed and are producers of high grade, unwhipped, unchurned cream; the kind that makes "sweepstake" butter.

They are used in the finest dairies, because they are recognized everywhere for simplicity, durability, efficiency and economy.

To make quality butter—read catalog 131—sent free.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.  
Toronto, Can. San Francisco, Calif. Chicago, Ill.

ranch, as the owner raises enormous crops of alfalfa, irrigated by water from artesian wells. The Jersey interests will without question take an upward turn, now that we have a number of enterprising breeders in the business.

### MEETING OF CALIFORNIA ANGORA GOAT BREEDERS.

Written for the PACIFIC RURAL PRESS.

The twenty-third annual meeting of the California Angora Goat Breeders' Association was called to order by President C. P. Bailey of San Jose during the State Fair at Sacramento.

After the routine business session Dr. W. C. Bailey gave a short review of his recent European trip. It was his intention to visit Constantinople, and if possible to secure more Angora goats similar to the ones he secured in 1901, but the uprising of the young Turkish party and the general instability of the Turkish government made such an undertaking impossible. It will be remembered that there is an edict prohibiting the exportation of Angora goats from Asia Minor. In 1901 Mr. Bailey was unable to secure a permit to export any Angoras so that the goats he brought then had to be smuggled out of the country. Such an undertaking was extremely dangerous at that time, and at a time when the country was on the verge of a revolution no foreigner would be safe in the interior.

Landing at Naples in March, Dr. and Mrs. Bailey visited the principal places of interest in southern Italy, taking the famous Amalfi-Sorrento drive and then worked northward. In and around Naples herds of milch goats are driven through the streets mornings and evenings. These goats, of course, are very gentle, and it is interesting to watch a flock cross a busy street or wait outside a door while one of their number is being driven up to the fourth floor to be milked. Even in busy Paris one occasionally sees a flock of milch goats being driven about the streets. One afternoon the doctor watched a flock being driven across that great boulevard the Champs-Élysées. This street is over 300 feet wide, and has a roadway on each side for horse driven vehicles and two roadways in the middle for automobiles, etc. It is all that an active person wishes to do to cross

this boulevard in the afternoon when traffic is heavy, yet this herd of goats crossed without fear, dodging in and out among the vehicles and running ahead of and behind the automobiles. No one paid any attention to the goats, and the herder had to watch for a chance to cross. Flock and herder joined on the sidewalk on the opposite side, much to the surprise and relief of the watcher.

These milch goats are the common milch varieties, variously interbred, but one never sees an Angora except in a zoological garden. In Berlin there were three or four Angoras which the Sultan had presented to the Kaiser. They were very kempy and small, and looked very much like our half-bloods do in this country. They would do very well for a zoological garden, and this must have been the thought of the Sultan's agent when presenting them. No practical breeder would want them in his flock.

While not being able to get goats, yet he was able to get a few points about the mohair market. Many dealers at Bradford have suffered almost as much as the growers by the low prices of mohair. They had stocks of mohair on hand and they were unable to sell without serious loss. London merchants and commission men are carrying large stocks, and as sales are slow, incoming shipments only increase the difficulties. "Everyone is agreed," said the doctor, "that the bottom has been reached in the mohair market, but how long we are to stay at the bottom no one dares to predict."

After a short discussion, led by the president, in which it was agreed that in years past the mohair market was always very quick to recover after a setback, and that the thing to do at the present time was to keep up the flocks pending better days, the meeting adjourned to convene during the State Fair week in 1909.

### STATE FARMERS' INSTITUTE AT UNIVERSITY FARM.

The State Farmers' Institute will be held at the University Farm at Davis on October 8, 9 and 10. Arrangements have been made so that men able to speak with authority on their particular subjects will address the various meetings. Prof. S. Fortier of the division of irrigation investigations of the U. S. Department of Agriculture will speak on the vital topic of the use of water. Director C. F. Curtiss of the Iowa Agricultural College at Ames, one of the foremost live stock men in the country, will speak of important matters in his line. The fact of Director Curtiss' presence is sufficient to make this institute of great significance in the work in agricultural education in California.

The matter of "Dry Land Farming" will be discussed by Mr. Arthur R. Briggs, president of the State Board of Trade, and his discussion of this important topic will prove of great value.

The program to be rendered will be about as follows:

October 8, 10 a. m.—Opening of institute. Addresses of welcome: For the university farm, Prof. Leroy Anderson, superintendent of farm schools; for the town of Davis, Mr. George W. Pierce. Responses: Mr. F. H. Babb, lecturer State Grange; Hon. J. I. McConnell, Woodland; Hon. B. F. Rush, president State Board of Agriculture, Suisun; Hon. A. E. Boynton, Oroville; Hon. Ellwood Cooper, Santa Barbara; Hon. Marshall Diggs, president Sacramento Valley Development Association, Sacramento. Address: President Benjamin Ide Wheeler, University of California.

October 8, 1:30 p. m.—Addresses: Hon. Peter J. Shields, Superior Judge Sacramento county; Director C. F. Curtiss, Col-

SEND FOR CAT. No. 148 IT TELLS ALL  
KING OF THEM ALL  
RELIABLE U. DURABLE  
CREAM SEPARATOR  
CLEANSABLE S. PROFITABLE  
VERMONT FARM MACHINE CO., BELLOWS FALLS, VT.

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

Stickney Gasoline Engines  
ARE THE BEST  
The engine with an outside igniter and a modern open tank cooling system.  
Our new free catalog and free catchism tells 57 reasons why we have the best engine Stationary and Portable  
SEND FOR FREE CATALOG 1 1/2 to 10 H. P.  
We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.  
De Laval Dairy Supply Co.  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide French Merino Sheep.  
Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
RAMS FOR SALE AT ALL TIMES  
P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

P. H. MURPHY, Perkins, Cal., Breeder Registered Shorthorn Cattle and Poland-China Hogs.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

lege of Agriculture, Ames, Iowa; Director E. J. Wickson, College of Agriculture, California.

October 8, 7:30 p. m.—Resume of the work of the State Food and Drug Laboratory, Prof. M. E. Jaffa, Agricultural Experiment Station; The Argentine Ant in California, Prof. C. W. Woodworth, Agricultural Experiment Station.

October 9, 9:30 a. m.—The forenoon session will be devoted to the matter of animal industries. Director C. F. Curtiss of Ames, Iowa; Prof. E. W. Major of the California Experiment Station and others will address this meeting.

October 9, 1:30 p. m.—A Talk on Good Roads, Hon. J. M. Eddy, secretary California Good Roads Association. Dry Land Farming, Mr. Arthur R. Briggs, president California State Board of Trade, San Francisco. Pedigreed Vines and the Young Vineyard, Mrs. M. E. Sherman, Fresno.

October 9, 7:30 p. m.—Cereal Improvement, Mr. A. G. Gaumnitz, cereal investigations, University Farm, Davis. The Sugar Beet, Prof. G. W. Shaw, Agricultural Experiment Station. Relation of the University Farm to the Horticulture of the

### Horse Owners! Use

GOMBAULT'S



### Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, best BLISTER ever used. Taken the place of all treatments for mild or severe action, removes all Blisters or Blenches from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CA.  
West of San Pablo Ave.





### Between The Elements And You

The north side of the house may get the north wind, the south side the sun, the east the rain storm, the west the snow storm, but the roof gets all. Therefore look well to your roofing.

## REX FLINTKOTE ROOFING

is made of wool felt, rendered absolutely proof against water by our saturating materials, and so resistant against fire that you can place a live coal on its surface without danger.

### SEND FOR FREE SAMPLES

and our valuable booklet on roofing. Make the fire test, try its strength, note its pliability; if you go to your dealers, be sure you are given the "Look for the Boy" trade-mark kind.

**J. A. & W. BIRD & CO.**  
91 India Street, Boston, Mass.  
Pacific Coast Agents: W. P. FULLER & Co.,  
San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Port-  
land, Seattle, Tacoma, Spokane.

State, Prof. W. T. Clarke, Agricultural Experiment Station.

October 10, 9:30 a. m.—The Outlook for the Pear Industry with Reference to Pear Blight, Prof. Ralph E. Smith, Southern California Pathological Laboratory, Whittier. Irrigation and the Development of our Great Valleys, Prof. S. Fortier, irrigation investigations, U. S. Department of Agriculture. Forestry Problems, G. B. Lull, State Forester, Sacramento.

October 10, 1:30 p. m.—Reports of committees and closing address.

### THE STATE FAIR BUTTER AWARDS.

At the exhibition of creamery butter at the recent State Fair the scoring was done by W. D. McArthur, the secretary and grader for the San Francisco Dairy Exchange. The following is the list of those that scored over 90 points on fresh butter:

P. Peterson, Laton, 96½.  
Danish Creamery, Fresno, 96¼.  
Simon Koppes, Ceres, 96.  
J. V. Canham, Hanford, 95.  
Eclipse Creamery, Beatrice, 94¾.  
Frank Hyde, Tulare, 94¼.  
C. E. Bishop, Point Arena, 94.  
W. S. Carpenter, Tulare, 94.  
Central Creamery, Eureka, 93¾.  
George A. Smith, Corcoran, 93¾.  
L. H. Nelson, Bakersfield, 93½.  
Central Creamery, Ferndale, 93½.  
A. Annis, Winters, 93¼.  
G. H. Neilsen, Bakersfield, 93.

On canned butter the following scores were made:

J. V. Canham, Hanford, 95.  
Central Creamery, Ferndale, 93¾.  
In case of the canned butter, both ex-

hibitors are filling contracts for the U. S. navy, and it was some of the butter made for this purpose that was entered.

Commenting upon the above, the Pacific Dairy Review says: The scores at Sacramento were made by creamerymen who believe in progress and improvement, and who have the ambition to excel. Notwithstanding that only two scores fell below 93 points, the average of all of them was only 93.7, or only .7 of a point above that required to grade as extras. We wonder what would have been the average had there been a greater number of entries, most of which would have come from the self-satisfied and unprogressive class of creamerymen. It is a long cry from 93.7 to 100 points, or perfect butter.

### DAIRY NOTES.

The new creamery at Greenview, Siskiyou county, is producing 18,000 pounds of butter monthly.

It is stated that the Coldbrook creamery at Lolette, Humboldt county, has been purchased by the Swift Packing Co.

The creamery at Gridley, which started with only six patrons about three months ago, is now turning out about 400 pounds of butter a day.

The output of the Sutter County Creamery, of Meridian, is daily increasing, and before the end of the year the plant will be running at its full capacity.

F. L. Morris of Woodland has decided to go into the dairy business on a large scale, and has recently secured 60 head of Holsteins formerly of the Pierce herd, including the famous Juliana De Kol, the record two-year-old cow.

At the regular annual meeting of the stockholders of the Laton Co-operative Creamery the following report was made: Total paid out for the year, \$165,734; butter manufactured, 572,450 pounds; the average price was 28½ cents. The creamery is in a prosperous condition and the amount of butter manufactured nearly doubled in the past year.

## Apiculture.

### CAUCASIAN BEES.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

The little frontier province of Caucasus, with its motly Kurds and Slavs, Turks and Armenian Christians, has attracted considerable attention to Oriental Europe during the past several years. But aside from the revolutionary crises of its liberty loving and unassimilated people, the attention of the bee-keeping public of America has been caught and held by the unprecedentedly gentle and markedly productive qualities of the native bees of the rugged Mt. Ararat. Whether these are the bees that Noah was so fortunate as to take two by two into the ark or not we will leave to those speculatively inclined. Certain it is that they have long been an established type, living quite as apart from the rest of the world as have their slow-moving yet equally distinctive masters.

The first consignments of Caucasian bees in any appreciable number came fresh from the smoking times of the revolutionary demonstrations of the autumn of 1905, but were in themselves a most peaceable immigration. Immediately upon their wide distribution, through the agency of the U. S. Department of Agriculture, they won themselves the popular name of "stingless bees," so noticeable was their lack of resentment to disturbance. They can, however, be angered to

sting, though this may necessitate kicking the hive off the stand and back on again, an operation performed more than once without resentment on the part of these gentle bees.

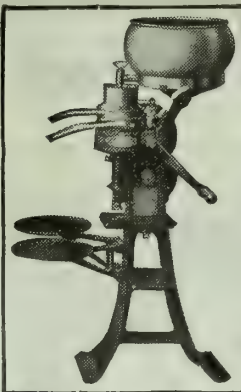
In appearance Caucasian bees are of a leaden gray, with slender, pointed abdomens. They are extremely quiet under manipulation, the writer more than once having observed a queen quietly depositing her eggs on a frame under manipulation—a rare spectacle, only to be observed among the gentlest of bees. They respond well to the use of smoke, but smoke under ordinary circumstances seems quite unnecessary. They can be handled much more easily than some other bees after dark or out of season on a cloudy morning. Mr. I. S. Genter of San Luis Obispo since their introduction Caucasianized his apiary, and we had the pleasure of going through a number of his colonies under quite unfavorable conditions, on a cold, cloudy and foggy morning, but found them easily handled. We have found this also true in our own experience with these bees. They are good defenders of their colonies, and are not inclined to rob. They are continuous breeders and winter well, building up early in the spring. They are strong fliers and most excellent searchers and storers of honey. They cannot be crowded, on account of their prolificness, and in large hives they do not swarm excessively.

At certain seasons of the year, notably in the late summer and fall they gather some propolis, but this is very largely bunched about the entrance for winter protection, and so is not a hindrance in manipulation or the production of comb honey. Although we have said that they remain quiet on the combs, we find that they shake easily when it is desired to remove frames.

An interesting experiment, or test, with these bees, as compared with Italians, has recently come to our notice. Mr. Morrison of Chico had 25 Italians and 25 Caucasians placed side by side under like conditions, and found that the Caucasians far outdid the Italians in the storage of honey. We have reason to believe that Caucasians are fairly resistant to disease, as compared to Germans, and in many ways have characteristics making them a most profitable and desirable variety of bees for California conditions.

The annual convention of the National Bee-keepers Association will meet this year at Wayne Pavilion or Sun Palace, Detroit, Mich., on October 13, 14 and 15. There is an unusually rich program assured, and it is a gathering which every bee-keeper should watch with interest, and where possible attend.

**QUEENS**—CARNIOLANS, BANATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$4.00 each. **FRANK BENTON**, Box 17, Washington, D. C.



## TIME TO BUY CREAM SEPARATORS NOW

There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

Likewise are the advantages of the superior DE LAVAL separators greatest over imitating separators when the milk is hard to separate and the weather cold and variable.

In every case a DE LAVAL separator, of suitable size, will surely at least save its cost between now and July 1st next, and go on returning 100% per year on the investment for twenty years to come.

The agricultural and particularly the dairying outlook was never brighter and more promising.

### WHY NOT BUY NOW?

Send for Catalogue of 1908 Latest Improved Machines.

## DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## STOCK FOODS THAT GIVE RESULTS!

### FOR CATTLE, HOGS, AND POULTRY

**Linseed Oil Cake Meal, 24.4 Digestible Protein**  
**Cocoa Cake or Meal, 16.4 Digestible Protein**

### Best Results Lowest Cost

Ask your jobber for prices, or write

**PACIFIC OIL & LEAD WORKS, SAN FRANCISCO, CAL.**  
**PORTLAND LINSEED OIL WORKS, PORTLAND, ORE.**



# \$ \$ Dollars Saved on Feed Bills by Scientific Feeding. \$ \$



Laying Hens Waiting for Their Daily Mash of EGG MAKER.

**THE BALANCED RATION.**—The way to cut down your feed bills is to make every pound of feed PRODUCE RESULTS. The way to make profit from poultry is to feed a feed that will enable the hens to PRODUCE EGGS NOW.

## FEEDING FOR EGGS.

Egg production is influenced by food. To produce eggs at a minimum cost, you should feed a feed based upon the composition of an egg.

## WRITE TO-DAY FOR SAMPLES AND PRICES.

We pay freight to localities where we have no agents.



A. R. COULSON

To produce an early molt, and get plenty of eggs this fall, be sure that you feed your hens THE EGG MAKER.

THE SCIENTIFIC FEED, every pound of which produces profit for the feeder, THE EGG MAKER, manufactured in San Francisco by the Western Feed Co., THE ORIGINAL A. R. COULSON, formerly of Petaluma, Manager.

For each dollar invested in this feed, THE EGG MAKER, you can get back \$2.50 to \$3.00 in eggs. No other feed can produce such results for you.

## WESTERN FEED CO., Inc.

The Original A. R. COULSON, Mgr.

365-371 McAllister Street

SAN FRANCISCO

## The Poultry Yard.

### THE POULTRY HOUSE FLOOR.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

The importance of proper flooring in poultry houses is apt to be overlooked. Many of the ills and losses in poultry keeping are due to this cause. The floor that is dusty or damp, or that harbors varminths tends to disaster. Before the winter rains begin the floors no less than the coverings of poultry houses should be looked to. A floor that fills the fowls' nostrils with filthy dust causes catarrh; the damp, open one is conducive to colds and rheumatism, and the floor laid close to the ground harbors varminths. There are three kinds of floors, and each has its advocates. These are the natural or dirt floor, the cement floor, and the board floor. The ordinary dirt floor is worse than any kind except the poor board floor. It is damp in winter and dusty in summer, and unsafe at all times. No matter how well drained, the gophers will tunnel under it and the water soak in. The rats and such prowlers will also burrow in, and the young fowls are always at their mercy. On a large poultry plant near Oakland hundreds of fine chicks were lost from this source through having dirt floors in the weaning pens the first season. Some years ago the writer had a poultry ranch in Dublin canyon. The first year, in the rush of spring work, the floors of the houses were left till a less busy season in the fall. When the south winds began to blow strongly we arranged the work for the next day should be putting a floor into the colony house where 40 chicks some ten weeks old were housed.

But the rain came that night. When we opened the door of the chicks' house in the morning a sickening sight met us. Every one of those 40 chicks was scattered about the house dead, bitten through the brain—the work of weasels. The siding of the house had extended into the ground, but the rain had softened and washed the earth beneath, leaving a space scarcely more than an inch in width—but it was sufficient for the slick weasel. These are examples of the dangers lurking about the dirt floor. To make them safe and dry requires no small outlay of labor and expense, and even then they are dusty and difficult to clean. The siding should extend some six inches into the ground; the floor should be filled in, first with a layer of broken stones, then several inches of clean earth, leveled and packed hard; on top of this two or more inches of sand and gravel, making the floor several inches above the outside level.

A well made cement floor has its good points, being durable and rat-proof, but it is expensive, and somewhat cold and damp in winter.

All in all, a good board floor is the cheapest and best. Common inch lumber seasoned to prevent cracks from shrinking answers well; but the advantages of matched flooring offset the difference in price. It should always be laid at least two feet above the ground; this prevents dampness, the rotting of the boards and the harboring of varminths. A thorough dressing of fuel oil, crude petroleum, will make this floor almost indestructible and exempt from vermin. The smooth surface is easily cleaned, and by scraping the droppings out with the hoe each morning, and following with a light sprinkling of clean sand or soil, the house may be kept sweet and free from dust with little work. By extending the siding to the

ground on two or three sides of the house a prime scratching shed is made, with no extra expense except some two feet more in the length of a part of the siding.

### Answers to Questions.

**HOPPER FEEDING.**—One who signs himself a student of poultry culture writes: "In the poultry journals and bulletins I have read much in favor of dry hopper feeding, but have not seen it in practical operation. If it is such an improvement on other methods, why is it not more generally used?"

Hopper feeding has been tried by many practical poultrymen in this section and found wanting. Its greatest fault is its wastefulness. Not alone is it wasted by the fowls, but sparrows, mice, rats, etc., merrily carry on the bad work, without mentioning the weather effects. In considering the question, take three hoppers kept filled with feed; the first with beef scraps at an average cost of 4 cents per pound; the second with ground feed-stuffs ditto at 3 cents per pound; the third with mixed grain ditto at 2½ cents per pound, minus aforesaid wastes. It does not require an expert in figures to discover that the result to the poultryman will carry a minus sign. Next, the various meals fed dry are not as appetizing as a cooked mash, and therefore not as promotive of desirable results, and in no case can they be as economically fed. Again, there are many articles which may be utilized to advantage in a cooked mash that would be worthless otherwise. It is claimed that placing before the fowls the

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity

### BREEDERS' SUPPLIES.

**GEORGE H. CROLEY**, 637 Brannan St., San Francisco. Manufacturer and Dealer in

### POULTRY SUPPLIES

of every description. Send for Catalogue—FREE

### OAKLAND POULTRY YARDS

Established 36 Years.

Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$ .60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

## E. F. Adams

364 Main St.

Petaluma, Cal.

## CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

BIHN BROS.

Petaluma, Cal.



proper ingredients in quantity, they will balance their food exactly, that is, each time pick just enough of this, that, and the other, and then step aside in a polite and orderly manner to give place to others. This is absurd to a person who has ever watched the habits of fowls. They will first pick out the food they like best, and waste the remainder in getting at it. Some of the bossy hens will station themselves by the hoppers for the pleasure of keeping others away and the fun of throwing out the feed.

Certainly, this manner of feeding has points to commend it. Where the person adopting it has been in the habit of treating his fowls to long fasts and scant meals, they will be pretty sure to show a decided improvement—if he doesn't neglect to put something in the hoppers. Then when the hoppers may be filled once a week the owner need give himself no further heed to his poultry, he can have plenty of time to write on the ease of poultry keeping and to evolve fads. Naturally, hopper feeding appeals most to those to whom economy in feeding is not a vital matter, and who write and talk more about poultry than work with it—in short, the dilettanti in poultry culture.

#### POULTRY NOTES.

**THE HEN IN POLITICS.**—The American Poultry Association has grown to such proportions that its offices carry fat salaries and perquisites, especially that of secretary-treasurer. In its election campaign of the past winter and spring, the ordinary political newspaper might have taken points in fervid politics from many of the Eastern poultry publications. The fight centered on the office of secretary-treasurer. The successful candidate was under charges of irregularities in the handling of the funds of the White Wyandotte Club while treasurer of that organization. The conservative members of the A. P. A. held that the gentlemen, however innocent, should not aspire to further honors in the hen clubs until cleared of those charges; others voted and worked for him because of the charges; and the gentleman seems to have been a strenuous worker for himself; and he was elected. In the recent meeting of the association at Niagara Falls, the executive board

cleared him of the Wyandotte club's charges, and almost immediately preferred charges of their own against him for disobedience of the rules of the association and breach of trust, and forced him to resign. From which it would appear to one outside of politics that the candidate for any office, from treasurer of a poultry club to President of the United States, should be, like Caesar's wife, above suspicion.

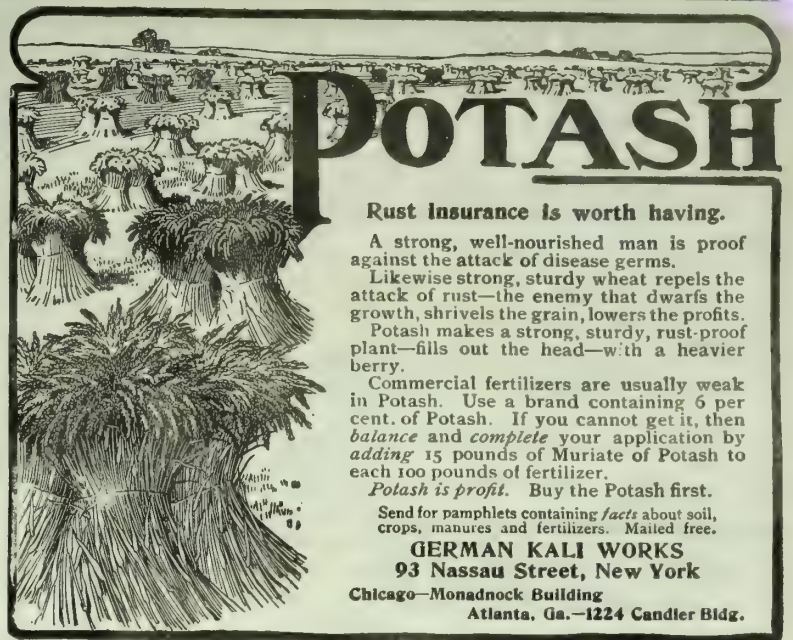
#### "WELFARE WORK" BY THE HARVESTER COMPANY.

(Excerpts from an article in Harper's Weekly by John Kimberly Mumford.)

The nerve center of whatever has to do with welfare work at the McCormick plant of the International Harvester Co. is the clubhouse. It stands on Blue Island avenue, a long and rather cheerless street that bisects the southwest industrial section. The building is an attractive structure of brick with high iron palings, and with greensward and tennis courts in the rear of it. Its actual title is vested in one of the McCormicks, and the harvester company holds it on lease. It cost a pretty penny, over a hundred thousand dollars, I am told. Inside, the place is tasteful. I have seen plenty of clubby clubs, with golf links and garages, that weren't as good. There is first class oak woodwork and good color; the appointments are all commendable.

An officer of the company asked me what I thought of it from a business standpoint. Having acquired a pretty good idea of the work done there, I told him I thought it was and would continue to be a pharos of decency to the whole district, and that if it was good for the business, which employs about 7000 men and covers, with its yards and buildings, nearly 300 acres, to have clean and orderly environment and a decent and ambitious class of people about it, the game was worth the candle. The best proof of this appears to be the existence of the McCormick District Improvement Club, in which the business people of the neighborhood and the local aldermen are interested. This institution has done admirable work in cleaning up dirty streets, putting reputable dance halls out of business, extending streetcar lines, and providing generally for the improvement of the neighborhood.

Whoever designed the clubhouse had a pretty clear understanding of the needs it was to supply. It is at once club, library, gymnasium, lyceum, theatre, chapter house, ballroom, restaurant (where the men eat at noon for 15 cents or less), schoolhouse, and many other things be-



# POTASH

**Rust Insurance is worth having.**

A strong, well-nourished man is proof against the attack of disease germs. Likewise strong, sturdy wheat repels the attack of rust—the enemy that dwarfs the growth, shrivels the grain, lowers the profits. Potash makes a strong, sturdy, rust-proof plant—fills out the head—with a heavier berry.

Commercial fertilizers are usually weak in Potash. Use a brand containing 6 per cent. of Potash. If you cannot get it, then balance and complete your application by adding 15 pounds of Muriate of Potash to each 100 pounds of fertilizer.

**Potash is profit. Buy the Potash first.**

Send for pamphlets containing facts about soil, crops, manures and fertilizers. Mailed free.

**GERMAN KALI WORKS**  
93 Nassau Street, New York  
Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Bldg.

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

sides. The charity element has been so thoroughly eliminated from its operation that not only the mill employees have come to look upon it as their own natural haven, but the neighborhood people who have nothing to do with the works are making constantly more general use of it. A lot of the local fraternal orders meet here in the lodge room. There were just two Saturday nights between the first of September and the first day of June, last year, when doings of some sort, in the way of entertainment, were not in progress there. Over a hundred special entertainments were held, with only a dozen of which the company had anything to do, and the place is so big that very often two parties are going on at once.

I made several visits to the little office where Director Price sits, keeping watch of everything that pertains to the welfare of the workers in the McCormick plant. The threads that run all through the establishment, from the wheel shop on the north to the foundry and finishing shop on the south, have their ends in the telephone on his desk, and it is interesting to see, as bearing out what I have taken to be the company's spirit, how perfect is the co-ordination of this system. There are some 160-odd departments in the plant, and the foreman of every one is an assistant welfare worker. Into the director's office, for example, come slips—printed forms—sometimes a half dozen in a day, from various foremen, notifying that So-and-so has been off work for two or three or five days, and will he please investigate it? There are appealing stories back of these report slips sometimes. I have gone with him on some of these journeys of investigation and know.

"I merely do what the foreman hasn't time to do," he said. "The mill foreman is traditionally pictured as a hard proposition, but I have come to know these men on the human side, and I have found things in their makeup that you wouldn't expect. It's a workshop, and they do their work unsparingly, like soldiers, but every man over there knows that while he works for this company he has a human duty, too, and the foreman who fails of it is discredited. They are a unit in their purpose and their principles and their loyalty, and a plug-ugly foreman would last about as long in one of these buildings as it took him to show the cloven hoof.

"Yesterday I got a slip from one of the stiffest foremen in the plant, asking me to go see why a certain man was absent from work. Before I could get out to investigate, he had left the shop and come over in person to see me.

"The man's on a drunk," said he, 'and has been on it for days and won't quit it. I ought to have fired him long ago, but I simply can't do it until I find out what sort of shape his family is in.'

"Now, there are four things essential to the success of any welfare work. One is fair wages, another is a decent day, another is sanitary conditions, and the last and the greatest is the right spirit in the management. Lacking that, even all the other three will prove ineffective. The working body that knows the spirit of the management is right and fair and kindly will never resent the welfare work. They'll accept it and welcome it and profit by it, and it will return to the company

manifold in the output and in the fidelity of its men."

What this singleness of spirit means I first discovered by going to a monthly dinner of the department heads of the Deering plant, an enormous institution away over on the North Side. It was a rainy day, as bad as bad could be, but a hundred and twenty of them were on hand when we got there, and dinner was ready on the long table. You might have thought it was a lodge meeting, there was that measure of fellowship. When the feast was cleared away, a big blackboard was brought, and E. C. Clarage, proprietor of a big steel plant in South Chicago, lectured for an hour and three-quarters on the chemistry of steel-making. The eagerness of these men to know was written in every lineament of them. Then the fun-making began. There were two pianists and a cellist from the works; there was a man out of the rolling mill who sang as good songs and did as good impersonations as you would be apt to see on Broadway. The cigars were as good as the dinner, and the spirit was better than all. They called on the general manager for a speech without any warning, and he gave them a masterly digest of one of Harper's Weekly articles on "Opportunity," and brought down the house. It's that sort of alacrity and good judgment that has made him manager of a \$120,000,000 corporation.

A quiet, bearded man who bade us good night at the mill door was Christopher Borg, superintendent of the whole big Deering establishment, that in normal times employs 5000 men. One morning in October, 1882, "Chris" Borg was hired from among the crowd of men at the gate of the Deering works as a day laborer to do service by the day with pick and shovel. He is a whole chapter on what a man can do for himself in corporate employment.

\* \* \*

It would take a long time to enumerate the things that are done here and in other plants in the hope of bettering conditions. There are picnics up the lake in the summer time, rival ball nines and bowling teams; there are tennis games, fire drills

(Continued on Page 207)

### SAVING FARM MACHINERY

Few things are of more vital need around the farm than a first-class, heavy machine oil. It makes machinery last longer, lessens friction, helping the horses do more work and better work.

## RUDDY HARVESTER OIL



has plenty of body, is the ideal oil for farm use, and as it goes farther it is more economical. Try it on Harvesters, Tedders, Feed Cutters, or Mowing Machines. You will find that it never gums or grows rancid, never corrodes, and works freely under all conditions. It is an oil that "stays put," reduces friction to a minimum, and is unequalled by any Harvester Oil on the market. Comes in one and five gallon cans, half-barrels and barrels.

At all dealers in Farm Machinery.  
**STANDARD OIL COMPANY,**  
(Incorporated)

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

**COULSON POULTRY AND STOCK FOOD CO.**

PETALUMA, CAL.

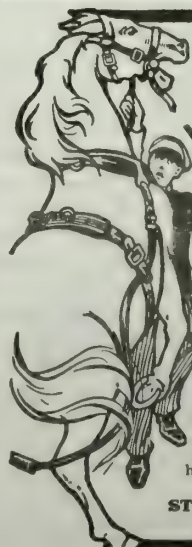
### Prevent Accidents

Keep the harness soft and it will be strong. No danger any time when every strap is made pliable and tough with

### EUREKA HARNESS OIL

Nothing like it to save leather from the destructive effect of rain, wind and animal sweat. Makes harness look like new.

Made by  
**STANDARD OIL CO.,**  
(Incorporated)





## The Home Circle.

### Faith.

A swallow in the spring  
Came to our granary and 'neath the eaves  
Essay'd to make a nest, and there did  
bring  
Wet earth and straw and leaves.

Day after day she toiled  
With patient art, but ere her work was  
crowned,  
Some mishap the tiny fabric spoiled  
And dashed it to the ground.

She found the ruin wrought,  
Yet, not cast down, forth from the place  
she flew,  
And with her mate fresh earth and  
grasses brought,  
And built the nest anew.

But, scarcely had she placed  
The last soft feather on its ample floor,  
When wicked hand or chance again laid  
waste,  
And wrought the ruin o'er.

But still her heart she kept  
And toiled again—and last night, hearing  
calls,  
I looked, and lo! three little swallows  
slept  
Within the earth-made walls.

What truth is here, O man!  
Hath Hope been smitten in its early dawn,  
Or clouds o'ercast thy purpose, trust or  
plan?

Have faith and struggle on.

—Selected.

### The Professor and the Teacup.

Written for the PACIFIC RURAL PRESS  
By MARY RUSSELL JAMES.

The professor was calling upon Miss Peyton. He had been calling upon her for a dozen or more years. In the beginning it had been at a home of wealth on a fashionable avenue. The former had been submerged in some financial upheaval, and there had followed a descending scale of localities and abodes that ended in a cheap lodging apartment. The soft lights, perfumed atmosphere, and spacious surroundings had vanished, and the couple sat that evening in a chill, barren room where the rays of the coal oil lamp failed to drive the shadows from even its narrow corners.

The professor had a philosophy of life to the effect that the human soul may rise so far above its earthly environments as to be unaffected by them; and that life's discipline should be toward the attainment of those heights through the elimination of the material and sensuous from the thoughts and affections. He had been expounding his philosophy to Miss Peyton all those years, inspired by the belief that each was helped toward this spiritual ideal through their sympathetic companionship. He had never speculated upon the cause of her changed surroundings—such trivialities were sur before the soul's outlook. When they met, they at once soared above the personal and earthly to the realms of the spirit. It was a flight among the stars from which Miss Peyton came back with a sigh to the realities of a hand-to-hand struggle with the world, while the professor, undisturbed by ways and means, lived his dreamy life in his ancestral home under the elms or with his congenial work in the class-room. Thus the years had gone by until on that night when they met for soulful intercourse she was approaching middle age and he was just leaving it behind.

Somewhat the professor was earth-bound. There was a psychic disturb-

ance in the air—and in Miss Peyton, too. She did not follow his lead like the gentle disciple of the past, but was absent and even abrupt in her manner. He glanced at her as he sipped his tea. She was abstractedly turning her teacup and examining the grounds.

"Ah," he said, stopping in the midst of an abstruse sentence, "the 'eternal feminine' must be considered even in you. We will pause in our quest of the soul's destiny among the stars that you may learn of your worldly fortune in a teacup."

"The stars are a long way off and the world presses close," she grimly returned, without even a smile for his attempt at humor. "Here," she exclaimed suddenly setting down her cup, "now that you are on the earth, turn your cup and let me read your fortune."

The abruptness and strangeness of her request almost gave him a shock. He meekly obeyed.

"Three times and make a wish—your heart's desire!" she commanded shortly.

"Ah—so?" he asked, turning his cup with painstaking precision. "As to the wish, there can be but one—the desire for knowledge, soul-light."

She took the cup from his hand. There was a sombre gleam in her eyes that were wont to soften in sympathetic interest with his every word. Turning the cup to the light, she plunged recklessly into divination.

"You are considering an important letter."

"Just so—quite a coincidence," acquiesced the professor, in good-natured tolerance.

"It has to do with property land."

"Ah!—yes; another coincidence." The professor leaned forward with unmistakable interest.

"You are likely to have some disturbance in your household—sickness or change."

"That might have to do with my aged aunt, who is my housekeeper, and would indeed cause a disturbance in the routine of my home matters." The professor looked a bit worried.

"And you are going to lose a friend," concluded Miss Peyton abruptly, dropping the cup with a precipitation which caused the delicate china (relic of other days) to ring perilously. Then leaning back in her chair and clasping her hands behind her head, she remarked quietly as she looked into his face:

"I can vouch for the truth of that much of your fortune—you are going to lose me."

"What!"

"Yes; this is our last meeting. I am going away."

The professor stared at the teacup in consternation, as though it were the abode of evil genii which had let loose upon him the vexatious cares of life.

"Impossible, Miss Peyton! I would travel many miles to keep our tryst."

The woman shook her head. "No," she said, "you cannot come. The miles between us will be too long." She had not the courage to tell him of her decision to sell her birthright for a mess of pottage—to accept an oft-repeated proposal of marriage from a man she did not love. In the dreariness of that November day she had fought this question to a finish. Her suitor could not dwell with her on the heights, but he could provide her with the comforts of life—he

could exorcise the dread of the landlord's step and the phantoms of loneliness and charity hovering over her old age. And might she not come in time to love her husband through sheer gratitude? She thought of the professor almost with bitterness, recalling herself as a girl, happy in the commonplace things and joys of life. He had drawn her away from these to follow his philosophy of worldly abnegation, and youth and opportunity had slipped away from her along with fortune and friends—yet he had given no sign.

Never since he formulated his philosophy of life had the professor been so perturbed. He drew his chair nearer and, leaning his elbow on the table, looked critically at Miss Peyton. A mist seemed to clear from

of china. "Let us turn down the cup," he said. "It is no true augury. I shall not lose my friend in gaining a wife."

### A SUCCESSFUL AGRICULTURAL HIGH SCHOOL.

(Continued From Page 193.)

Accompanying pictures illustrate the practical side of farm pursuits. The class in animal husbandry are scoring a pair of the half dozen splendid Percherons owned by the school. Another picture shows the work of students in the creamery, while still other illustrations show equipment and work in the departments of horticulture and household arts.

The school is also thoroughly equipped in lines of mechanics, elec-



Round Table for Teaching Cookery.



The Girls at Their Lessons in Dressmaking, Etc.

### INSTRUCTION IN DOMESTIC SCIENCE, CALIFORNIA POLYTECHNIC SCHOOL.

his vision. The pink on her cheeks was a hectic flush, and there were lines of haunting care on her face. She was but the semblance of the merry girl with the keen intellect who had first attracted his attention in the classroom. He remembered the smooth brow and the dimples that played about the corners of her mouth when the red lips smiled, and he felt that it was not the ravages of the years but the hard lines of life which had worked this change unnoticed beneath his eyes.

A great tenderness flooded his heart, together with keen self-reproach. He had fancied that the elimination of the personal element in their association was a supreme test of his philosophy; now it began to look like supreme selfishness on his part. He drew nearer and took both of her hands in his.

"My soul companion," he said, with fervent simplicity, "our lives must not diverge; they must unite."

As he kissed away her tears, Love, that old magician, opened a heaven for them unknown to the professor's philosophy. He reached for the bit

trical crafts, etc. The instruction in these lines has two objects in view: 1. To teach the proper use and care of tools. 2. To give the methods of construction of the various points as met with in practice. A considerable amount of work in the construction of smaller buildings on the school farm has been done by the students themselves. Students have also received practical training in the installation of new machinery in the shops and in the operation of the school's power and light plant, the regular engineers being the higher students in the mechanics course. This three years of training prepares the faithful student to take up such work as that of an assistant engineer in a power plant, or to fill many of the positions regularly held by practical carpenters and mechanics.

The instruction offered to girls in the course in household arts includes English, mathematics, free-hand drawing, physiology, elementary chemistry, cooking, home management, dairying, laundry, sewing, dressmaking and millinery. The course in sewing is begun in the first



**TOWER'S FISH BRAND**

The cleanest.—lightest.—and most comfortable **SLICKER** at the same time cheapest in the end because it wears longest

**\$3.00** Everywhere

Every garment guaranteed waterproof Catalog free

A. J. TOWER CO. BOSTON, U.S.A.  
TOWER (CANADIAN) CO. LIMITED, TORONTO, CAN.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

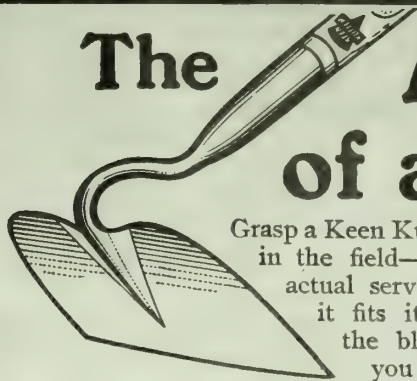
The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,  
President John Crouch Land Company

year, the elementary work consisting of thorough drill in fine hand work. After the hand work has been completed, the use and care of a machine is taught. Patterns for undergarments are draughted and the garments are cut and made. The use of a tailor system is taught, and each student is required to draught patterns, cut, fit and make garments for herself. In the course in millinery the girls are taught to renovate old hats and materials, wire, braid, face and line hats, and also to make and cover both wire and buckram frames. It is not the purpose of the department to train professional dressmakers and milliners, but to give the training that will be useful to any woman, no matter what her future may be. The course in elementary chemistry precedes the work in cooking. During the first year in cookery preparation of plain dishes is taught. Later on in the course the young women study and practice the various methods of preserving fruits and vegetables, the making of breads, pastry, cakes, etc. The serving of meals is also taught in the dining room of the new Household Arts building. The girl who completes a course of training of this kind is able to make a happier, more healthful and more beautiful home

## The Angle of a Hoe



Grasp a Keen Kutter Hoe as you would in the field—better yet, put one to actual service, and see how well it fits its job. The angle of the blade is *just right*. If you strike at a weed, you are sure to cut it—if you

“hill” a plant, it carries a full load of earth each stroke and does it all in the *easiest position* you can assume.

## KEEN KUTTER

hand tools for the farm—Forks, Hoes, Rakes, Scythes, etc., are fitted by *model and temper* for great service and long wear.

Keen Kutter bench tools are the best to be had. The list includes Planes, Saws, Axes, Hatchets, Hammers, Adzes, Augers, Drawknives, Chisels, Gouges, Bits, Braces, Gimlets, Squares, Bevels, Files, etc., besides every possible tool and cutlery for the household. Look for the trade-mark—it guarantees *quality*. If not with your dealer, write us.

“The Recollection of Quality Remains Long After the Price is Forgotten.” E. C. Simmons.

Trademark Registered.

SIMMONS HARDWARE CO. (Inc.), St. Louis and New York, U.S.A.



# The Emporium

Announces the **OPENING** of its  
**NEW STORE**  
on Thursday, October 1st. 1908.

than she otherwise could have done. The course is planned to make homemakers, rather than teachers of domestic science. No better equipment for teaching the household arts can be found on the Pacific Coast than that provided in the California Polytechnic School.

No tuition fees are charged, since the institution is supported by appropriations of the State legislature. The State Polytechnic School is a pioneer in the field of secondary education in agriculture, but those who best know the work of the school are gratified over the eminent success of California's youngest educational institution.

**HOME-MADE SLEEVE BOARD.** — To iron shirtwaist sleeves take a bed slat and cover same as ironing board. You can slip the sleeve on the board without mussing the waist and iron the sleeves much better than on a sleeve board.

**PIN RUGS TO LINE.** — Pin your rugs on the line with the large safety pins commonly called horse blanket pins. They will hold the rugs in place while you brush and beat them.

### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Positions Secured.

Day and Night Classes.—You can enter at any time.

Our Scholars are from 15 to 50 years old.—No previous knowledge required.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco, Cal.

## Country Boy Preferred

“Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance.”

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

San Francisco Business College

733 Fillmore St., San Francisco, Cal.

“THE OLD RELIABLE”



THERE ARE NONE “JUST AS GOOD”

WHEN YOU BUY A LANTERN INSIST ON A “DIETZ”

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS



## THE MARKETS.

San Francisco, Sept. 23, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

Eastern markets have been active during the week, with an upward tendency, and the northern markets are also stronger, with a larger demand for export. The movement from the North has already been very large, and some scarcity of choice grain is reported. The Northern mill men have also been active buyers, and prices are somewhat higher. Local holders have been asking an advance, but have so far been unable to secure it, and this market is accordingly very dull.

California White Australian	\$1.75 @ 1.80
California Club	1.67 1/2 @ 1.70
California Milling	1.70 @ 1.72 1/2
California lower grades	1.45 @ 1.60
Northern Club	1.67 1/2 @ 1.70
Northern Bluestem	1.75 @ 1.80
Northern Red	1.65
Turkey Red	1.75 @ 1.80

## BARLEY.

There is a fair movement of shipping grades for export, but very little is doing in brewing barley, as the brewers already have large supplies. Receipts have been quite heavy during the week, and the feeling just now is easier, though choice feed brings a cent advance. Business is quiet, with little inquiry from any quarter, most of the shipping business being done in the interior.

Brewing	\$1.37 1/2 @ 1.40
Shipping	1.35 @ 1.37 1/2
Chevalier	1.55 @ 1.60
Good to Choice Feed, per ctl.	1.30 @ 1.33 1/2
Common feed	1.20 @ 1.28 1/2

## OATS.

While prices on oats show little change, the market is in a rather unsteady condition, with a distinctly easier feeling than for several weeks past. This is due to the liberal shipments which have been arriving from the North lately, as there are now fairly large supplies on hand, and buyers show less interest. Prices on some lines are lower here than in the North. Reds are offered at lower figures, and the feeling on whites is distinctly weak. The Government is in the market for 9000 tons of oats for the Philippines.

Choice white, per ctl.	\$1.70 @ 1.72 1/2
No. 1, white	1.65 @ 1.67 1/2
Gray	1.55 @ 1.62 1/2
Red, seed	1.85 @ 2.00
Red, feed	1.45 @ 1.75
Black	2.00 @ 2.60

## CORN.

Prices on Western grades have fluctuated somewhat during the week, though there has been no change of much consequence. Prices are a little easier than last week, but not enough to affect the local trade, which is at a standstill.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	\$1.85 @ 1.90
White	Nominal
Western State Yellow	1.90
White, in bulk	1.81
Mixed, in bulk	1.80 1/2

## RYE.

Business in this grain is of small proportions, as usual, holders asking the same prices as before.

California	\$1.40 @ 1.45
------------	---------------

## BEANS.

Arrivals of the new crop have been more liberal during the last week, among them being the first lots of new Bayos. The harvest is now becoming general. The first plants are being thrashed in the South, and more new small whites will be ready for shipment this week. The river beans are not ready to harvest, but some may be expected within a fortnight. The tendency of the market under the increasing offerings is naturally downward. In the South lima beans are being harvested, and the price is sagging a little. Blackeye beans will probably be in plentiful supply, and they are also easy. The market is not likely to be in a thoroughly settled condition for several weeks.

Bayos, per ctl.	\$2.70 @ 2.80
Blackeyes	3.00 @ 3.25
Cranberry Beans	2.50
Garvanzos	1.75 @ 2.90
Horse Beans	1.75
Small White	4.00 @ 4.25

Large White	3.00 @ 3.25
Limas	4.50 @ 4.60
Pea	4.50 @ 4.60
Pink	2.75 @ 2.85
Red	3.00 @ 3.50
Red Kidneys	2.75 @ 3.25

## SEEDS.

Local dealers are taking on stocks of seeds in some lines, but the market still shows comparatively little movement. The only feature is the arrival of a lot of Arizona alfalfa seed, which is being held for firm prices. Local dealers quote the following figures:

Alfalfa, per lb	14 1/2 @ 18c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb	3 1/2 @ 3 3/4c
Canary	4 1/2c
Flaxseed	3c
Hemp	4 1/2 @ 4 3/4c
Millet	2 1/2 @ 3 1/4c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

There is a fair movement for export from Northern markets, but none of any importance from San Francisco. The local trade is rather quiet, prices being unchanged on California brands, though Kansas and Dakota patents are slightly higher.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

## HAY.

Arrivals of hay continue to run quite heavy, the total for the past week amounting to 3670 tons, but little less than last week. It was generally expected that shipments would materially decrease during the middle of September, but a good deal of stock seems to be still unhoused, and shipments from outside points continue quite free. The present range of prices, which is considerably above the average for this time of year, is attracting general attention, and sample shipments are being made from Nevada, where there is a large surplus that can be brought in at a moderate expense. Choice wheat and tame oat is being taken out of the warehouses, finding a ready market, occasionally at a slight advance, though prices in general rule as before. The Government is after 10,000 tons of hay for the Philippines, but as this will probably be purchased in the North, this market is not likely to be affected.

Choice Wheat, per ton	\$17.00 @ 18.00
Other Grades Wheat	11.00 @ 16.50
Wheat and Oat	11.00 @ 16.00
Tame Oat	11.00 @ 16.00
Wild Oat	10.00 @ 14.00
Alfalfa	9.50 @ 13.50
Stock	8.50 @ 10.00
Straw, per bale	45 @ 70c

## MILLSTUFFS.

The surplus of bran, shorts and middlings in the Northern mills is again decreasing, and as the demand there is strong, a further advance is predicted. The local demand is also growing, as the dairymen are buying more than for several months past. Prices on red bran, middlings and shorts already show an advance, and oil cake meal is a little higher.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$29.50 @ 30.50
Red	29.00 @ 30.00
Broom Corn Feed, per ctl.	1.25 @ 1.30
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00
Jobbing	26.00
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.00 @ 35.00
Mixed Feeds	23.00 @ 28.00
Oil Cake Meal, per ton	37.00 @ 38.50
Roller Barley	29.00 @ 30.00
Shorts	31.00 @ 32.50

## VEGETABLES.

The market is still well supplied with onions, but seems to be in a little better condition than last week, as the demand is more general. Prices are unchanged. Green vegetables in general bring a little better prices than a week ago, though prices are not very well sustained, and the less desirable offerings are hard to move. Green corn is still scarce, the price holding steady, and pickle cucumbers are easily disposed of up to \$1.25 a box. Green okra, string beans and peas are low and

receive little interest, while good lots of tomatoes are higher and in steady demand.

Garlic, per lb	6 @ 7c
Green Peas, lb	2 @ 4c
String beans, lb	2 @ 4c
Cabbage, per ctl	75 @ 85c
Onions—	
New Yellow ctl	50 @ 55c
Summer Squash, large box	40 @ 50c
Tomatoes, box	25 @ 60c
Turnips, sack	75c
Green Peppers, box	35 @ 50c
Cucumbers, box	40 @ 50c
Green corn, sack	\$1.25 @ 2.25
Egg Plant, box	40 @ 50c
Cauliflower, doz	65 @ 75c
Okra, box	35 @ 50c

## POULTRY.

The dealers in Eastern poultry have anticipated the probable demand for the Jewish holiday trade, six cars having arrived so far this week, and another is expected. Supplies of native poultry have also been more liberal, and consequently the expected firmness of the local market is not apparent. Prices on several varieties of young stock show some reduction, but large fat hens are higher, and ducks are also very firm, with a strong demand. Good large turkeys are still firm, but small birds are easy.

Broilers	\$3.50 @ 4.50
Small Broilers	3.00 @ 3.50
Fryers	5.00 @ 5.50
Hens, extra	7.00 @ 9.00
Hens, per doz	5.00 @ 6.00
Small Hens	4.00 @ 4.50
Old Roosters	3.50 @ 4.50
Young Roosters	6.00 @ 7.00
Young Roosters, full grown	7.00 @ 8.00
Pigeons	1.25
Squabs	2.00 @ 2.50
Ducks	4.00 @ 8.00
Geese	2.00 @ 2.50
Spring Turkey, lb	23 @ 25c
Gobblers, live	22 @ 24c
Hen Turkeys, live	22 @ 24c

## BUTTER.

Fresh extras are slightly lower than last week, though the feeling is quite firm and the stock moves off about as fast as it comes in. Trading in the lower grades has been especially active, causing a general advance, including everything but fresh thirds. Storage stock is now quoted on the Exchange, standing at the same figure as Eastern extras, with an active market on both grades. The following quotations are given by the San Francisco Dairy Exchange:

Cal. (extras) per lb	31 1/2c
Firsts	27 1/2c
Seconds	22 1/2c
Thirds	20 c
Eastern extras	27 c
Fresh Packing Stock, No. 1	23 c
Fresh Packing Stock, No. 2	20 c
Cal. Storage Extras	27 c

## EGGS.

The feeling on the Exchange is still quite firm, though dealers on the street report a feeling of weakness on everything but extras. The demand is good for all grades, but supplies for the present are quite sufficient. The only advance is on local storage stock, which is now quoted at 30 cents, other grades being unchanged.

California (extra) per doz	40 c
Firsts	32 1/2c
Seconds	26 1/2c
Thirds	22 c
Eastern Selected	25 c
Eastern firsts	23 c
Eastern seconds	21 c
Storage, Cal., extras	30 c

## CHEESE.

Interest in cheese is gradually increasing, and while supplies are still sufficient for all demands, the market shows some improvement. Fancy flats are the principal feature, with an advance of 1/2 cent. Storage flats are now quoted at 13 cents. Exchange quotations are as follows:

Fancy California Flats, per lb	12 c
Firsts	10 1/2c
New Young Americas, Fancy	12 1/2c
Oregon Flats	13 c
Oregon Y. A.	14 1/2c
Storage, Cal. Flats	13 c

## POTATOES.

There is little movement of potatoes to outside markets at present, and local supplies are large, but with a larger demand prices on fancy stock show some improvement. Owing to the unusually good quality of river stock this year, no movement of Oregon potatoes in this direction is expected before the first of the year. Sweet potatoes are in practically the same condition as last noted.

River Whites, ctl	50 @ 95c
Salinas Burbank, ctl	\$1.20 @ 1.60
Sweet Potatoes, ctl	1.35 @ 1.50

## FRESH FRUITS.

The fruit market is in a rather poor condition at present, with large stocks held over from previous days, which are difficult to move. Prices on most descriptions are accordingly weak, many articles showing a decline from last quotations. Arrivals of nutmegs and cantaloupes are decidedly heavy, causing a decline in both varieties. Bartlett pears are also plentiful, few lots bringing over \$1.00. Peaches are very weak, with excessive supplies of inferior fruit. Fancy apples are a little higher, and berries are firm, but grapes show some reduction. Plums and figs of good quality are sold without difficulty, though most of the supplies are not attractive.

Apples, fancy	90c @ \$1.25
Apples, common	40 @ 75c
Strawberries—	
Chest	\$4.00 @ 8.00
Blackberries, chest	2.00 @ 4.00
Raspberries	5.00 @ 8.00
Huckleberries, lb	12 1/2 @ 14c
Plums, crate	60 @ 1.00
Peaches, box	30 @ 65c
Figs, box	40 @ 80c
Nutmeg Melons, box	25 @ 50c
Cantaloupes, crate	75 @ 1.00
Watermelons, doz	1.00 @ 2.00
Grapes, crate, Seedless	60 @ 75c
Muscats	50 @ 65c
Black	40 @ 60c
Tokays	60 @ 85c
Pears, Bartlett, box	75 @ 1.25
Other Varieties	40 @ 1.00
Quinces, box	40 @ 65c

## CITRUS FRUITS.

Citrus fruits are not in much demand, and supplies are adequate in all lines. Grapefruit is stronger than last week, but otherwise there is no change in prices. Mexican limes are plentiful, and the feeling in this line is weak, but prices are as last quoted.

Choice Lemons	\$1.75 @ 2.50
Fancy Lemons	3.00 @ 3.50
Standard	1.00 @ 1.25
Limes	4.00 @ 5.00
Oranges—	
Valencias	2.50 @ 3.50
Grape Fruit	4.00 @ 4.50

## DRIED FRUITS.

Dried fruits remain in a quiet condition, neither packers nor jobbers showing much interest in new stock. The Eastern movement is about as last reported. There is a somewhat weaker feeling than last week on all lines, though the quotations of local packers, as given below, show no change, and few concessions are made except on large orders. Raisins also are inactive, most packers showing no interest in offerings at 4 cents, though they are willing to take anything that is offered at 3 to 3 1/2 cents. A fair amount has been signed up on the Armsby deal, and the desired quantity is expected to be secured by October 1, though the other packers are very skeptical.

Evaporated Apples	5 1/2 @ 7 c
Figs, black	3 @ 3 1/2c
Figs, white	3 1/2 @ 4c
Apricots, new crop	7 @ 10 1/2c
Peaches, new crop	5 1/2 @ 7 c
Prunes, 4-size basis	3 1/2 @ 4 c
Pears, new crop	6 @ 8 c

## RAISINS.

2 Crown	4 1/2c
3 Crown	5 c
4 Crown	5 1/2c
Seeded, per lb	7 c
Seedless Sultanias	4 1/2c

## NEW CROP.

Loose Muscats, 4 crown	6 c
3 Crown	5 1/2c
2 Crown	4 1/2c
Thompson seedless	5 1/2c
Seedless	6 c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

There is a moderate movement of almonds to the East, and small lots in growers' hands are gradually being gathered in. The new prices on walnuts have met with a better reception in the East than was expected, as the market was bare, and most of the advance orders are being confirmed. Prices show no change.

Almonds, Nonpareils	11 1/2 @ 12c
I X L	10 1/2 @ 11c
Ne Plus Ultra	10 c
Drakes	9 1/2c
Languedoc	9 c
Hardshell	— c
Walnuts, Softshell No. 1	13 c
Softshell, No. 2	10 c



# The "South Bend"



THE BEST CHILLED PLOW  
IN THE WORLD.

The No. 3-A, as illustrated above, is our light two-horse plow. It is strictly first class in every respect and is one of the most popular sizes made. It does most excellent work, turning its furrows as perfectly as the larger sizes. Wheels, Jointers or Coulters can be used on the No. 3-A if required. It has a furrow capacity of 6 1/2 x 11 inches and weighs 92 pounds. Shares Plain Chilled or Slip Nose Chilled.

Write us for Catalogue describing the Complete South Bend Line of Plows.

General Agents:

**PACIFIC IMPLEMENT COMPANY**  
135 Kansas St., San Francisco.

## NEW CROP.

Softshell, No. 1.....	12 1/2 c
Softshell, No. 2.....	8 1/2 c
Hardshells.....	less 1/2 c

## HONEY.

Comparatively little comb honey has been shipped this season. The market is quiet here, though there is some movement of white and water white extracted, and prices remain as last quoted. Prices below are given by local packers.

Water White, Comb lb.....	16 @ 17 c
White.....	15
Water-white, extracted.....	8 @ 8 1/2 c
Light Amber.....	7 @ 7 1/2 c
Dark Amber.....	5 1/2 @ 5 1/2 c
Candied.....	5 1/2 @ 5 1/2 c

## HOPS.

A large part of the crops of Sonoma and Mendocino counties, as well as in Oregon, have been contracted, but prices show no improvement, the usual figure being about 9 cents.

1906 crop.....	1 1/2 @ 2 1/2 c
1907 crop.....	4 @ 6 c
Contracts.....	9 @ 10 c

## WOOL.

Wool remains in the same dull condition last noted, with no improvement in prices. Local buyers are taking little interest, and few sales are made in any quarter. Most of the clips that have come forward being sent east on consignment.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15 1/2 c

## MEAT.

Prices on dressed meats and live stock show very little change this week, arrivals being sufficient for the demand, but not excessive. Large veal is slightly firmer, and so are live ewes, but other lines are as last quoted.

Beef: Steers, per lb.....	6 1/2 @ 6 1/2 c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7 1/2 c
Small.....	8 1/2 @ 9 c
Mutton: Wethers.....	7 @ 8 c
Ewes.....	6 1/2 @ 7 c
Lambs.....	8 1/2 @ 9 1/2 c
Hogs, dressed.....	8 @ 9 1/2 c

## LIVESTOCK

Steers, No. 1.....	3 1/2 @ 4 c
No. 2.....	3 c
No. 3.....	2 @ 3 1/2 c
Cows and Heifers, No. 1.....	3 c
No. 2.....	2 1/2 c
Bulls and Stags.....	1 1/2 @ 1 3/4 c
Calves, Light.....	4 1/2 @ 4 c
Medium.....	4 c
Heavy.....	3 1/2 c
Sheep, Wethers.....	3 1/2 c
Ewes.....	3 1/2 c
Spring Lambs, lb.....	4 @ 4 1/2 c
Hogs, 100 to 150 lbs.....	6 c
150 to 250 lbs.....	6 c
250 to 325 lb.....	5 1/2 @ 5 1/2 c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Sept. 22, 1908.—Shipments of Salways are now over. A few lots going forward are to clean up on that variety. Accordingly prices have advanced a little. Some sales in the Western markets were made on a basis of 30c. f.o.b. The auctions are quite steady, the prices ranging from 55c. to 70c. delivered. The market will likely take a further advance on the shipments of Salways now en route.

Clings are going forward quite freely, and they are being disposed of at about 40c. f.o.b., although the range of prices in auction are from 50c. to 75c.

The market has advanced considerably on pears, owing to the light supply. Boston today averaged \$2.75 to \$3.20 on pears, and Chicago \$1.80 to \$2.55.

The auction market for Florin Tokays was quite good, the average today being, New York, \$1.45 to \$1.75; Chicago, \$1.30 to \$1.40. Shipments are going out at the rate of six and seven cars daily from that point.

Shipments are leaving Lodi at the rate of about 20 cars daily. It has been reported that sales have been made on the bases of 80c. to 90c. f.o.b. The auction averages are rather low on fruit from this district. New York today realized \$1.00 to \$1.25 for Lodi proper and \$1.55 for Blacklands fruit. Chicago averaged 85c. to \$1.00 for Lodi fruit. No change is anticipated in the Lodi situation this week.

Malagas are still being shipped, and the averages are as follows: Chicago, 85c. to \$1.15; New York, \$1.15 to \$1.25. Other varieties of grapes are selling to advantage.

On reviewing the deciduous situation, Salways perhaps will advance a little, while Tokays will probably remain firm at present prices. Shipments to September 16 for the seasons 1907 and 1908 are as follows: 1907, 4466 2-3 cars; 1908, 7444 cars.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Sept. 21, 1908.—The Valencia market is very dull and there seems to be no immediate prospect of any favorable reaction.

There are probably less than 200 cars of Valencias now in California. The Exchange claims to have 150 cars, Chapman has a few in Orange county, and outside of these the cars are mighty scattering.

At the last auction sale of last week, prices are exceptionally low. In New York the Squirrel brand was high at \$3.50, at Philadelphia the Stag brand brought \$4.35, and at St. Louis, Victoria \$3.20. The average of the prices received at this sale would not warrant \$2.25 f.o.b., and it is probable that prices will have to come down before they go up.

Lemons are still way down and with no prospects of immediate raise. Dealers are apparently stocked up with high-priced fruit that they are finding it difficult to work off without a loss—that is, they are holding the fruit higher than the demand warrants, so as to save themselves from losing money.

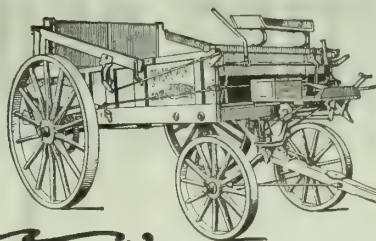
There are on hand and available for sale in New York within the next 30 days 36,000 boxes of Sicily lemons, as against 70,000 at this time last year, and 42,000 boxes in 1906.

California shipments to date are 28,730 cars, of which 4525 cars are lemons. To same date last season the shipments were 27,200 cars, of which 3300 were lemons.

## LIME AND SULPHUR SOLUTION.

Many different sprays have been used by sheep men for treating scab in sheep and mange in cattle. The Rex Company, of Omaha, Neb., have hit on a proper combination of lime and sulphur that seems to do the work effectively and not injure the stock in the least. It heals the wounds made by the shears and does not make the eyes sore, as many of the home-made preparations do. This company has established a California branch at Benicia, where they have a capacity of 90,000 gallons in their five large vats. The product is guaranteed to contain 90% CaS in solution. It is uniform and free from any sediment or ingredients that would injure the wool.

**10-Acre Fruit and Poultry Ranch**—Apples, pears, prunes, 3 acres vineyard, completely equipped poultry plant, house, water piped over place—\$2500. H. F. BLUHER, Novato, Cal.



## MAINTAIN YOUR SOIL'S FERTILITY

WITH AN

**I. H. C.**

## MANURE SPREADER

THE best of all fertilizers is barnyard manure. It is your duty to apply it on the land, so that you will get the most out of it, and avoid the necessity of buying expensive commercial fertilizers.

You can make every load of manure you have go twice as far, by spreading it with one of these strong, durable, right working I. H. C. spreaders.

**Kemp 20th Century** (Return Apron Spreader).

**Cloverleaf** (Endless Apron Spreader).

**Corn King** (Return Apron Spreader).

If you have upwards of a hundred loads of manure to spread, any one of these machines will more than pay for itself the first season.

The spreader will do this by enabling you to cover more ground with the same manure, by getting a better stand of grain or grass, by doing your soil more permanent good, and by greatly decreasing the labor of manure handling.

**WESTERN GENERAL AGENCIES:** Denver, Colo., Portland, Ore., Salt Lake City, Utah, Helena, Mont., Spokane, Wash., San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA, Chicago, U. S. A.**  
(Incorporated)

## "WELFARE WORK" BY THE HARVESTER COMPANY.

(Continued From Page 203.)

in all the plants, and in musical Milwaukee a band of 60 pieces, which plays at the noon hour. There are physical culture classes that work for an hour after closing time. There is a regular system of sick calls. The nurse, Miss Louise Palmer, who reports at the plant surgeon's office morning, noon and night, and at a good many other times, is eternally on the go through the neighborhood.

The important question, however, is whether the purpose of the corporation, as enunciated by its president, pertains equally to all its establishments. In an office at the end of the long hallway in the company's headquarters in the Harvester building, Chicago, I found Miss Marie Goss. Miss Goss was for years employed in the offices of the Plano works, another of the Chicago plants. When she was installed a welfare manager for the harvester corporation, she took a big contract. There are 14 plants, in different parts of the country, all with different surroundings, different classes of employees, different local demands.

"There are a good many live wires in this work," said Miss Goss. "When a group of workmen think they would rather bring sandwiches, go get a pail of beer and sit on the curbstone to eat, they are apt to consider it interference if we send down the push-cart with an electric coil and kettles of hot soup and steaming coffee at noon. But two months after we started in doing this in one plant, the saloon-keepers came over and begged us to stop it, because it was driving them out of business. But we have a better and healthier workman, and the workman's wife has a steadier husband, with the beer habit cut out.

"One of the most necessary things is to guard against accidents and to provide the best plan for medical and surgical treatment. In some of the plants this is well looked after, although not by the same system in all places. Where six or seven thousand hands are employed, where a hundred and sixty or more shops are full of diversified machinery, men are bound to be hurt, and where the population is ignorant of sanitary and physical laws, men are bound to be sick. Dr. Fisk and his assistant in the McCormick infirmary treated 25,000 cases last year. Sixty per cent of these were surgical. While the great majority of the injuries were scratches, cuts and small abrasions, it is, of course, clear that prompt attention to them prevented no end of blood-poisoning and other ill results. Of amputations there were 75, but only a few serious ones, which were removed to a neighboring hospital under Dr. Fisk's charge. The company keeps an ambulance for this

purpose. In the course of the year he attended 500 employees who were ill at home. There were three deaths from injuries received in the works, one by the breaking of a grindstone, one from a collision in the freight yards, one from the collapse of a section of flooring.

"Sanitary improvement will do away with a lot of medical cases, but to prevent accidents we will establish not only effective safety appliances, if possible, on all machinery, but shop rules which will do away with the carelessness of workmen.

"A 'relief' system is about to be put into effect also, to apply to every establishment we have. The technical schools for employees are to be widely extended, and here"—laying her hand upon a huge pile of letters—"are details of every industrial pension system in vogue in the United States. When, by study and comparison, the best features of all these can be combined, the Harvester Company will adopt it.

"What we are trying to do as rapidly as may be is to get the whole situation systematized. When the plan is complete getting it into operation will not be so difficult."

It is plain to see, and to feel, as you touch the personal mechanism of the Harvester Company at its various points, that the work that is being done for the betterment of conditions has the best guarantee of success, to wit, the appreciation and co-operation of everybody all down the line.

In a letter remitting their subscription to the **PACIFIC RURAL PRESS**, R. B. Blowers & Son of Woodland, epitomized in a sentence the work we are trying to do. They said: "We wish you much prosperity, and long may the **PRESS** live to lighten the labor and increase the profit of the farmer folk of California." We fully appreciate such words, coming from old and valued subscribers. Mr. Blowers was one of the pioneer raisin growers of California.

## Warnocks Tree Remedy

guarantees to cure pear blight, San Jose scale, oyster shell bark, louse and sun scald, canker-worm, borers, mice and rabbits. Best, cheapest, easiest applied, and longest lasting. Send for free booklet.

## GOLDEN RULE NURSERIES

Loomis, Placer Co., Cal.  
Agents for Pacific Coast States.

## HENRY B. LISTER, ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts. San Francisco.

## Blake, Moffitt & Towne

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THIS IS THE PLOW

THAT ALL WANT, AFTER SEEING ONE IN USE.



THE SHAW STOCKTON IMPROVED GANG PLOW

Drop us a card for Circular with Prices.

MANUFACTURED BY

THE H. C. SHAW CO., Stockton, Cal.

## All Soils Alike to Wood Pipe



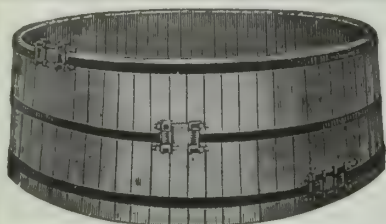
The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our book let, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

**National Wood Pipe Company**

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

**R. F. WILSON,**

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.



WINE TANK.

### Tanks

WINDELER'S PLANING MILL  
AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.

FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

## PLACER NURSERIES

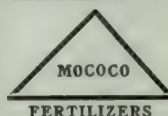
We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT COMPANY**

Newcastle, Cal.



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

**Mococo Superphosphate**

Land FERTILIZED with Mococo Superphosphate yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

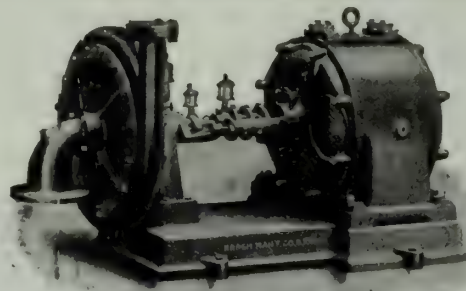
Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.



## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

**Krogh Man'f'g. Co.**

127 to 133 Beale St., San Francisco, Cal.

Send for new catalogue No. 50 just issued.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

## SEED GRAIN BLACK and RED OATS.

WHEAT, BARLEY, BEAN SCREENINGS, etc. constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St.,  
Buyers of Grain and Beans. San Francisco, Cal.

Members Merchants Exchange.  
Established in 1855. Correspondence invited.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 14.

SAN FRANCISCO, SATURDAY, OCTOBER 3, 1908.

Thirty-eighth Year.

## Seed Growing in California.

By LESTER L. MORSE.

The business of growing vegetable and flower seed is not a new industry, by any means, in California. While various little lots of seed have been grown rather spasmodically since 1860, it was about 1875 that Robert W. Wilson, a seed grower of Rochester, N. Y., settled in Santa Clara, Santa Clara county, and began the systematic growing of onion, lettuce, beet and carrot seeds as a business, shipping his product to his regular customers throughout the various cities of the Middle West and Eastern States. It was a modest beginning of not over fifty acres, but grew steadily in his hands and in those of his successors who took over the business just prior to his death, in 1878.

What is usually meant by seed growing, as popularly understood in California, is the production of lettuce, onion, carrot, celery, etc.; also sweet peas and other flower seeds. While quite a large acreage is devoted to seed beans and garden peas, the things peculiarly Californian are the small vegetable and flower seeds, and the three pre-eminent specialties are onions, lettuce and sweet peas. We lead the world in the production of these three items, and California annually sets the price for all the American trade in them, and also largely influences the European seed trade.

radish, about 500 acres; onions, about 3000 acres; lettuce, about 750 acres; salsify, about 50 acres; tomatoes, about 100 acres; spinach, about 100 acres. In flower seeds, sweet peas, about 1250 acres; nasturtiums, about 25 acres, and consider-

greatly less in importance is a cool but clear climate, and the coast valleys of California contain both of these elements to a high degree. The only seed farms of any consequence are located in Los Angeles, San Luis Obispo, San Benito, and Santa



Gathering the Onion Seed Crop on the Farm of C. C. Morse & Co., Near Gilroy.

able breadths of asters, balsam, poppy, phlox, sunflowers, mignonette, verbena, etc.

The smaller seeds of flowers are not grown ex-

Clara counties, the latter claiming fully 75% of the total acreage.

While the industry is an old established one, there are comparatively few seed farms and fewer firms conducting them, this being due principally to the very heavy expense of growing a seed crop and the very long time required to build up a clientage. Seed growing is very different from ordinary farming; the quality of a strain of seed depends on the plant selection and breeding of the parent stock, and then the rogueing and thinning of the main crop. It is too exacting and trifling for the majority of farmers, and with the time required in waiting for a succession of seasons to develop results, it is not a business that appeals to many.

It would require a long chapter to explain all the details of a large modern seed farm. There is the pedigreed strains of the planting stocks, the hand thinning, sorting and rogueing, the frequent hand cultivatings, and then the harvest with its demand for instant attention the day the seed is ripe, or it might all shell out and an expensive crop be lost. All of the well conducted seed farms have green-house facilities for testing seed and large trial grounds for trying different stocks. They also have large blocks devoted to experiments and development work, where novelties are discovered and new strains established.

The California seed farms are in their glory in May and June, when the long areas of sweet peas are in bloom, lettuce is breaking the head and shooting seed growth, the onion is running up its long spike with its silvery buds, and every bit of earth seems covered with some dense crop in bright colors.



Drying, Threshing and Sacking Onion Seed for the Market.

California is also a large producer of other vegetable seeds, and to give one some idea of about what area is devoted to seed growing, will estimate the total acreage in the State of the usual California grown list of seeds as follows: Carrots, about 250 acres; celery, about 100 acres; cucumbers, about 150 acres; endive, about 50 acres; parsley, about 50 acres; parsnips, about 25 acres;

tensively, and are still largely imported. So far no considerable quantities of melon or squash seeds, turnips, ruta bagas, cabbages, beet or mangels, nor sweet corn, are produced here, since our climate seems to be a little too dry for the best quality of these things.

Of course, the principal element of success in seed growing is good soil with moisture, but not



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

On Monday, October 5, activity will begin in short-course instructional lines on the University Farm at Davis, and on Thursday, October 8, the State Farmers' Institute will convene at the same place. We have already given many details of these two related efforts for the advancement of California agriculture through the increase of knowledge and the stimulation of thought, and the prominent reference which we now make is for the purpose of fending forgetfulness and of giving still another suggestion that all who can assemble to give and to receive wisdom, for this commodity is possessed by all in some form which is worthy of dissemination, and which it is everyone's duty not to withhold from common use. The situation is very central, only 13 miles from the State capital; the time is one of comparative leisure in most of our farm industries, and the joy and advantage of such free assembly in the agricultural interest should be possessed by all who can. Personally, we expect to meet again many old friends of the RURAL circle, and to hear of their continued activity and strength for California; also to learn to know many new friends and to congratulate them upon coming on the scene when progressive ideas and methods command so much more confidence and appreciation because so much better foundation is laid for them than existed in the olden time. The University Farm is destined to be the regular autumn rallying place for California farmers, and its influence upon the general prosperity of the industry and upon the individual well-being of all who comprise our agricultural population will be notable. It is of course designed that the University Farm shall do a great work for the agricultural youth of the State, but it often occurs to us that the fathers and mothers are older than their children, and therefore more liable to be set in their ways and notions, and to get the youth a chance it is often necessary to dynamite the hardpan of the ancestors. For this reason we emphasize the educational value of the University Farm for the old boys and girls, to the end that they may rise out of the ruts in which they have crept so long and see how good the spirit and substance of the newer agriculture are and how fine the outlook from the higher levels. Of course, all must bring the boys and girls along—just to show them the circus, you know!

We had some fun the other day watching an English sparrow pluck seeds from the cap of a dandelion in our grass plot. We own with humiliation, of course, that we do have dandelions in our lawn, in spite of the several good ways we have prescribed for other people to get rid of them. Our fun came in seeing that we could be rebuked by such an unmitigated pest as an English sparrow, for the bird forsook his own evil ways to help us conquer ours. He was snipping

ripe dandelion seeds, and the artful twist he gave his head to free the seed from the airship to which nature attaches it must have cost him many trials to acquire. After this observation we were more interested to read in Outing, Miss Lant's account of the English sparrow as a weed seed epicure. She recounts his vices. His ill-bred, loud-voiced clatter drives away song birds. He hangs round your barn and steals your grain, and he nests in the eaves of your poultry house and infests the cracks with that vermin pest of chicken life mites—and he proves a mussy visitant on your house piazzas. Yet balance the little sparrow's account with what is to his credit. A scientist in Iowa, by test after test, found that in winter time the sparrow ate about a quarter of an ounce of weed seed a day. Then he counted the number of sparrows ordinarily seen in winter to the square mile. He put the number at ten, and on the basis of ten birds to the square mile, he figured that the sparrows must eat in the State of Iowa alone 875 tons of weeds a winter. She might have added another item to the credit of the sparrow, because during the winter they eat many scale insects, and they know how to chisel off the roof of their oyster and tweak the rich morsel within. And yet we do not like English sparrows, and really believe we would be far better off without them.

And so all the fuss we used to have about the use of sea-water for curing figs, and whether the alkali juice in the interior, where the figs are and the sea is not, would not do as well, has gone for naught. We used to think that there must be some great value in the salt, and possibly it added to the flavor. Mr. Roeding in his fig book does not concede that, but holds that the sea-water is used simply to keep the fingers from sticking to the fig in squeezing it out flat. So far as flavor goes, Mr. Roeding thinks it might be rather bad than good, for they dip out the sea-water too near the town, where it isn't at all nice sea-water. A recent writer to the London Globe, however, holds that they use salt water to save the fig: "The packers wash their hands in brine while packing, but this is only done to prevent their hands from getting sticky, salt water being used as fresh water would injure the fruit." It is not said how or why it would injure the fruit. Fortunately we still have something left to speculate about.

As we write, the greatest assembly of California fruit distributors ever held is convened in Kansas City, and the telegraph says they are having a profitable time talking fruit shop and how much more can be accomplished in placing California fruits all over the East in places where it will do most good for the growers. We expressed ourselves quite fully about the significance of this meeting as it appeared to us, in the PACIFIC RURAL PRESS of August 8, and it looks as though our anticipations of its influence might be realized. The California participants went by special train, starting from Los Angeles and going east by way of San Francisco, the party consisting of eighty persons, chiefly prominent fruit growers of California, who are going to confer with their Eastern agents and handlers of California products, at a convention, as we have said, now being held in Kansas City. It certainly means something in a large way when a trainload of California fruit growers can go two thousand miles to face a large gathering of their agents who have made the growing of nearly thirty thousand carloads of citrus fruits a year profitable. This matter of handling the product by growers through well selected pushing agencies all over the rest of the country certainly indicates a high level of effective co-operation. It would indeed be strange if

the experience does not point the way to handle our whole fruit product on the same basis.

Sending oranges from South Africa across the equator to the English markets is shown to be possible but not yet profitable. It seems that during June to September last year 295 tons of Natal oranges were received in London, from which consignments were offered in the principal markets in England and Scotland, as well as Antwerp, Amsterdam and Hamburg on the Continent. Of these shipments 67 tons were shipped between deck at a 25 shilling (\$6.08) rate, the remainder in cool chamber, at a 77 shilling (\$18.74) rate. As a result of this year's experience the Natal Orchard Association announce that citrus fruit can be successfully carried to European markets and fair prices obtained for a good quality; that it must be shipped in cool chambers, and that 77 shillings is too high a rate to permit of shipments being made at a profit. South African fruit growers are certainly handicapped by living in a hemisphere which has so much water and so few people.

On our first page this week Mr. Morse gives some most interesting facts about the difficulties and risks of those who make the fine export product of California seeds. In the same connection, some readers may not have heard of the spectacular loss of a crop just as it was ready to start eastward to meet a peculiar demand. Mr. Murdock and son, of Westminster, Orange county, had a contract to furnish a large amount of sets of Bermuda onions to send to Texas to be re-set this fall to bring a crop of saleable Bermudas as early as possible next spring. The younger Murdock rigged up an automobile onion seed planter, which we said something about last spring. Just as they got the crop into four cars for shipment a tramp set fire to the outfit, and up went cars, onion sets, automobile planter patterns and all. The immediate loss was figured at \$10,000, to which is to be added the incidental loss of the Texas onion growers because they could not get the early Bermudas for which they contracted to have their sets grown in California. All of which proves that there's many a slip, etc.

Of course in seed growing there are other worlds than ours, seed growing which has been much longer on the way, and in every way picturesque and interesting, but different from ours, in the smaller cultures, which are pursued by a correspondingly larger number of people. Erfurt is known throughout Germany as the "flower city." It has a world-wide reputation for flower and farm seeds and plants, and yet the aggregate is not large when one remembers the long time it has been on the way. The origin of the industry dates from the tenth century, and it was developed by the monks of the Peters Monastery. The growth to the present large proportions is of much more recent date. Since 1880 the business of raising flower and garden seeds and plants in Erfurt has increased rapidly, until it is now five times as large as it was a quarter of a century ago. And yet the output of flower seeds is only worth a quarter of a million a year. Even if the vegetable seeds are worth as much, or several times as much, still it does not seem large. Probably California has gained more value in increase of seed product in a decade than Europe has in a century; but it is interesting all the same. The multitude of small cultures which are pursued is wonderful, and no doubt bring comfort to thousands of thrifty, patient people.

A good wagon road across the State east and



west, north of Suisun bay, is certainly very desirable, and we are glad that a good roads convention at Sacramento last week approved measures to secure it. Of course, the chief parts are now built, but the gaps can only be built by the State, viz., across the tules from Sacramento to Davis, and a road from Folsom to Placerville, to connect with the State highway from there to Lake Tahoe. These gaps filled, and the travel from coast to mountain tops at an important middle latitude would be secured.

The well known railroad publicist and Western promoter, James J. Hill, of Chicago, would rather have agricultural schools than warships. He said in a recent address in Minnesota: "If I had my way I would build a couple of warships less—yet one would be enough—and I would take the \$5,000,000 which it would cost and with it construct 1000 schools of agriculture within the United States." Mr. Hill's estimate of the cost of agricultural schools at \$5000 each is rather a low figure, unless Mr. Hill intends to substitute them for the ordinary district schools or to place them alongside and provide for their support by the usual methods of taxation, etc. However that may be, the sentiment will please many people and do good in a general way. He adds the view that with the present birth rate the country would not be able to take care of its people, let alone the prospect of exporting grain to Europe, unless the farmers studied the science of agriculture and learned how to raise more bushels to the acre than they are able to do at present. "I believe we have seen the last day in the history of the country," he said, "when wheat will be cheap. Hereafter No. 1 hard wheat will bring the 90 cents which it is worth at the present time, and even more, if the soil is properly cultivated." Hooray for Jim Hill! He's a progressive farmer, anyway.

Those who project camphor plantations on the prospect that the Formosan product will not supply the headache and back-comb demand, should take notice that an important contribution to the world's supply of camphor is promised as the result of the planting operations in Ceylon, says Vice-Consul Doyle at Colombo, in a report. Enthusiastic planters there believe that Ceylon in a few years will produce a greater quantity of camphor than the world's present demand.

## Queries and Replies.

### Water May Be the Chief Need.

To the Editor: I have some apple trees which when first planted could be irrigated, but since placer mining has stopped they have not been watered. They are situated on a hillside, but not very steep. The land has been kept bare summer and winter. It has been plowed and cross-plowed and then well harrowed every spring. This is all that has been done in the way of cultivation. I got the place some three years ago. I cut out all the dead wood and gave the trees such pruning as I thought necessary; plowed both ways and harrowed often enough to keep a dust mulch about three or four inches deep. Last fall I sowed fenu-greek, but it did not do well. What I wish to know is this: The red apples, such as Winesaps, Smith's Cider, etc., do not color well; next, there are great clusters of small, ill-shaped or deformed apples. Is this caused by a disease, or is it a lack of something in the soil? I have given the orchard a good coating of horse manure and intend to plow it under after the rains and plant winter vetch. Would it be well to use some kind of winter fertilizer also?—Grower, Calaveras County.

It would not seem to be necessary to use commercial fertilizers after you have applied horse manure, because that is a complete fertilizer, and if you succeed in getting a growth of winter

vetches, certainly the trees ought to do better if you can retain moisture enough. There is reason, however, to think that the chief need of the trees is water, and if this is lacking you cannot get good fruit by any method of cultivation or manuring. You seem to be doing all that can be expected in these lines.

The numbers of small, deformed apples may be due to the presence of the apple aphid, or louse, which comes on very early in the spring, and injures not only the young shoots but causes deformation of the young fruit, as you describe. The remedy for this pest is to keep watch for the appearance of the insect early in the spring and to spray immediately with kerosene emulsion.

### This Is Too Hard for Us.

To the Editor: I would like to know why there is not some attention paid to the gopher and squirrel pest, which I believe, from my own observation, is costing the State more every year than all the different scale and insects put together. I traveled out of San Francisco a number of years selling machinery, and I have often visited large hill ranches near the coast and have seen the squirrels eating and destroying at least a quarter of the feed. I have often asked the owners if they could not destroy them, and the reply was: "Oh, yes, I could easily poison them, and have often done so, but they come in from the surrounding places and in a short time I am as well stocked as ever." In passing by orchards I have noticed dead trees, and on asking what killed them, the reply was nearly always the gophers. Now, my neighbor's gophers have cost me not less than \$100 in the last year. I say my neighbor's, because I have an apricot orchard, and I will not let a gopher live longer than it is necessary to get a trap to catch it. I have tried every peaceable way I know of to get others to do their share, but they will do nothing. Please let me know if there is any way I can protect myself from this imposition.—Farmer, Yolo County.

Why it is that people do not practice all the good things they know is more than we can answer. The gopher and squirrel receive attention from the Government and the experiment stations to the extent of demonstrating methods by which they can be overcome, but there is no more a way to force people to apply these methods than there is to force a horse to drink after you have led him to the trough. Possibly something can be done by personal solicitation and exhortation through the local papers, but there are no laws requiring persons to poison pests, and it is a question how far such laws could be enforced if they were enacted. We have had this problem up for a third of a century, and it looks just the same as it did in 1875. Who can give it a new face?

### How Much Frost-Fending Do We Do?

To the Editor: To what extent do the fruit growers of your State use smudges or any other method of protection against late spring frosts? Are they ordinarily successful in these methods? We desire to make trials of various methods of frost protection next spring. We are, of course, somewhat familiar with the published reports of experiments that have been carried on in various parts of the country, but before undertaking the work here desire to know to what extent practical fruit men in various parts of the country practice methods of frost protection.—Reader, Colorado.

Our fruit growers use smudges and other means of frost protection to a very limited extent. Our impression is that there is less use of them now than when they were first widely announced five years or more ago. If we were surer of the occurrence of frost we should be more faithful in seeking protection, but such frosts are of so rare occurrence that growers seem inclined to take their chances rather than to go to the labor and expense of procuring and setting up the apparatus. At the same time, there are a few people in frosty situations who either store up and have always in

readiness, smudging material, or use the oil pots and other smudge-making devices which you will find fully described in publications by Prof. Alexander McAdie, who has charge of our Weather Bureau in the Merchants' Exchange building, San Francisco. We would really enjoy having a few conclusions from readers who have undertaken frost fending, as to what they think about it and what they have accomplished.

### Pumping Sand in California.

To the Editor: I am informed that there is in your State an apparatus used for sanding areas to be used for some special truck crops. I should be greatly obliged if you could give me some particulars concerning this.—L. Y., Wisconsin.

We think you are mistaken that there is any sand-moving for truck garden purposes in this State, except in old-fashioned ways, and not much of that, for we have such large areas of light, sandy loam that sanding is seldom desirable. There is, however, what we call dredging, a pumping of the sand and mud of San Francisco Bay onto adjacent areas of salt marsh for the purpose of bringing them above water and thus making new land, but this is not undertaken for agriculture, but rather for commercial purposes. The land is too thoroughly impregnated with salt to be of any agricultural value.

Again, we have dredging along the interior rivers for the purpose of getting the gold out of the land which is adjacent to them, but this is a mining and not an agricultural operation, though some effort is now being made to grow trees on the cobbles and sand which are the tailings of the mining operations. We call that dredging, but it is really a process of sand and earth pumping in connection with water which carries the material through the pumps, but we never heard of it being used primarily for an agricultural purpose.

### Almond Growing.

To the Editor: I have about 20 acres of almond orchard in Contra Costa county, near Antioch. The trees are mostly the three Hatch varieties. The trees do fairly well, with the exception of about five acres on ground much lower than the rest. The soil on this low land is heavy sandy loam, and though the trees look healthy they bear very few nuts, and the few they do bear are hard to hull.—Owner, San Francisco.

There are chances for several guesses at this proposition, and not much chance of hitting it right. Is the low spot low enough to be more frosty than the other places, where the trees bear better? Are the trees planted so that all the three varieties go down into the low place and all refuse to bear, or are the trees in the low place IXL, which is notably a fine looking tree and a shy bearer? Does the heavier soil below dry out more than the lighter soil, and thus make stick-tights of the nuts which do hold on, and possibly also give you weak fruit buds which are not fit to set nuts the next year? Does anyone else want to guess at it?

### Summer Pruning of Apricots.

To the Editor: Please tell me what you think of "summer pruning of apricot trees"; that is, pruning after the crop is harvested? Some farmers here summer prune, while others do not favor it.—Beginner, Kings County.

Summer pruning of apricots is a thoroughly rational practice and very widely followed, for bearing trees, the work being done soon after the fruit is gathered. Young trees are usually allowed to hold their foliage until late in the season and then pruned during the winter. Where the apricot does not make a very large wood growth, winter pruning is all that it requires, but this can best be done in the fall—considerably earlier than it was in the old time.



## Horticulture.

### FRUIT SELLING MEDICINE FOR GEORGIA.

In discussing the marketing question recently we remarked that Georgia was hoping to do as well with peaches as California is doing in distributing oranges. In a recent issue of the Market Growers' Journal Mr. J. H. Hale, a leading Georgia grower, has a few points which are suggestive even at this distance:

"Many a day when New York has been overloaded with 60 to 100 cars," says Mr. Hale, "market towns of 20,000 or more population each, to a total aggregate of over four million people, did not have a single car lot. Now, if these towns had been properly supplied from the surplus that went to New York, and that city had only from 30 to 50 cars a day, can anyone doubt that prices could have been maintained at a fair margin of profit to all."

"Dumping too many peaches in New York and a few other so-called large markets is the real cause of this year's low prices. Practically 5000 carloads of Georgia peaches have now been marketed; seven sets of people have been interested in placing this enormous quantity of fine fruit in the hands of the consuming public; five of them have been paid in full, one of them a little over one-half paid, and one practically nothing!"

Then Mr. Hale suggests as a solution, co-operation among the growers. "So-called distributing agents, working for what there is in it for themselves, will never do it; it must be a full and free combination of growers," he says; "broad-minded, capable and honest management, with no favorites of markets or growers, just equal distribution according to market's capacity of consumption and ability to pay, always protecting the f.o.b. buyer in his markets. This feature alone would bring the best buyers into Georgia, and they would take the pick of the orchards at good prices, if they could be sure their markets were not to be flooded with commission stock."

"It is up to the Georgia peach growers to co-operate in the marketing of their crop. They will be able to find many splendid examples in various sections of the country. Co-operation in the marketing of crops is the secret of success in fruit and vegetable growing on a large scale."

### GROWING THE HIMALAYA BLACKBERRY.

Mr. N. S. Trowbridge gives the Town and Country Journal his experience with the Himalaya blackberry, which will be interesting to those who have this rather surprising variety:

No proper comparison can be made between this berry and the Mammoth or other blackberries, as their mode of growth is different and their treatment should therefore be different. The Himalaya is a perennial, not an annual, like most berries of this character. The bearing wood will continue to bear for several years, and must be cut out at intervals and new stalks grown to bear afterward. The new sprouts do not come up from the ground like other blackberries, but start from one root, being branches just as much as the branches from a tree. And the roots will not throw up sprouts unless they are cut or broken by cultivation, etc. The fruit is also borne in a different manner from other vines. The bearing stalk, which is one or more years old, throws out the fruit laterals, which grow from sixteen inches to three or four feet long and bear immensely. Because of this long growth the sprouts or stalks must be trained high. The vine is a wonderful grower and immense bearer, and the roots should be set out in rows eight feet apart and twelve feet apart in the rows. This is supposing that the ground is good and well fertilized and cultivated and conditions right for this berry. I have found that much the best and easiest way to train them is to string two wires not less than three and one-half feet and five and one-half feet above the ground, with sufficient posts to properly support the vines, and allow but four stalks to grow from each root, training one on each wire half way to the next vine. This will give a continuous mass of berries the whole distance, and is about as much bearing wood as the roots should support.

Leave the laterals on the stalks say six to twelve inches long and you will simply marvel at the amount of fruit. Cut off all other sprouts and low laterals, so that no vine will touch the ground when bearing.

It is better to allow one or two new sprouts to grow each year, and these may then be used instead of smaller ones or of such as may die from any cause.

With me it is almost continual pruning of the new growth, for if I did not do so no one could get through between the rows. This is one berry that the growers are not enthusiastic enough about. It can hardly be praised too highly, and so far surpasses all other blackberries that I know anything about that I propose to dig up all others and replace with this. The Mammoth is in no one thing but size to be compared with the Himalaya.

It takes three years for the berry to come to its perfection, that is, the vines, and to be in full bearing. The thorns are hooked and very bad, and strict attention is needed, and at the right times, but no other berry that I have ever seen will so well repay the work put upon it as will this.

The flavor and quality is unsurpassed and it bears enormously and for a long time, beginning late and continuing until frost. If it is not picked one day it is good the next day, or the next, though possibly the very ripe berries, which are luscious to eat, are not such good shippers.

Some advertisers have stated that the vines may grow to sixteen feet in one season! I believe I could show a growth of fifty feet in one season if I should allow the vines to grow unrestricted.

## Citrus Fruits.

### TOO MUCH WATER IN THE ORCHARD.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

There are two results of using too much water in an orchard which are so wide apart that they are not always recognized. The overloading of a heavy soil with water and the puddling of clay with excessive water drives the air out of the soil and prevents its prompt re-aeration. The result of this is death or dormancy of the tree roots. The death of the roots results from decay, and it is not necessary to explain the effect on the tree. When the roots fail to act as feeders of the trunk and branches, the tree no longer thrives, but seems to sleep, which we call dormancy. It will not die while partly nourished by water, and perhaps food, from some roots which continue to absorb. The stored up food of the tree, even the very fibre of the tree, gives itself up to nourish vegetation as long as water is supplied. The leaf and even the wood shrinks, gets thin, as it were, and the tree simply exists, an emaciated invalid. This condition only exists if the soil drenching is periodical. If the flooding should continue long enough or permanently, the tree would die of rotten root.

The other noticeable result from over-watering is so different from that just described that it would seem to contradict it. When quantities of manure or other mulch, such as the hay of cover crops, are decomposed in the soil, about half the stuff is carbonic acid. As this gas has great affinity for water, the soil water becomes a rich carbonated water. This is one of the important values of such mulch manures, as the carbonic acid is a valuable agent for the disintegration of soil to a condition capable of being attacked by the feeding roots of plants. The natural and healthy way for the tree to obtain carbon is by way of the leaf, direct from the carbonic acid of the air. As the tree and its fruit is approximately half carbon, the importance of it as a builder of bulk is quite evident. The roots of the trees, like our stomachs and those of animals, will absorb solutions which are over-abundantly brought to them or soaked into them, which they would reject under normal conditions and separate from the more desirable food of the soil. If a large amount of carbonic acid as described is set free in the soil through the decomposition of organic matter, and the soil is well aerated, it will escape as gas into the air, to be healthfully used by the trees in their

breathing. If, on the contrary, the tree roots are soaked in rich carbonized water, an excess of carbon is introduced into the tree, and the result is often observed in overgrowth both of wood, leaf and fruit. From this arose the theory that stable manure made coarse fruit. Some ranchers have been wise enough to observe that a soil well mulched or loamed does not need so much water as when it was raw mineral, because it holds water better. But it is even of importance that no more water is given to the soil than will allow of free air circulation, and a testing of this point is a first principle of irrigation.

### THE VETCH AND THE PLOW.

A word to growers who may not have made a success of the mulch crop in orchards seems timely. The difference between the cost of stable manure and the material of the mulch crop is so greatly in favor of the latter that it is most desirable from the saving effected to use the mulch crop if possible. That the mulch crop properly handled will give superior results has been fully demonstrated. How to properly handle the mulch crop is then the important question. Presuming a mulch crop is on an orchard, it should be worked into the soil early, which means before the tree becomes active in the springtime, say, by the first of February. The ideal method is then to disk the crop into the surface soil by cutting it over both ways of the orchard. This operation should be repeated until the tops are thoroughly cut up and mulched into the soil. Three double diskings can be effected as cheaply as one plowing and a thorough cultivation and harrowing to get the soil in a proper condition. But another advantage is that the soil can be put in proper condition in a much shorter time by the disking method than by plowing, as it is not necessary to wait for the vetch hay to decompose to allow cultivation, as is necessary when it is plowed in. By the disking method moisture is promptly preserved, while the loss of moisture from plowing and not properly working down to a mulch is very considerable. If the grower is convinced that plowing is necessary to his soil, he had better leave mulch crops alone and provide his mulch with stable manure. If he is not prepared to handle the mulch crop in the manner best suited to it, he had better leave it out. Every soil worker learns some fact about the soil under his hand, or has environments which may qualify his methods of work, and he is wise to consider them fully before adopting a new method. In fact, we must recognize that the best method for each soil is the one which meets the actual conditions. All rules must be tempered with existing facts and local experience.—T. C. W.

## The Vineyard.

### GRAFTING OVER OLD VINIFERA VINEYARDS.

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

Many growers of wine grapes are wishing they had table grapes this year. A few years ago owners of Muscat vineyards wished they had Zinfandel. When Tokays bring low prices Malagas may bring high, and vice versa. In all these cases, and many others, there are always a certain number of grape growers who would like to change the variety of grape they are growing.

There are two ways of doing this. One is to dig up the old vines and plant new. The other is to graft over the old vines with the desired variety.

As a rule it is a mistake to follow either of these courses. If the price of one kind of grape is low now, by the time the change is made the new kind may have fallen in price and the old one be more profitable. In any case, there is considerable expense and loss of time and material, which only very considerable improvement in crop and price will compensate. There are, however, some cases where a change of this kind is advisable, and at all events there is always somebody ready to take the risk, and it is desirable to make this risk as small as possible by doing the thing properly.

**Two Kinds of Grafting.**—Most of the late pub-



lications on grafting vines refer to grafting of Vinifera varieties on American or phylloxera resistant stocks. This differs in several important respects from the grafting of one vinifera variety on another, which we are now considering, and methods suitable for one case would be defective for the other.

**Age of Vines.**—Vinifera vines may be grafted at any age, but there is seldom anything to be gained by grafting vines less than three or four years old. For younger vines it is usually cheaper and better to dig up and replant, if a change is necessary. Very old vines (12 years or over), if they are sound and straight below the soil, may be grafted successfully. Such grafted vines, however, are usually short-lived. The large wounds and the great amount of wood which decays often make unhealthy vines. In deep, loose, dry soil the stumps of such vines may be removed entirely and the grafts inserted in the roots. This requires great skill, however, and the percentage of failures is always large. Vines of from three to eight years are the most easily and successfully grafted.

**Choice of Scions.**—Preparations for grafting should be commenced early by choosing good healthy mother vines bearing good crops from which to take the cuttings to be used as scions.

As late grafting is usually the most successful, it is desirable to keep the scions dormant as long as possible. For this purpose the cuttings should be taken from the vines when their activities for the season have completely ceased and those of the next season have not commenced. Wait, therefore, until all the leaves have fallen off the mother vines for one or two weeks. Any time from this until a month before the swelling of the buds is suitable. Cuttings made from the middle of December to the end of January will be the best in most localities. The cuttings should be carefully selected and only good sound canes of medium size, with eyes neither too close nor too far apart, used.

**Conservation of Scions.**—A convenient length is to make the cuttings long enough for two scions, allowing two extra large eyes for waste. This length will be from 14 to 24 inches, according to variety and the length of scion used. The cuttings should be made up into small bundles of 50 to 100 and stored in a cool and moderately dry place. The best way is to put them in pits or trenches under an open shed, and cover them completely with slightly moist sand. Any shady place where there is no danger of too much moisture getting to the cutting may be used, such as under a dense tree, the north side of a building, a cellar, etc.

**Season for Grafting.**—The best time for grafting depends somewhat on the soil and the climate, but usually the latest grafts do the best, providing the scions are completely dormant and otherwise in good condition. If the buds of the scions have started and the bark become loose, many will fail.

In well drained, sandy soil the time for successful grafting extends from January to May in most localities, but March for the earlier and April for the later localities are usually the best months. In stiffer and wetter soils much greater care is necessary in choosing the time for grafting. The soil should be in such condition that it will pulverize easily, and the heavy rains should be over. Lumpy soil placed around the graft will cause many failures, and a heavy rain which leaves the soil water-logged around the union for several days may kill all of them.

It is best in all cases when possible to wait until the buds commence to swell on the vines to be grafted, and grafting may continue until the shoots are several inches long or longer.

**Preparation of the Stock.**—More grafts fail from an excess of moisture than from drying out. This moisture may be already in the soil, or due to rains after grafting, or it may simply be due to the sap which flows out of the cut stump. The amount of sap that will flow out of a vine two or more inches in diameter is very considerable, and quite sufficient in many cases to "drown" the graft. This can be avoided by cutting off the vines one or two days before grafting and leaving them exposed to the air, in order that the main flow of sap may dry up. This is good practice in all cases where the vines are over 1½ inches in diameter, except in very sandy soils, which will

take up the sap as quickly as it flows from the vine.

**Methods of Grafting.**—Many methods have been recommended and used for old vines, but the ordinary cleft graft is the easiest, and if done under proper conditions will give a practically perfect stand.

## The Field.

### A FARMERS' INSTITUTE IN THE SALINAS VALLEY.

To the Editor: Four miles west of Soledad, in the Salinas valley, is located Fort Romie Colony, conducted under Salvation Army auspices. Of this thriving settlement Capt. J. U. Romig, S. A., is manager. At present there are some 140 people in the colony. Located in the heart of the valley, within a mile of the old Soledad Mission, it has a very fertile soil, which, where water can be placed upon it, will yield a wonderful growth of all varieties of vegetables that can be grown in any portion of the State, as well as fruits and alfalfa.

The soil here is a rich, deep alluvial loam. Water for irrigating is procured from nearby streams and from wells. The Arroyo Seco, whose broad bed is dry and parched at this season of the year, but during the rainy season is filled to overflowing from the large watershed not far distant, is drawn upon, early in the year, for irrigating supplies. These late settlers are only following in the footsteps of the old Spanish padres who, at the outlay of much labor, over one hundred years ago conducted water for irrigation from the stream named to the Mission, a distance of 10 or 12 miles. As you wander over the well tilled fields of the colony you may, this day, trace the bed of this old ditch, the banks of which are, in many places, in good condition. Straight-away from the Mission to the Arroyo Seco, a distance of 12 miles, this irrigating ditch ran its course, conducting the large volumes of water that made possible the large crops of grain and vegetables those old-time Spanish gardeners raised.

Spanish padres and Indian workers have, after the passage of these long years, given way to a new order of things. The colonists that now farm these fertile acres are enterprising, energetic, progressive. The holdings are small, ranging from 10 to 20 acres. Alfalfa yields four and five crops annually, each being of from one and a half to two tons per acre. For the most part this is consumed on the farms, but much is hauled to surrounding towns, where it now sells for \$11 per ton. Dairies are flourishing. Vegetables of all kinds grow to a marvelous size. Sugar beets are here to be seen at their best. Large fields of potatoes yield from 60 to 100 sacks per acre.

Here it was that on September 15 the initial farmers' institute of the season, conducted under the auspices of the University of California, held its first session. Prof. W. T. Clarke, superintendent of university extension in agriculture, and Mr. R. E. Mansell, instructor in horticulture at the University, were the principal speakers. Subjects of especial interest to the colonies were upon the programme, the remarks of each speaker being fully appreciated.

These farmers' institutes, as they are annually held in the different counties of this State, are accomplishing a wonderful amount of good, and that the efforts of the University to disseminate useful knowledge, endeavoring to help the farmer to keep fully abreast of the times; abreast of the wonderful march of improvement that has for several years been making all over the country along agricultural lines, is appreciated by an ever increasing number of our agriculturists, is plainly evident as one notes the larger attendance year by year upon these gatherings and the demand for more of them.

History repeats itself, and what these institutes have accomplished in other States to the East where they have been in vogue for a longer time than here in California, and to a very remarkable degree in Canada, they are accomplishing here. No farmer, be he one who devotes his time and attention to general agriculture; or the specialist, whose line is dairying, fruit raising, or kindred lines, can afford to let pass the opportunity to

attend all the sessions of these institutes as they are held in his particular neighborhood.

One of the most interesting sessions at Fort Romie was the evening when Professor Clarke gave his very instructive and entertaining lecture upon "College Activities." This was, for a great part, the throwing upon the curtain of photographs illustrating campus scenes, University work, what has been accomplished on the State farm at Davis, and kindred lines of work, demonstrating to the farmer who probably has not the privilege of visiting the University grounds, the wonderful progress already made in assisting the agriculturists of the State to more fully develop their holdings.

The impression such illustrated lectures as the one mentioned makes upon the younger members of our farming communities, as their attention is directed to the grand possibilities for a larger education, the value of which cannot be fully appreciated, cannot fail to be deep and lasting. This is a most excellent feature of farmers' institute work, and may well be presented in every locality where lectures are given.

A strenuous effort was made by those having the colony institute in charge to have one or more of the young men of the community take advantage of the wonderful opportunity offered at the State farm this fall, when short courses will be given by practical, experienced and well equipped instructors in dairying, veterinary treatment, poultry raising, horticulture, and other branches of agriculture. Here is a most rare opportunity for young men and old who desire to increase their knowledge along any special line of agriculture at small cost. In somewhat isolated communities like Fort Romie, if the ambitious young man has not the money to pay for his transportation, and board while at the farm, it would be a splendid investment for neighbors to club together and raise a fund for helping a would-be candidate.

The dissemination of agricultural knowledge along all lines appertaining to the calling, in our progressive State, in whatever form, cannot be too highly commended. These institutes, held under University auspices, conducted by the very practical and efficient superintendent of University extension in agriculture, are accomplishing an untold amount of good, and their influence upon the farming communities of our State will be felt for years to come.

A. WARREN ROBINSON.

Twin Lakes, September 21.

## Forestry.

### EXPERIMENT STATIONS IN NATIONAL FORESTS.

To the Editor: Forest experiment stations will soon be established in a number of the National Forest States of the West, according to plans which have just been completed by the United States Forest Service. These new stations are expected to do the same for the development of American forests as agricultural experiment stations have done for the improvement of the country's farms.

As a first step in this work an experiment station has already been established on the Coconino National Forest in the Southwest, with headquarters at Flagstaff, Arizona. Sections in other National Forests will be established later, and it is the intention ultimately to have at least one experiment station in each of the silviculture regions of the West.

One of the most important parts of the work of the new experiment stations will be the maintenance of model forests typical of the region. These areas will furnish the most valuable and instructive object lessons for the public in general, for professional foresters, lumbermen, and owners of forest land, and especially to the technical and administrative officers of the National Forests.

In the recently established station on the Coconino National Forest one of the first problems to be taken up will be the study of the reproduction of western yellow pine and the causes of its success and failure. A solution of this problem of how to obtain satisfactory reproduction of the



yellow pine is of the greatest practical importance to the Southwest, since the yellow pine, which is by far the most valuable tree there, is in many cases not forming a satisfactory second growth. The study will be carried on largely by means of sample plots, which will be laid out for future observation to determine the effects of grazing, of the different methods of cutting and disposing of the brush, and of other factors on the success of reproduction.

Other studies which will be taken up soon are a study of the light requirements of different species at different altitudes, and the construction of a scale of tolerance which will be based on the actual measurements of the light intensity, and not only, as has hitherto been the case, on general observations alone; the taking of meteorological observations to determine the effect of the forest upon temperature, humidity, melting of snow, wind velocity, etc.; a study of the relative value of the germinating power of seeds from trees of different sizes, ages, and degrees of health; and similar studies of value to the region. A complete collection of the flora of the forest will be made to form a herbarium, which will be kept on the forest and will be available for reference at any time.

These stations will carry on scientific experiments and studies which will lead to a full and exact knowledge of American silviculture, and the indirect benefits of the forests, and will deal particularly with those problems of particular importance to the regions in which they are located.

While work of this character is new in this country, it is not without precedent abroad. The value of the systematic organization of forest research work was officially recognized in Germany in 1870, when the first forest experiment station was established in Baden, in connection with the Polytechnikum at Karlsruhe. Half a dozen of the German States followed the example, instituting main experiment stations in connection with forest schools, and branches in various forest districts. The work done is intensely scientific, and the policy of forest experiment stations is steadily growing in favor.

In India, where after half a century of administration the status of the forest is hardly better than in the United States at present, the work of research has been almost wholly neglected, and the result is apparent in the poor progress of technical forestry. Very lately, however, the need has been recognized by the Government, and an Imperial Forest Research Institute and College has been created at Dehra Dun, with a faculty chosen from the Imperial Forest Service.

In the United States considerable research work has already been done in connection with forest problems, but the chief trouble so far has been the lack of persistence and permanence which has characterized the work, and failure frequently to consider all the factors which are involved. The new system provides for the permanent assignment in a given region of specially trained men who will have an opportunity to become thoroughly familiar with their region.

The work will be not only scientific in character, but will also be extremely practical, and will aim in every case to solve problems of most importance to the lumberman, the forester, and the people as a whole. Valuable results will undoubtedly be obtained in this way which were not possible under the old system of general observations.

## Cereal Crops.

### PREPARATION OF LAND FOR GRAIN.

(Concluded From Page 198 of Last Issue.)

When wheat follows wheat or some other grain crop a suitable seed bed may be prepared by early plowing. In the winter wheat States the plowing should be done as soon after harvest as possible, and the fields should be cultivated with a harrow or disk at intervals until seeding time in order to firm the soil, conserve the soil moisture and destroy the weeds. In the spring wheat States summer plowing may not be so essential, but usually early fall plowing may be recommended, although on the heavy lands of the Red River valley, which are apt to run together and become too compact in a wet spring, late fall plowing may

give better results than early fall plowing. Even early spring plowing has sometimes given better results than fall plowing on the land in question, as shown by the experiments of the North Dakota Experiment Station.

When the plowing is done just previous to sowing it is well to follow the plow with the subsurface packer and harrow in order to pulverize and pack the soil at the bottom of the furrow and leave a mellow, even surface. This packing and pulverizing of the furrow slice is especially necessary when the soil is plowed dry or when stubble, trash or manure are plowed under, because if the furrow slice is left loose and unpulverized, the capillary connection of the soil with the subsoil is largely broken off and the soil water will not rise into the surface soil to supply the germinating seed and feed the roots of the young plants, hence the seed fails to germinate well or the plant is often stunted in growth, and in such a seed bed the crop is apt to "freeze out" or "burn out." Because of these results it is not safe to plow under coarse manure or a heavy growth of weeds or stubble in preparing a seed bed for wheat or other small grains or grasses. If the soil is in good physical condition, not too dry or too wet, an ideal seed bed can be prepared by plowing immediately before seeding, provided the soil is re-packed and well pulverized as described above, but this is often a more expensive method than the disking or early plowing methods described above.

It is also often a good plan to disk the ground previous to plowing. If plowed at once the loose surface is in better shape to more readily connect and reunite with the subsoil when the furrow slice is inverted, and if the plowing is delayed the ground will remain in good condition for plowing for a much longer period during dry weather than land which has received no cultivation. It is often possible, when the land has become too dry to plow, by establishing a soil mulch with the disk harrow and retaining the water in the soil, to so improve the moisture condition of the surface soil as to bring it again into good plowing condition, and it may even be advisable to practice early disking rather than early plowing where both can not be accomplished. The surface mulch of soil produced by disking not only retains the water in the soil, but offers a favorable surface to absorb the rains.

**A New Method.**—A new method for preparing the seed bed for wheat is now coming into general practice in western Kansas. The plan is to list the ground with an ordinary corn lister as soon after harvest as possible. The lister furrows are run about three to three and one-half feet apart, very much the same as when the lister is used for planting corn. Later, when the weeds have started, the soil is worked back into the lister furrows by means of a disk harrow or disk sled. The disk sled has just recently begun to be used for this purpose, and is considered preferable to the disk harrow. This sled has been constructed with extra large disks, especially for this purpose, but may be used also for cultivating corn. These sleds are made either for one or two rows.

Several cultivations are usually required by the disk harrow in order to bring the field to good seed bed condition. Once over with the disk sled is usually considered sufficient, the further work necessary to prepare the seed bed being given with the common harrow or other cultivating implement.

In a dry climate this method of preparing the seed bed has several advantages, as follows:

The cultivation of the land soon after harvest tends to conserve the moisture already stored in the soil.

The furrowed land is in good condition to catch and store the rain, and the later cultivation clears the lands of weeds and leaves a mellow soil mulch to conserve the moisture already stored in the subsoil.

The early and continued cultivation of the soil favors the action of the bacteria and the development of available plant food.

By several cultivations with the common harrow after the furrows have been worked with the disk sled, the soil may be well pulverized and firmed and put in good seed bed condition. In fact, as will be observed, the larger part of the seed bed area has not been loosened deeply, and even with little or no rain to firm the seed bed the subsurface soil remains firm and the seed bed is in ideal condition to start the wheat.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.   |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.   |
| 4 The Wild Fruits of California.                         | 23 The Quince.   |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                            |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                             |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                            |
| 8 The Nursery.   | 27 The Date.   |
| 9 Budding and Grafting.                                  | 28 The Fig.  |
| 10 Preparation for Planting.                             | 29 The Olive.  |
| 11 Planting Trees and Vines.                             | 30 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc. Persimmon, Pineapple, Avocado, etc. |
| 13 Cultivation.  | 32 The Banana, Loquat.                                       |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                     |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                    |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                  |
| 17 The Apricot.  | 36 Injurious Insects.  |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                              |
| 19 The Peach.  | 38 Injurious Animals and Birds.                              |
|  | 39 Protection from Winds and Frosts.                         |
|  | 40 Utilization of Fruit Wastes.                              |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for November Delivery.

**The Pacific Rural Press**

PUBLISHER

667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The wine grape growers of Santa Cruz county effected an association last Saturday.

The Cloverdale grape growers are securing \$12 and better for their wine grapes this season.

The grape shipments from the State are about 250 cars short this season over the same date last year.

The fruit drying is now finished in the Napa district, and the season generally has been quite successful.

Many cars of wine grapes are being shipped from the northern part of Yolo county to San Francisco wineries.

The crop of table grapes is reported as being unusually fine around Yuba City, and the growers are getting fair prices.

Prune trees in the vicinity of Yuba City are blossoming now, which the growers fear may injure the crop next season.

Southern California grape growers were hit hard by the hail and rain storm which passed over that section last week.

The fruit growers of Chico are working over the problem of marketing, and are taking steps to organize a selling association.

The old Walden winery at Geyserville has been leased by a company that states that it will crush about 1500 tons of grapes this season.

The packing of the apple crop in Sonoma county, about Analy, is over. The yield of Spitzenbergs was twice as great as was expected.

According to the Hanford Sentinel, the rain which visited that section last week damaged the raisin crop in that vicinity to the extent of \$100,000.

One of the largest shipments of apples ever exported from California, amounting to 18,000 boxes, is now on the way to Sydney, New South Wales.

The crop of wine grapes in the Cucamonga district this season is estimated at between 2500 and 3000 tons. Growers are getting from \$6 to \$8 per ton.

The apple crop grown near Hesperia, in San Bernardino county, was badly damaged by the rain, hail and snow storm which visited that section last week.

About 40% of this year's prune crop about San Jose has been contracted for. This year's crop is about one-fifth of a fair yield, the total being about 20,000,000 pounds.

The fruit growers met at Chico last week, and 32 of them, representing 500 tons of dried fruit, signed an agreement not to sell their product for less than a minimum price of 5 cents per pound.

Andrea Sbarboro, the head of the Grape Growers' Association of California, is on his way home to Rome, Italy, to attend the first colonial congress, which is to begin on October 18. He will learn all he can of Italian methods of grape culture while there.

Charles Charvet of Thermalito, who claims that his chestnut trees are the most profitable of any of the nut variety, gets from 15 to 20 cents per pound for his crop, and says the trees commence bearing at the end of the third year. One tree last year produced a crop that sold for \$20.

According to the Sanger Herald, the cool weather has kept the grapes and dried fruit from curing as fast as usual. Grapes have been ripening slowly, and in some vineyards the picking commenced last week. Peaches are all in the sweat-box, and growers are being offered about 4 cents dried.

A special train of Pullman sleepers and

diners left San Francisco September 24, containing members of the California Fruit Growers' Exchange on their way to Kansas City to attend the Fruit Growers' Convention, held there this week. The party was made up of delegates from more than thirty different sections of the State.

The Pacific Fruit Express Co. will commence at once the erection of the biggest pre-cooling ice plant in the world at Colton. The building is to be of reinforced concrete, and will cost nearly \$300,000, and the machinery is to cost \$200,000 more. The plant will have a capacity of 250 tons of ice per day, and be able to cool 120 cars of fruit daily from an average of 75 degrees down to 36 degrees.

### AGRICULTURE.

The bean crop along the river in Yolo county will be light this season.

One crew of hay balers has baled 4300 tons of hay near Salinas this season.

Th Alameda Sugar Co. has announced that it will pay \$5 a ton for beets next year. This year the price was \$4.50 per ton.

An agricultural canvass of the county of Fresno is being made, for publication in pamphlet form by the State Agricultural Society.

The storm at Visalia last week damaged a lot of hay in the fields, but the raisin growers had their fruit well stacked and it was not injured.

The bean harvest in Ventura county is about completed, and 20 thrashing machines are now at work. The crop will make a good average.

Fifteen acres of tobacco grown as an experiment by L. M. Gilliam near Exeter, has proved to be a good crop, and experts pronounce the quality excellent.

During the month of September there was shipped from Portland more wheat than in any former month in its history. The shipments amounted to nearly 1,500,000 bushels.

The Braslan Seed Growing Co. has secured a lease on 800 acres of land near Palo Alto and will put the ground in shape this winter for raising seed there next summer.

Practically all the grain and hay grown in the Pleasanton section is now in warehouse. The crop of barley and oats amounts to about 60,000 sacks, and hay nearly 11,000 tons.

According to the Sacramento Bee, 3500 acres of land will be planted to flax in Colusa county by local farmers. Also that a California firm has about completed contracts for the planting of something like 30,000 acres of flax in that section.

L. Charles of Angiola, who has a 600-acre alfalfa ranch near Tulare lake, is thrashing alfalfa and getting about 170 pounds of seed per acre. This seed is worth 15 cents per pound, making \$22.50 per acre, which, with the hay cut, makes a valuable crop.

California will harvest about 25 per cent more than the usual crop of potatoes this year, according to reports sent to the Chicago Packer. The Eastern States, outside the Aroostook section, in Maine, will have a shortage of about 25 per cent. The crop in Colorado and Utah will be about average.

The Morse Seed Co. reports a very good season in seed growing. Already large shipments have been made from their seed farms near Gilroy, some going to different places in the East, and many thousands of pounds being shipped to England, Australia and other foreign countries.

The U. S. Government wants to secure 10,000 tons of double-compressed hay for shipment to the Philippines. San Francisco hay dealers are scouring the coun-

try to secure the supply. As the hay market is already strong, this order may tend to still further strengthen it. As Seattle is in the market to fill this order, the local firms are hustling.

### LIVE STOCK.

The Marysville wool scouring plant is to reopen at once. Already over 400 bales of wool are on hand to be cleaned.

The Santa Clara Poultry and Pet Stock Association will hold its annual exhibition at San Jose from November 9 to 14.

Miller & Lux have recently bought 3000 head of cattle in Lassen county and are now transferring them to their winter pastures in the south.

At a recent meeting of the Santa Barbara Poultry Association it was practically decided to hold the second annual exhibition at that place December 28 to 31.

The Lemoore creamery is turning out its regular amount of butter daily, though the concern is in bad shape financially. It is hoped that the ownership will pass to stronger hands.

The sheep belonging to the Stanford ranch are arriving from the mountain ranges, where they have been for the summer, to the winter pasturage near Vina, and are reported in better condition than usual.

The cattlemen of Lyonsville, in the northern part of the State, representing about 1000 head, are considering shipping their stock to Portland and receiving from 3½ to 4 cents gross. The prevailing prices of 4½ to 5 cents net weight do not suit them.

Secretary J. A. Filcher of the State Agricultural Society is advocating the consolidation of the offices of the State Veterinary and of the State Horticulturist with that of the Agricultural Society, to the end that better service can be rendered in this State.

A good many cars of cattle and sheep have been shipped from points in the Sacramento valley to San Francisco the past week. It is stated that a shortage of butcher stock existed in the city and that buyers were out scouring the country to fill orders.

### MISCELLANEOUS.

The new grape juice plant at Lodi is now running to its full capacity.

Santa Barbara has a scheme on foot to line the streets of that city with shade trees.

The cannery at Marysville has closed for the season, after having packed 70,000 cases of fruit this year.

Under the direction of the Ladies' California Silk Club, three acres of mulberry trees are being planted at Rutherford, Napa county.

The State Fish and Game Commission are arranging for a State farm for fish and game. A site has been offered in Ventura county.

The Waters cannery, at Pomona, closed for the season last week. During the season 25 cars of apricots and 75 cars of peaches were put up.

Two carloads of canned fruit were shipped from Yuba City last week to Europe. Several cars have been sent this season to foreign countries.

The California Fruit Growers' Association last week bought up the tomato crops of about 50 farms, comprising about 500 acres, near Haywards.

Thomas C. Allen of Santa Barbara, has taken 23,000 sugar gum eucalyptus trees to Riverside and will plant them on land he owns near that place.

The State Board of Health in a recent ruling orders a war of extermination of the ground squirrel, claiming that the plague is carried by these rodents.

The cannery at Yuba City has about

cleaned up for this season's run. The pack this year will exceed that of any former one by about ninety per cent.

The Riverside Trust Co. has purchased 60,000 eucalyptus trees with which to plant 100 acres in the Santa Ana river bottom near San Bernardino this fall.

The Porterville Timber Co. is a new organization going into eucalyptus tree planting on a large scale. They have secured a tract of 137 acres of land near Poplar.

The new order issued by the Government gives California merchants a chance to figure on furnishing supplies for the 20,000 Government employees on the Isthmus of Panama.

A meeting of representatives from all the wine growing districts in this country was held at New York last week. A great surplus of wine is reported as being held, with poor demand.

The county fairs held at Modesto and Tulare last week were each a pronounced success, and the one being held at Fresno this week has also been a red-letter event. Next week Kings county holds a fair at Hanford.

One of the largest pumps in the northern part of the State is being put in place to pump the water from Reclamation District No. 70, near Yuba City. The pump is a 30-inch one, and will be driven by a 150-horsepower gasoline engine.

The Southern California Mountain Water Co. is preparing to plant 100,000 eucalyptus trees on 140 acres of land near the lower Otay reservoir, in San Diego county. The trees planted will be of the sugar variety, being especially adapted for railroad ties.

R. S. Woglum, special agent of the U. S. Bureau of Entomology, at Los Angeles, believes he has found a remedy for the Argentine ant. A solution of cyanide of potassium—an ounce to a gallon of water—sprayed about will destroy the ants. The solution must be used with care, as it is poisonous.

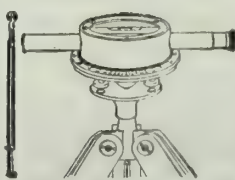
Four thousand acres near Escondido have recently been acquired by San Francisco parties, and it is understood that a large part of the tract is to be planted to eucalyptus trees. Four hundred thousand trees have already been ordered from the Oceanside nursery, principally of the blue and sugar gum variety.

### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

EXPERIENCED orchard manager wants permanent position. Advertiser a married man, aged 33; strong, energetic, reliable. Well up in all branches of his business, and general farming, capable of taking entire charge of large property. References. Address D. F. P., care Pacific Rural Press.

## BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

**Palace Hardware Co.,**

581 Market St., San Francisco

Coast Agents.

Send for Circular.

FOR SALE: farms located every where, send for free bulletin. W. H. Burke, Clifton Springs, N. Y.



## HANDLING FRUIT ON SPRING WAGONS.

The Fowler, Fresno county, Ensign recently had an interview with T. L. Marshall, local representative of Hunt Bros., whose offices are in San Jose and who operate a large cannery at Los Gatos. This concern is receiving peaches at the Fowler Nursery Co. scales, as is also the California Fruit Canners' Association for their Fresno cannery. Together with the Griffin-Skelly Co., which is receiving peaches for its cannery at Fresno through the Phoenix packing house, these concerns represent all the buyers in the Fowler field this year. Our interview with Mr. Marshall brought out the statement from that gentleman that a great many other canning concerns would come here to compete for our product if the growers here would exercise greater care in handling their fruit. In this connection Mr. Marshall wished to forcibly impress upon our people the importance of using springs on their wagons, as is done in the Santa Clara valley. A set of 2 1/4-ton springs, said Mr. Marshall, costs but \$17.50, and it must be a small crop indeed which will not warrant this expenditure. With these springs on the wagons the fruit is hauled to the cars in much better condition, and will stand shipment a greater distance, and this certainly means better prices for the grower, because it will beget greater competition in buying.

It may be a matter of surprise to some

that buyers would come here from the extreme southern end of the State, from San Jose and Los Gatos for canning peaches, but Mr. Marshall, speaking of his own concern, says it is the superior quality of our peaches that brings them here. In illustrating the importance of careful handling of fruit Mr. Marshall cites the case of Robert Kimball, president of the Kimball Estate Co., owning the large peach orchard south of Sanger. Mr. Kimball last year received \$80 per ton for 240 tons of peaches, being \$10 more than was paid to any of his neighbors, the purchaser being the Golden Gate Cannery of San Jose. This was due to care in handling the crop, which was hauled in wagons with springs.

## Patrons of Husbandry.

### TULARE GRANGE MEETING.

To the Editor: Tulare Grange convened in regular session on Saturday, September 19. The attendance was fairly representative, but owing to several of the more active members being absent, preparing a Grange exhibit for the Tulare County Fair, opening next week, and some being still away on their summer vacation, the attendance was not up to the average.

After formal opening the Worthy Master declared the meeting an open one, and visitors were invited. Among the visitors were the Hon. Mr. and Mrs. S. C. Smith from Bakersfield. Mr. Smith is our representative from this district to congress and Republican nominee from same office to succeed himself.

TAXATION.—A circular letter from W.

V. Griffith, Worthy Master of the California State Grange, was read, addressed to all subordinate lodges, advocating the adoption of the new system of revenue laws for California, and of Senate Constitutional Amendment No. 1. The Worthy Master urged the adoption of Senate Constitutional Amendment No. 1, as it will insure a more equitable distribution of taxes than the present revenue laws of this State can do. The United States census report shows conclusively that country realty, in proportion to its value

## SEEDS PLANTS TREES BULBS

We are  
Head-  
Quarters  
for


## GARDEN and FIELD SEEDS

Send for our Fall Catalogue.

Those sending their names now will also receive our handsome new 1909 GENERAL CATALOGUE in DECEMBER.

## C. C. MORSE & CO.

44 JACKSON STREET, SAN FRANCISCO, CAL.



### GOOD TREES AND BIG PROFITS

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

The San Dimas Citrus Nurseries  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

## Berry Plants.

Hopkins Improved Strawberry Plants in all standard varieties. We still have one year old plants of the Brandywines, A-1 and Lady Thompson; also one year old plants of the Himalaya Blackberry and California Surprise Raspberry. Catalog soon ready.

G. H. Hopkins & Son,  
Burbank, Cal.

## Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

## CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.  
Walnuts grafted on Black Walnut Root.  
Small Fruits, Shrubs, Plants, Roses, Palms, etc.  
CATALOGUES FREE.

## CHICO NURSERY COMPANY

Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000  
Now is good time to plant. Pedigreed Stock.  
500 Valencia, one year, extra fine, \$60 per 100.  
J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## SEED GRAIN BLACK and RED OATS,

WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.  
BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1865. Correspondence invited.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnocks Remedy cures blight and all the tree diseases. Send for booklet.

GOLDEN RULE NURSERIES  
Loomis, Cal.

AGENTS WANTED.

## Blake, Moffitt & Towne

Dealers in PAPER 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

# TREES

SEASON 1908-9.

## ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

Paid-up Capital \$200,000.00  
**FANCHER CREEK NURSERIES**  
INC.  
Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

# PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

Contract now the trees and vines you will want for next season's planting.

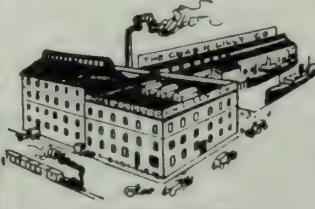
WRITE US

**SILVA & BERGTHOLDT COMPANY**  
Newcastle, Cal.

## SOW GOOD SEEDS

Largest Seed House in the West

# LILLY'S BEST



Established 1885

Send Now  
For Free  
Catalog

# SEEDS

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE AND PORTLAND



or to its earnings, is assessed, for taxation purposes, much higher than is city realty, and country personality for same purpose is assessed higher and more searchingly, several times, than is city personality. The commission to revise the revenue laws shows conclusively in its report that the taxes paid by farmers is equivalent to an income tax of 10%, while the manufacturers will, on their income, pay only 2%. Persons engaged in agriculture, with an average yearly income of \$500, pay \$50 per capita per annum in taxes. Persons engaged in manufacturing, with an average annual income of \$870, pay \$17.50 per capita per annum.

It seems almost incredible that a civilized community, and I think we have in this State a civilized community, would so long tolerate such a grossly discriminating system of taxation. Its further continuance will be a shame and a blot to equity and to equality in taxation. However, the remedy is, without question, in the hands of the farmers themselves. If they will be just to themselves they will, at the election in November, vote for Senate Constitutional Amendment No. 1, and not only vote for it, but they will get every friend of theirs and of justice and equity in taxation to vote for it. Farmers, do your duty to yourselves.

**INSURANCE.**—Worthy Master Griffith sent in a circular communication on a bill which will be before the State Grange at its next session for consideration, providing that fraternal orders may insure their members against loss by fire. Fraternal orders are now, by the laws of the State, empowered, without supervision or approval of the Insurance Commissioner, to insure the lives of their members. Everything that can be said in favor of fraternal life insurance can be said for fraternal fire insurance, and more. There can be no loss in a fraternal fire insurance; every piece of property insured is a guarantee for payment of its pro rata of a loss, whatever may be the risk in a life insurance as to payment of loss. Then again, a thoughtful study of the subject will lead to the conclusion that it should be a leading incident in the work of a fraternal order, like the Patrons of Husbandry. It will add to the desirability of the order.

A thoughtful editorial in the PACIFIC RURAL PRESS of the 19th, the day of our meeting, shows too clearly both the importance and the necessity for co-operation among farmers. The writer deplors this lack of co-operation among farmers. He states clearly the obstacles in the way of farmers' co-operation; has himself no recommendation to promote it, but asks for suggestions. The writer of this Grange report has no suggestion to offer to him, but it is his firm conviction that if co-operation among the farmers of our country ever becomes a reality, it must be, it will be, by means of a great National, State, and subordinate organization, such as the Patrons of Husbandry. Patrons of Husbandry of California, think of this.

Brother and Sister Watts were elected alternates to the State Grange, but Brother and Sister Lawson, the Worthy Master and wife, intend to be there.

On Tuesday the 23d, at 10 a. m. in the Grange Hall, representatives from Tulare, Dinuba and Orosi Granges will meet to arrange for a Tulare County Pomona Grange.

The Grange adjourned to attend a meeting at Linder's Park, to listen to the Hon. S. C. Smith, who made an interesting address of an hour and a half. J. T.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide  
French Merino Sheep.

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

**RAMS FOR SALE AT ALL TIMES**  
P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.

## Live Stock and Dairy.

### HORSE VS. AUTOMOBILE.

To the Editor: I read in your September 19 number an editorial lauding the automobile as a farm wagon to haul cream. I think you are a little off on that: an agricultural paper trying to kill off the kindest, most useful animal we ever had or will have. I don't think it sounds well to praise up the automobile in a farmer's paper.

My objections are:

First. The cost. A farmer cannot buy one that would be of any use for less than \$1500 to \$2000. The interest on that amount at 6% would be \$120 for one year. The depreciation would be 50%, or \$1000.

Second. You would have to have a chuffeur, as no ordinary ranch hand could be trusted to run it. The machinery is very complicated and needs the best attention.

Third. The oil is a big item, and we would have to buy it from the Standard Oil Co., as we could not raise it ourselves. The farmer can raise his colts and occasionally sell a pair at a profit, besides getting the use of them while growing.

Then, you say they can go on any kind of a road. You do not know anything about their capacity, or you would not say so. If you had seen as many stuck in the mud and balked at a hill, as I have you would be wiser. They are everlastingly getting out of repair and leaving you in the road, to be towed into the garage. You cannot put anything into one. If you want to get anything, you have to hitch up the old horse and wagon. They are all right for those who have plenty of money and time.

I hope you will not try to get us hay seeds into more trouble by urging the use of the auto. We want something we can raise ourselves, and also the feed that keeps it going. Like the bicycle, they are a fad, and, like many another, will go out. I see many of our horse breeders riding in autos and urging the people to buy their horses. Consistency, thou art a jewel!

As a farmer's friend, I hope you will not favor the auto as against the good old servant, the horse. On the grounds of economy the auto is not in it. It is a road destroyer and a menace to people who drive. It is getting hazardous to drive on the highway. Boards of supervisors are giving away our roads to electric cars and autos. JAMES MILLAR.

Dixon, California.

### PURE BRED SHEEP ON NATIONAL FOREST RANGES.

Many sheep breeders, especially those of the East, will be surprised to learn that pure bred registered sheep may be raised and run on the open ranges of the West in large bands without any diminution in the grade or quality of the product as compared to the parent dams and sires with which the flocks were started. The first requisite, however, is that an entirely satisfactory range, protected from the intrusion of other flocks, and upon which there is certain to be the necessary forage, water, etc., must be assured. At the present time this condition exists only upon private lands and within the National Forests of the West which are under the administration of the Forest Service.

A noteworthy example of what can be accomplished in breeding high-grade sheep on properly controlled open range is that of Allen Bros., who graze about 3000 head of registered Cotswold sheep within the Uinta National Forest in the State of Utah. These bands are the in-



# ONE MILLION IN USE

# DE LAVAL

## CREAM

# SEPARATORS

## First—Always Best—Cheapest

# The World's Standard

Ten years ahead of all others in every feature of separator practicability

**BEAUTIFUL IN DESIGN  
PERFECT IN CONSTRUCTION  
EVERLASTING IN DAILY USE**

Send for handsome new catalogue illustrating and describing the new and improved machines in detail, to be had for the asking.

## DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

**General Offices:**  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1016 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

**PACIFIC OIL & LEAD WORKS, - - SAN FRANCISCO, CAL.**  
**PORTLAND LINSEED OIL WORKS, - - PORTLAND, ORE.**

crease of about 200 head of prize winning stock from the Royal Stock Show in England and the International Show at Chicago, purchased and imported to Utah by Allen Bros., since 1892. They have been grazed within the Uinta National Forest since 1903, upon ranges which are practically ideal for sheep grazing purposes, being well watered, grassed, and shaded, and protected from the grazing of other sheep. Careful breeding is developing a pure bred type of Cotswold entirely adapted to Western range conditions, yet equal to anything raised under fences in the Eastern United States or in European countries.

This is a simple case that demonstrates what range control within the National Forests is enabling the stockmen of the West to do. There are quicker and greater returns to be secured from the raising of high grade stock than from inferior, mongrel breeds, but in many sections stockmen have hesitated to invest in registered sires and dams because of the uncertainty of securing ranges upon which feed and water are absolutely assured, and without which such ventures would not be so remunerative or so successful as the running of inferior grades of stock better adapted to the severe range conditions that are commonly encountered because of over-stocking and lack of control.

On National Forest ranges the number

of stock allowed is only what the range is sufficient to sustain under all conditions, and a stockman who secures a permit to graze stock on these ranges may embark upon the business of raising high grade cattle and sheep with every reasonable assurance of success.

### HOW TO HANDLE SICK STOCK.

By Dr. DAVID ROBERTS, Wisconsin State Veterinarian.

Place the sick animal in a well disinfected and dry box stall, with plenty of bedding and sunlight (avoid drafts). In cold weather place a blanket on the animal, feed sparingly with digestible food, such as bran mashes made of linseed tea; keep manger sweet and clean. Water

## Free Veterinary Book

Be your own horse doctor. Book enables you to cure all the common ailments, curb, splint, spavin, lameness, etc. Prepared by the makers of

# Tuttle's

# Elixir

The world's greatest horse remedy. \$100 reward for failure to cure above diseases where cure is possible. Write for the book. Postage 2c.  
**TUTTLE'S ELIXIR CO., 33 Beverly St., Boston, Mass.**  
Los Angeles, W. A. Shaw, Mgr., 1921 New England Ave.  
Beware of all blisters; only temporary relief, if any.

Coffin, Redington Co., 625 Third St., San Francisco, Cal.



## Try the "Feel" of the Handle of a SHARPLES TUBULAR SEPARATOR

Turn it a few minutes.  
Then try the handle of another  
separator.

Less weight,  
fewer parts,  
one bearing—  
a ball bearing  
—and suspended  
bowl in the  
Tubular.

More weight,  
more parts,  
more than one  
bearing, a top-  
heavy, supported bowl in other  
separators.

Of course the "feel" is different  
—as different as the separators.

And the grip of your hand on  
the handle is a good guide to a  
fair judgment of the difference  
between the Tubular and "bucket  
bowls."

Our Catalogue No. 131 tells the sci-  
entific and mechanical reasons how  
the Tubular is different and why it is  
better than other separators—better  
in clean skimming, easier running,  
less repair bills, more economical  
oilings. Free for the asking. Write  
today for it.

**THE SHARPLES SEPARATOR CO.,**  
West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.



should be pure and clean, and warmed  
when necessary.

It is always necessary for new milch  
cows to be given warm water. An injec-  
tion of warm water (per rectum) should  
be given all sick animals, excepting those  
afflicted with looseness of the bowels.

ALL BARREN COWS AND HEIFERS CAN BE  
MADE TO BREED.—This can be done with  
little trouble and expense if given proper  
attention. Many a valuable cow and heifer  
has been sacrificed or disposed of for the  
reason that she was not made to breed.  
This may have been due to a lack of  
proper knowledge along this line.

It is very important that a cow, in or-  
der to conceive, be in reasonably healthy  
condition. The genital organs should be  
in a condition to perform their functional  
duties as Nature would have them. A  
lack of secretion or an excess of secretion  
renders conception difficult. A lack of  
ambition or vigor, or an over amount of  
either is an unnatural condition of the  
genital organs.

A cow before breeding should be care-  
fully noticed to make sure that there is  
no unnatural discharge from the vulva.  
An unnatural discharge would be a dis-  
charge of mucous that has every appear-  
ance of the white of an egg, and at the  
period of heat usually contains a little  
blood.

The following figures have been com-  
piled by the railway companies as their  
estimate of the tonnage of California pro-  
duce to be sent to points east of the  
Rocky Mountains during the year 1908.  
The value of the shipments is estimated  
at over \$100,000,000. Here is the list:  
Beans, 100,000,000 pounds; apricots, dried,  
40,000,000 pounds; peaches, dried, 50,000-  
000 pounds; prunes, dried, 70,000,000  
pounds; pears, dried, 20,000,000 pounds;  
figs, dried, 20,000,000 pounds; raisins,  
130,000,000 pounds; honey, 3,000,000  
pounds; almonds, 7,000,000 pounds; wal-  
nuts, 15,000,000 pounds; apricot kernels,  
4,000,000 pounds; vegetables, 110,000,000  
pounds; asphaltum, 120,000,000 pounds;  
wool, 11,000,000 pounds; beet sugar,  
117,000,000 pounds; cane sugar, 240-  
000,000 pounds; apples, 4000 carloads;  
lumber, 6000 carloads; citrus fruits, 31,000  
carloads; deciduous fruits, 8500 carloads;  
canned goods, 4,500,000 cases; hops, 75,000  
bales; wine, 40,000,000 gallons.

## Apiculture.

### FOUL BROOD LEGISLATION.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

Bees are in no way an exception to the  
common lot of life. They have their own  
peculiar diseases and struggles for exist-  
ence against their enemies. One of the  
most contagious and destructive diseases  
common to bees is that known as "foul  
brood." In years past the cause of this  
disorder occasioning the death and de-  
cay of the brood of bees, as the name im-  
plies, was not known. In 1885 Mr.  
Frank Cheshire, lecturer on apiculture at  
South Kensington, London, concluded the  
first really resultful investigation of this  
malady with the finding that foul brood  
was a specific bacteriological disease,  
caused by the germ *Bacillus alvei* (Che-  
shire).

The inroads of this disease has attract-  
ed considerable attention at different  
times among practical beekeepers, and  
occasioned some legislation looking to-  
ward its control and possible eradication.  
The first law in America looking toward  
its suppression was passed by the Michi-  
gan legislature in 1881, and was closely  
followed by California with a law in 1883,  
and Nebraska with a law in 1885. Now  
there are twelve States having laws rela-  
tive to foul brood, the majority of which  
have either been revised or enacted with-  
in the past eight or ten years. Our own  
enactment of 1883, providing for a system  
of county inspection of apiaries, was  
amended and assumed its present form  
in 1903. Briefly, upon the petition of ten  
resident beekeepers in any county, the  
supervisors are required to appoint a  
County Inspector of Apiaries, whose duty  
it shall be to inspect or cause to be in-  
spected, all apiaries in the county when-  
ever it is deemed necessary. The in-  
spector is empowered to enforce the  
treatment or destruction of all bees found  
to be diseased, and in every way pre-  
vent the spread of bee diseases. Further,  
he may require that all bees within a  
radius of three miles of infected apiaries  
shall be kept in frame hives that permit  
of inspection. As an officer of the county  
he receives compensation from the county  
at the rate of \$4 per day and expenses for  
every day in which actually engaged in  
the performance of his duties.

Some fifteen counties have availed  
themselves of this State enactment, and  
now have inspectors, the latest on the  
list being Imperial county, where the bee-  
keeping industry has quite recently rap-  
idly developed. Much has been done to  
restrict the ravages of diseases, as a re-  
sult of the efficient work of our corps  
of county inspectors. They are all of  
them practical beekeepers, and many of  
our most successful beekeepers have at  
one time or another been inspectors for  
their counties, such well known apiarists  
as J. F. MacIntyre, M. H. Mendleson, J.  
J. Bone, H. E. Wilder, and Fred M. Hart  
having more than once served their res-  
pective counties in such capacity.

It has recently come to our notice that  
with the late general interest in the study  
and eradication of the diseases affecting  
bees, that Texas, one of the leading honey  
States of America, running a close sec-  
ond to California in its annual output,  
has inaugurated an active campaign for  
increased facilities for the study and con-  
trol of bee diseases. Like California,  
Texas has had a foul-brood law of some  
years' standing, the present law having  
been in force since its passage, April 21,  
1903, but there is, as has been proved  
time and again, a normal limit to what

**QUEENS—CARNIOLANS, HANATERS, AND  
CAUCASIANS.** Home-bred, \$1.00 each; five at  
80 cents each; Imported, \$1.00 each. **FRANK  
BENTON**, Box 17, Washington, D. C.

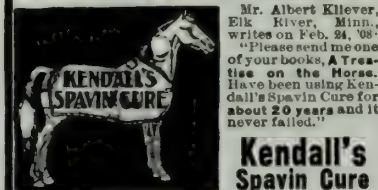
can be accomplished through simply rou-  
tine inspection work without scientific  
investigation and study to direct it. The  
committee of the Texas Bee Keepers As-  
sociation having this campaign in charge  
reports as follows: "That we ask for an  
annual appropriation of \$3000, to be used  
in the eradication of foul brood and other  
infectious diseases of bees." This is in-  
deed a grand movement! One which only  
so great a State, agriculturally speaking,  
as the Lone Star State, can back up. This  
sum of money, if secured, as undoubtedly  
it will be, is to be placed under the direc-  
tion of the entomologist of the Agricul-  
tural Experiment Station staff, at College  
Station, Texas, where also the office of the  
State Entomologist is located. This will  
mean a systematic study of bee diseases  
under Texas conditions, and much more  
efficient inspection work.

We say that no State except so great  
a State as Texas could enact such a law  
with such a liberal appropriation to pro-  
mote the interests of apiculture. It is a  
striking illustration of what Texas thinks  
of bee-keeping as an industry worthy of  
being fostered and protected. The out-  
put of honey for Texas for 1907 was esti-  
mated at 4,968,000 pounds, representing  
a revenue of approximately half a million  
dollars, an industry certainly worthy of  
attention and protection. California for  
the same year, 1907, had an output of  
8,700,000 pounds, nor has California fallen  
as low as Texas did in 1907 since the  
year 1900, as the accompanying figures  
will show:

Year.	Pounds.
1900 .....	2,208,000
1901 .....	8,112,000
1902 .....	5,125,000
1903 .....	8,400,000
1904 .....	7,000,000
1905 .....	9,500,000
1906 .....	5,250,000
1907 .....	8,700,000

These facts are significant. Texas is a  
great honey producing State, and has an  
industry worthy to be fostered and pro-  
tected. She is taking heroic steps to do  
so. California has a greater industry, of  
which, it has been estimated at various  
times, from 10 to 25% is annually swept  
away by the ravages of disease, or an an-  
nual loss of from \$200,000 to \$500,000, and  
yet, as far as we know, not one dollar  
of State funds has yet been expended to  
prevent this loss. True, our county in-  
spection system has done much to control  
and prevent the spread of the ravages of  
disease, yet, as we have said, there is  
much to be gained in the efficiency of  
such protective measures if directed by  
helpful scientific knowledge.

### "IT NEVER FAILED"



Is relied on by horsemen everywhere for curing  
Spavin, Ringbone, Curb, Splint, All Lameness. The  
world's best known and surest horse remedy.  
All druggists \$1 a bottle, 6 for \$5. Beware of  
substitute remedies. Book, "Treatise on the Horse,"  
free from druggist or write to  
**Dr. B. J. KENDALL CO., ENOSBURG FALLS, VT.**

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of  
California stockmen because they give  
better results than others do.

Write for Prices, Testimonials and our  
New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
Warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Please send for descriptive circulars,  
testimonials, etc. Address  
**The Lawrence-Williams Co., Cleveland, O.**

## HORSES AND CATTLE.

**JOHN LYNCH**, breeder of Registered Short-  
horns; milk strain. High class stock. First-  
class dairy breeding. Smooth cattle. Best  
pedigree. P. O. Box 321, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned  
Durhams. Address E. S. Driver, Antelope, Cal.

**P. H. MURPHY**, Perkins, Cal., Breeder Regis-  
tered Shorthorn Cattle and Poland-China  
Hogs.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## SWINE.

**GEO. C. ROEDING**, Fresno, California. Breeder  
of Thoroughbred Berkshire Boars and Sows

**BERKSHIRE AND POLAND-CHINA HOGS**  
C. A. STOWE, Stockton, Cal.

**GEO. V. BECKMAN**, Lodi, San Joaquin Co.,  
Cal. Registered Poland-China Hogs, both sexes

**G. A. MURPHY**, Perkins, Cal. Breeder of Cham-  
pion Herd of Berkshires also Shorthorns.

**30 POLAND-CHINA HOGS FOR SALE**—W. R.  
McCaslin. R. D. Box 214, Sacramento, Cal.

## PIPE

### PRICE LIST.

Second Hand Pipe—Merchantable  
Lengths. Standard Threads and New  
Standard Couplings. Dipped in a solu-  
tion of hot Asphaltum, maintained at a  
Temperature of over 300 Degrees. Closely  
Inspected and fully Guaranteed. All  
prices F.O.B., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1 inch .....	.84 lb.	\$2.50
1 1/2 " .....	1.12 "	3.85
2 " .....	1.67 "	4.50
2 1/2 " .....	2.24 "	6.25
3 " .....	2.68 "	7.25
4 " .....	3.61 "	10.00
5 " .....	5.74 "	16.00
6 " .....	7.54 "	19.75
8 " .....	10.66 "	30.00
10 " .....	14.50 "	42.50
12 " .....	18.76 "	50.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.

## PATENTS

White for our Guide to Inventors, sent  
free on request; containing nearly 100 me-  
chanical movements and full information  
about Patents, Caveats, Trademarks, and  
Infringements.

**DEWEY, STRONG & CO.,**  
1105-6 Merchants Exchange Bldg., San  
Francisco. Established 1860.

**HENRY B. LISTER,**  
ATTORNEY AT LAW.  
Notary Public and Commissioner of Deeds  
for New York.  
937 Pacific Bldg., Fourth and Market Sts  
San Francisco.



\$ \$ Dollars Saved on Feed Bills by Scientific Feeding. \$ \$



Laying Hens Waiting for Their Daily Mash of EGG MAKER.

THE BALANCED RATION.—The way to cut down your feed bills is to make every pound of feed PRODUCE RESULTS. The way to make profit from poultry is to feed a feed that will enable the hens to PRODUCE EGGS NOW.

FEEDING FOR EGGS.

Egg production is influenced by food. To produce eggs at a minimum cost, you should feed a feed based upon the composition of an egg.

WRITE TO-DAY FOR SAMPLES AND PRICES.

We pay freight to localities where we have no agents.



A. R. COULSON

To produce an early molt, and get plenty of eggs this fall, be sure that you feed your hens THE EGG MAKER.

THE SCIENTIFIC FEED, every pound of which produces profit for the feeder, THE EGG MAKER, manufactured in San Francisco by the Western Feed Co., THE ORIGINAL A. R. COULSON, formerly of Petaluma, Manager.

For each dollar invested in this feed, THE EGG MAKER, you can get back \$2.50 to \$3.00 in eggs. No other feed can produce such results for you.

WESTERN FEED CO., Inc.

The Original A. R. COULSON, Mgr.

365-371 McAllister Street

SAN FRANCISCO

The Poultry Yard.

THE EXPERIMENT IN SELECTIVE BREEDING FOR EGG-PRODUCTION.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

In no other poultry experiment has the interest been so general as in the one which has been carried on for the past nine years at the Maine Agricultural Station. The conclusions reached and general remarks as taken from the Station's Bulletin No. 157, follow, and will prove interesting reading to poultry and stock breeders generally.

TWO EXPERIMENTS PLANNED.—One of these experiments had as its object to determine whether by breeding only from relatively high layers the average annual egg production of the flock would be increased. This experiment was carried out by Professor Gowell through nine consecutive years. The limit of "relatively high laying" was taken as 150 eggs. All birds laying more than that in their first laying year were used as breeders during the nine years which this experiment was continued. The cockerels used in this breeding experiment were sons of birds laying 200 or more eggs in their first laying year. The second experiment planned, which was of obviously equal importance with the first, was intended to determine whether if relatively poor laying hens were used as breeders it would be possible to lower the annual average egg-production. This second experiment was never tried—a fact which is greatly to be regretted, in the light of what is now known regarding the results of the first experiment. A word may be advisable to point out clearly why it was necessary to perform this second experi-

ment before any definite conclusions could be drawn as to the meaning of any results obtained in the first experiment. Suppose that in trying the first experiment favorable results are obtained, i. e., that the annual average production increases from year to year concurrently with the selective breeding. Is it to be concluded that the breeding is the cause of the increase? Such a conclusion obviously cannot be drawn if, as was the case in the actual performance of this "breeding for egg-production" work at this Station, there are made improvements in housing, feeding and other details of management, each one of which by itself might tend to increase annual average egg production. Nobody can tell how much of the observed improvement is due to breeding and how much to housing, feeding, etc.

In order to form any just estimate of the value of the method of breeding it is necessary to consider the results over the whole period of the investigation together. That is to say, the general trend of the egg-production over the whole period must be taken account of and the minor fluctuations in individual years must be neglected.

CONCLUSIONS REACHED FROM THE ANNUAL RECORDS.—1. There is a large amount of variation among individual birds in respect to annual egg production. The range of variation extends from zero to approximately 250 eggs, in the records of the Station. The amount of variation in regard to egg production is substantially the same at the end of the selection experiment as it was at the beginning. That is to say, after nine years of selection with respect to egg-production, the birds breed no truer to a definite type of egg production than they did at the beginning.

2. The general trend of average egg

production has been slightly downward throughout the course of the experiment. This is shown in the following table, which gives the annual egg production for the years 1899 to 1907:

Year	Birds completed and pen.	Eggs laid the year.	Actual average production.
1899-1900	70	9,545	136.36
1900-1901	85	12,192	143.44
1901-1902	48	7,468	155.58
1902-1903	147	19,906	135.42
1903-1904	254	29,947	117.90
1904-1905*	283	37,943	134.07
1905-1906*	178	24,827	140.14
1906-1907*	187	21,175	113.24

\*In these years the "floor space" experiments were conducted. Birds were kept in flocks of 50, 100, and 150 birds each. The highest annual averages have been made in each year by the 50-bird flocks. Consequently only these are included in this table. To include the others would simply be to lower the averages of these years below the figures given in the table.

It will be noted by those who have followed the previous reports of the Station with reference to its poultry breeding work that the averages set forth in the above table do not agree with those that have previously been published. It is an unfortunate fact that the averages published in the earlier reports of this Station were in several cases in error.

3. Another point which throws light on the value of the method of breeding for increased egg production lies in the consideration of the relative number of the "drones" and high producers in each successive year of the experiment. Defining a very poor laying hen as one which produces less than 45 eggs in its first laying year, and as an exceptionally good laying hen one which lays more than 195 eggs in its first laying year, it is found that there has been no substantial change during

the course of the breeding experiment in the relative proportions of either very high layers or very poor layers in the flocks of the successive years. At the beginning of the experiment there were relatively few drones in the flock. The relative proportion of such has not practically changed.

4. During the last three years of the breeding experiment there was carried on in connection with it an experiment on the effect of the amount of floor space per bird and the size of the flock on an annual egg production. Without going into the details of this experiment, which was entirely consistent in the whole of the three years, it may be said that it clearly ap-

Egg Cases

OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

E. F. Adams

364 Main St.

Petaluma, Cal.



pears that these factors of flock size and floor space have a definite and measurable effect on the average annual production. This effect is quite considerable in amount. The bearing of the results of this floor space experiment on the breeding experiment with which we are chiefly concerned here lies in the fact that these environmental factors can, even after the close selection for more than five years, still cause very marked changes in the character (egg production) which it was hoped to fix in the strain by breeding. There is a considerable amount of detailed evidence, all of which tends to show that the quality of high productive-ness cannot be regarded as any more a fixed characteristic of the Station's strain of Plymouth Rocks now than it was at the beginning of the experiment.

**THE GENERAL CONCLUSION.**—The practical conclusion to be drawn from the results of this breeding experiment seems to the authors to be clear. It is that the improvement of a strain of hens in egg-producing ability by selective breeding is not so simple a matter as it has been supposed to be. Nothing could possibly be simpler than breeding from high producers to get high producers. But if this method of breeding totally fails to get high producers—in other words, if the daughters prove not to be like their mothers in egg production—it cannot fail to excite wonder as to whether the simplicity of the method is not its chief (possibly its only) recommendation. Anyone who makes a thorough, first-hand study of an extensive selection experiment carried out, as was this one, by the so-called German method, without testing of the centgener power of the individual organisms, cannot fail to be impressed, we believe, with the fact that the improvement of a race by selective breeding is a vastly more complicated matter than it is assumed to be by those who maintain that one need only to breed from the best to insure improvement. The supposed "facts" of heredity on which the practical stock breeder (working for utility points) operates are in a very large part inferences rather than facts. What is needed more than anything else for the advancement of the stock breeding industry in all its phases is an accumulation of definite knowledge of the fundamental principles of the heredity process. All breeding operations must be based on the laws of inheritance in organisms. The practical stock breeder is able to work out the application of these laws for himself. What he most needs is broader and deeper knowledge of the laws themselves. This knowledge must come from thorough-going, purely scientific investigations.

#### Questions and Answers.

**OAKLAND AND VICINITY AS A POULTRY LOCATION.**—"I have been contemplating removing to California, locating near Oakland, and engaging in the poultry business. Several persons with whom I have spoken tell me that for some reason, which they cannot explain, poultry will not do well in that part of California. Before making any change I would like to learn if such is the case. I am therefore writing to you, as I suppose you are the one most capable of giving me such information. Also would you kindly advise me what you think of the opportunities for raising poultry near Oakland? Do you think that a man can make a fair enough living to support a family? What can you tell me about prices for poultry and eggs? Any further information you can give me will be appreciated. I am 29 years old."—P. T. G., Indiana.

The localities of easy access to the markets of San Francisco and Oakland might be termed the poultry belt of the State. True, there are climatic conditions inci-

dent to a seaboard; but these can be overcome by proper housing and care; while the advantages of being near the best market overbalance those of a more favorable location for poultry raising in the interior. Poultry do well anywhere in the locality of Oakland if kept under suitable conditions. Of this our inquirer may be assured. Even in a most exposed position some miles north of Oakland and near the Bay, where the winds come direct from the straits of the Golden Gate, the writer has no difficulty with poultry. But along the foothills in the suburbs of Oakland and Fruitvale, and on to Hayward and through Castro valley might almost be considered another climate, owing to its more sheltered position and warmer temperature. That section is, in fact, a great poultry center, and embraces many noted yards containing thousands of pure-bred fowls. As to the opportunity for raising poultry in Oakland, we will say that there is always a market for fresh eggs—they are a cash asset. The wholesale price per dozen ranges from 15 to 55 cents, and sometimes, but not often, as high as 60 cents; 25 cents per dozen may be considered a fair average. The demand for market poultry is not so steady, owing to the shipments of fowls from the corn belt of the Middle West. Egg farming is the profitable branch of this industry on this coast.

"Can a man make a fair enough living to support a family?" That is a question we would not take the responsibility of answering for another. If a man understands commercial poultry raising in the East, he has only to acquaint himself with the difference in local conditions and requirements to answer it for himself. On the other hand, if he knows nothing about the industry (as we surmise is the case of our inquirer), it would be the acme of folly for him to come here and at once invest his capital in poultry as an entire dependence for a livelihood. Commercial poultry raising requires training and experience, the same as any trade or profession, and some seem never to fit into it. The only safe course for the enquirer is to come here and acquaint himself with conditions before he commits himself; then to provide some other source of income for a year or two; in the meantime to take up poultry as a side issue and devote only his spare time to it. If he can rely on some assistance from his family and has a suitable place in the suburbs, he may work into quite a poultry business in this way, without any risks and with little outlay. This is the way that poultry raising can be made to break all records in profits.

The danger in engaging in commercial poultry raising for a living here lies in the high price of all kinds of feed and the impossibility of providing green feed for large flocks without plenty of land with irrigation. The rent and value of land near the San Francisco market are high. The two serious difficulties with poultry raising on the Coast are disease arising from colds, and the high price of feed. Both of these are fully discussed in the *RURAL PRESS* of August 15 and September 6.

#### POULTRY NOTES.

**A LIMIT TO EGG-PRODUCTION.**—Progressive poultry raisers everywhere have been interested in the experiments being carried on at the Maine Agricultural Station for the past nine years in the evolution of a 200-egg flock of hens by breeding from only prolific hens mated to the sons of prolific layers.

The late Professor Gowell made the selections through trap-nesting from a flock of Plymouth Rocks he had been handling for some 20 years, and which produced an average of 120 eggs per hen. For the test he used no hen with a record of less than

160 eggs per year; and only males from 200-egg mothers. At first the egg-average began to climb, and poultry enthusiasts took note and started in to go the station one better; and tales of the 300-egg hen, or close to it, and the 200-egg flock, are still in the air. Now comes the final conclusion of the nine-year test, trimmed of inflated records and "arithmetical mistakes" (if the experts at those centers of science acknowledge mistakes of such a nature, what may we expect of the average individual report?), which is as follows:

"There is a large amount of variation among individual birds in egg-production. The range of variation extends from zero to approximately 250 eggs in the records of the station. The amount of variation in regard to egg-production is substantially the same at the end of the selective experiment as it was in the beginning."

The enthusiasts are crying out against this conclusion as being at variance with all laws of stock-breeding; but it doesn't look that way to us. It simply shows that nature has set a limit, and does not intend her fowls shall lay themselves to death. The hen that over-shoots the limit is not the best breeder, but the one that hits the high average and keeps herself strong and vigorous and able to produce offspring as strong and prolific as herself, and some a little more so. In all such experiments it has been proved that the eggs from the phenomenal layers do not hatch well. Professor Gowell had been breeding his strain of fowls for years before the experiment, and they had struck a normal average of egg-production. When he bred from only the extremes in his flock and forced these for egg-production, he reached the limit, and the trend started the other way.

**CHANGE OF DATE.**—The Oakland Poultry Show has advanced the date of its exhibition from December 7 to 12, to December 1 to 6, 1908. The premium list will be ready the first of November. Anyone interested may obtain it by sending his name to Secretary C. G. Hinds, 538 Pacific avenue, Alameda, Cal.

#### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity

#### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

**OAKLAND POULTRY YARDS** Established 36 years. Importer and Breeders of all Varieties of Land and Water Fowls. Stock for Sale Dept. 81, 320 McAllister St., S. F.

#### CHICKS

Absolutely pure White Leghorn stock. We guarantee full value and first-class quality. Chicks ready for immediate shipment. Write for our prices; it will pay you. Large lots a specialty. Carefully crated.

**BIHN BROS.**

Petaluma, Cal.

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

**COULSON POULTRY AND STOCK FOOD CO.**

PETALUMA, CAL.

## OUT OF DOOR WORKERS

Men who cannot stop for a rainy day, will find the greatest comfort and freedom of bodily movement in

**TOWER'S FISH BRAND WATERPROOF OILED CLOTHING SLICKERS \$3.00 SUITS \$3.00**

Every garment bearing the sign of the fish guaranteed waterproof Catalog free

A. J. TOWER CO. BOSTON U.S.A. TOWER CANADIAN CO. LIMITED TORONTO CAN.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

**JOHN R. ROBINSON,**

President John Crouch Land Company

**10-Acre Fruit and Poultry Ranch**—Apples, pears, prunes, 8 acres vineyard, completely equipped poultry plant, house, water piped over place—\$2500. H. F. BLUMER, Novato, Cal.



## The Home Circle.

### How Did it End?

'Tis a packet of letters, time-faded and worn,  
Which have lain in a dusty corner neglected;  
Undated, for lovers laugh time to scorn,  
But signs of their age are soon detected;  
For their spelling is bad and their grammar is weak,  
And quaint are the phrases in which they speak.  
They were written before you or I was born,  
And we see an old love through their words reflected.

There's a mellow flavor about each line  
Like the odor of rose leaves dried and time-rusted;  
Like the rich bouquet of some choice old wine  
Which ripens and glows all mould encrusted.  
The times of patches and powdered tresses,  
Of brodered coats and brocaded dresses,  
Speak to us out of these letters of mine,  
And tell how of old they loved and trusted.

"Sweetheart," he calls her—the fine old word  
Rings tender and true in its Saxon simplicity—  
He tells the old tale: how his heart is stirred,  
Yet wavers and faints at its own felicity;  
How he feared to speak and was nearly undone;  
How he spoke at last and the fear was gone.  
And now he is tender and now absurd,  
As lovers will be who write not for publicity.

And how did it end? There is nothing to show;  
The beginning only is here presented.  
Did the love grow cold and the lovers go  
On their separate ways? Or was bliss prevented,  
As it sometimes is, by a cruel father?  
Or, one proving false, did this love end rather  
In wailing and passionate weeping? Ah, no!  
Let us hope that they married and never repented.

—Old Scrap-book.

## OUR HOUSEHOLD.

Conducted by MRS. M. R. JAMES.

(To OUR READERS: Helps and Hints in all matters relating to the Home are here given and asked. Send all communications to "Our Household," PACIFIC RURAL PRESS, 667 Howard St., San Francisco.)

### A Household Talk.

Housekeeping is a science and well worthy the study of every woman who aspires to the honor of housekeeper, or "hus-moder" (house-mother) as the Norwegians so beautifully express it. Many with this laudable ambition, however, own to a distaste for things kitchenward and would like to relegate them to the care of servants. Yet the kitchen might be called the heart of the home; health, comfort, good nature, good-cheer—and those things which make man strong to grapple with the difficulties of the outside world—have their origin there. The humorous saying "All good cooks go to Heaven" has an underlying meaning. To understand and practice the science of foods and feeding—to spread a dainty repast of light and cooling viands for the hot day, and of nutritious and stimulating food for the cold, depressing one; to know the requirements of different ages and conditions—surely this might class the cook among the benefactors of his kind and secure favor with the Keeper at the Gate. How often the lack of this knowledge is the "inscrutable Providence" which lays low the strong man or the little child.

The best place to learn this science is in the home kitchen under the tutorage of

a good mother who is past master of the art. But the young housekeeper who has missed this valuable training, if she appreciates the responsibility of her position and is determined to meet it, may work out her own salvation through the help of the excellent works on the subject and the experience of others. As all knowledge is progressive and no one person knows it all on any subject, even the experienced housekeeper should be constantly learning and always ready to recognize the "better way." Also she should be willing to pass her knowledge on—in short women should help each other, especially in matters relating to the Home. The PACIFIC RURAL PRESS opens an avenue to this end and invites the many housekeepers who read its columns to meet here and both "give and take" help in the many small and complex matters that make up woman's work in the home. Each one is sure to have found out for herself some little thing which the others do not know, and the others know many things which would take her a long time to find out for herself. A mutual exchange will be a mutual benefit.

### Canning Fruit.

The main point in canning fruit to insure its keeping and preserve its color and flavor is to have it steaming hot when the lid is screwed down. To do this, not only must the fruit be boiling hot when placed in the cans or jars but the vessels and all which come in contact with it must be hot. The screw tops of the jars should be placed in warm water containing baking soda and allowed to come to boiling heat. This cleanses and sweetens them. Often an atom of mildew, soured juice or other impurity is beneath the porcelain lining where it is sure to start fermentation in the fruit if not removed. After scalding well, wipe and place them on the back of the stove to dry and keep hot. Put the jars in a pan of warm water and let the later come to the boiling point. When ready to fill rinse them with hot soda water, wipe inside and set back in the hot water; draw the pan close to the vessel containing the boiling fruit and fill. With the larger fruits, drain them out of the juice and place in the jar first; then pour on the boiling juice until the jar brims over; wipe the top off with a cloth wrung out of hot water and slip on the rubber, (this should be wide and thick and not the trifling bands that come with the jars). Now put on the hot lid and with a cloth gradually screw it down. When the lid has been made as tight as possible do not work with it any more. Best results are obtained by cooking only enough fruit at one time to fill two or three jars.

Canned fruits should be kept in a cool, dry and dark place. Light injures all fruit, especially tomatoes. The carefully washed legs of old black stockings are excellent to slip over glass jars to exclude the light.

### The Onion.

The onion is one of our most wholesome vegetables and should appear oftener in the menu. When boiled and eaten freely at least once a week, it is said to prevent worms in children. The onion has, however, two very objectionable features: its effect on the breath after partaking of it, and on the eyes and hands in preparing it. Boiled onions leave little odor on the breath, but after eating onions of any form the mouth should be thoroughly washed and rinsed with some aromatic essence, mints, camphor, or the like. The painful effect on the eyes in peeling them may be prevented by holding them under water during the process. This acts like magic and one may come, dry-eyed, through the preparation of any quantity of onions by this device. The strong odor and stain upon the hands may be removed by lemon juice.

BOILED ONIONS. — Peel those of uniform size, let them stand awhile in salted water, then put on to cook in salted boiling water. The flavor will be more mild if the water is changed once or twice while cooking. Boil gently till easily pierced with a fork, which will require an hour and more for large ones.

Drain and serve with a dressing of melted butter and pepper, or add a cup of rich milk to a little of the water after removing the onions to a hot dish; when it boils stir in a teaspoonful of flour mixed smooth with a lump of butter; stir till it boils a minute then pour over the onions and serve.

FRIED ONIONS. — Slice and boil ten minutes then drain and fry in butter and beef drippings, season and serve on hot platter. They are much relished as a garnish for fried beefsteak.

To serve raw, slice smooth, firm onions very thin and let stand an hour in cold salted water; then remove to a dish and sprinkle with pepper and salt and cover with vinegar; sliced cucumbers in season mixed with them is an addition.

ONIONS AND TOMATOES. — A delicious, quick salad relish may be made by peeling fine large tomatoes half an inch thick on nice crisp lettuce leaves. Onions sliced very thin must be daintily arranged on the slices of tomato, then sprinkle with salt and pepper.

### Colds and Neuralgia.

In the changes of the seasons many women and people of sedentary habits suffer from neuralgia and colds; a trial of the following remedies is worth while:

NEURALGIA. — One-half drachm sal-ammonia in one ounce of camphor water. Take several teaspoonfuls five minutes apart until relieved. Another simple remedy is horseradish. Grate it and mix with vinegar and apple and apply to the temple when the face or head is affected, or to the wrist when the pain is in the arm and shoulder.

FOR COLD IN THE HEAD. — As soon as you feel it coming, put a lump of sugar in a glass with six drops of camphor and fill glass half full of water. Take a tablespoonful every twenty minutes.

CATARH COLD. — Ten drops of carbolic acid and seven and a half drops of iodine and chloroform, heat a few drops of the mixture over a spirit lamp in a test tube, holding the tube to the nostrils. Repeat till patient sneezes freely.

FOR SORE THROAT AND COLD ON THE CHEST. — Apply a mixture of one part olive oil to two parts eucalyptus oil, cover with soft flannel. For a gargle use five cents' worth of potash in a glass of water.

### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.

POSITIONS SECURED.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.

### The Name Stands For Excellence

## HEALD'S BUSINESS COLLEGE

FRESNO, CALIFORNIA.

A Modern, High-Grade Business Training School. The stability and reputation of HEALD'S gathers into these schools not only the best teachers, but the best class of students as well. All HEALD COLLEGES are in first-class buildings with equipment unsurpassed.

All Business College branches taught by experts. At HEALD'S in San Francisco, Engineering, Mining, and Automobiling, with shops, laboratories, and drafting. HEALD'S COLLEGES in all principal cities give HEALD quality training. Call or write for information.

E. P. HEALD,

President.

R. H. HANKINS, Manager.

FRESNO, CAL.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,

2230 Pacific Avenue,

San Francisco, California.

### Spoke Too Quick.

Sanderson was on a visit to Simpkins, and in due course, naturally, he was shown the family album.

"Yes," said Simpkins, as he turned the leaves, "that's my wife's second cousin's Aunt Susan. Poor old soul! She had the most remarkable nose I ever saw. It was the shape of a note of interrogation. And that's Cousin James; and that's a friend of ours; and that — Ah! now, who do you think that is?"

"Don't know," said Sanderson.

"Well, that's my wife's first husband, my boy!"

"Great Scott, what a perfectly brainless-looking ass! But, excuse me, old fellow, I didn't know your wife was a widow when you married her."

"She wasn't," said Simpkins, stiffly. "That sir, is a portrait of myself at the age of twenty."

"The climate here is salubrious, isn't it?" remarked the tourist.

"Say, friend," replied the native, "jest write that there word down for me, will yer? I git tired o' swearin' at this climate in the same old way. That's a new one."



## THE MARKETS.

San Francisco, Sept. 30, 1908.  
(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

Eastern markets show a slightly easier tendency. Northern prices for spot grain show a little change, and the movement for export continues lively. Values in the local market stand in practically the same position as before, with only a moderate demand, and while holders are firmly maintaining the prices, there are few active buyers in the market.

California White Australian	\$1.75 @1.80
California Club	1.67 @1.70
California Milling	1.70 @1.72½
California lower grades	1.45 @1.60
Northern Club	1.67½ @1.70
Northern Bluestem	1.75 @1.80
Northern Red	1.65
Turkey Red	1.75 @1.80

### BARLEY.

Receipts of barley so far this week have been liberal, but prices are well maintained. The movement of feed is a little larger than last week, and the price is quite firm, the best lots selling at \$1.35, though little buying is done for the brewing interest. There is still a good shipping demand in the interior, 36,000 cents going for export at the beginning of the week, though little of the shipping business is done in the local market.

Brewing	\$1.37½ @1.40
Shipping	1.35 @1.37½
Chevalier	1.55 @1.60
Good to Choice Feed, per ctl.	1.30 @1.35
Common feed	1.20 @1.28½

### OATS.

The heavy rain in the southern part of the State has brought a stronger demand for seed oats, especially red, which are also in good demand in other sections, all offerings being moved without difficulty at current prices. With more stock on the market, this variety is more active than it has been. Choice white oats are higher, some sales having been made at \$1.75, but aside from the seed business the market is quiet. Arrivals from the North have been moderate, but stocks here have been increased.

Choice white, per ctl.	\$1.70 @1.75
No. 1, white	1.65 @1.67½
Gray	1.55 @1.62½
Red, seed	1.85 @2.00
Red, feed	1.45 @1.75
Black	2.00 @2.60

### CORN.

No further change is noted in corn, and in fact the prices quoted here are entirely nominal at present, as this market is about at a standstill. There have been no recent arrivals of any consequence, and local buyers are taking very little interest in the market at the present range of values.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	\$1.85 @1.90
White	Nominal
Western State Yellow	1.90
White, in bulk	1.81
Mixed, in bulk	1.80½

### RYE.

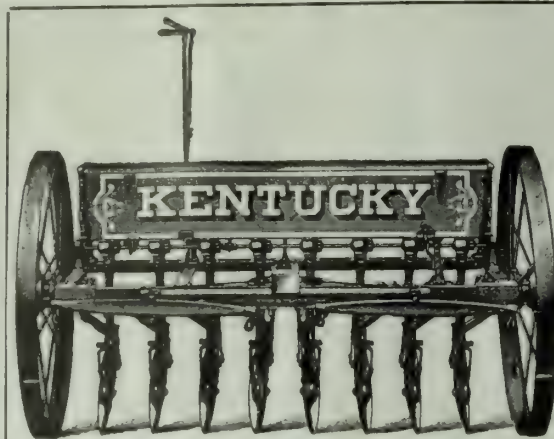
This grain shows no movement at present, as there is no particular demand. Offerings are small, and local holders are quoting the following prices, as before.

California	\$1.40 @1.45
------------	--------------

### BEANS.

The bean harvest is becoming more general, and during the week samples of new small white and a few pink beans have come in from the South, and one small shipment of pinks arrived about the first of the week. The yield per acre seems to be a good average, and with the increased acreage in the northern counties there should be a full crop. It is still too early to give an approximate idea of the quantities of the different varieties, but the quality of the new crop is good. The demand is fairly steady, but buyers are acting very cautiously, evidently believing that prices will be lower later in the season. During the week conflicting reports have come in as to the state of the Eastern bean markets, but prices seem to be firm in Michigan, where the crop is not turning out very heavy. Similar information comes from New York, although a good crop is being harvested there.

Bayos, per ctl.	\$2.70 @2.80
Blackeyes	3.00 @3.25



## Kentucky Disc Drills

meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete  
KENTUCKY LINE.

**Pacific Implement Company**  
135 KANSAS ST., SAN FRANCISCO.

Cranberry Beans	2.50
Garvanzos	1.75 @2.30
Horse Beans	1.75
Small White	4.00 @4.25
Large White	3.00 @3.25
Limas	4.50 @4.60
Pea	4.50 @4.60
Pink	2.75 @2.85
Red	3.00 @3.50
Red Kidneys	2.75 @3.25

### SEEDS.

New stock of several varieties is coming into the market, but no further changes in prices are reported by the local dealers. There is some movement in certain lines, but the market as a whole is quiet. While there is comparatively little inquiry for alfalfa, a large demand is looked for within the next few weeks, and firmer prices are expected.

Alfalfa, per lb.	14½ @ 18c
Broomcorn Seed, per ton	\$20.00 @25.00
Brown Mustard, per lb.	3½ @ 3½c
Canary	4½c
Flaxseed	3c
Hemp	4½ @ 4½c
Millet	2½ @ 3½c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

The Northern export of flour is considerably smaller than it has been for the last few months, though a few lots are going out. The local trade is fair, and there is some export movement from this port. Dakota brands are again higher, prices on other lines being unchanged.

California Family Extra, per bbl.	\$5.40 @6.00
Bakers' extras	5.40 @5.65
Superfine	4.20 @4.50
Oregon and Washington, Family	4.90 @5.40

### HAY.

There has been a marked diminution in hay receipts, as was to be expected, as the fields are being rapidly cleaned and very little hay can be marketed to advantage from the warehouses. The market has an upward tendency at the moment, for prices must advance at least \$1.50 per ton immediately in order to cover storage and insurance charges. Fancy wheat hay has been taken from storage for two or three weeks past and marketed here to good advantage. The great bulk of the hay remaining in the country is not choice, and it may be some time before prices will warrant holders in shipping average grade hay here. Shipments are likely to be withheld from the market sufficiently to stimulate prices, and some speculators are likely to hold till spring in expectation of a material advance. A decline may occur in February or March if stocks are plentiful at that time.

Choice Wheat, per ton	\$17.50 @18.50
Other Grades Wheat	11.50 @17.00
Wheat and Oat	11.00 @17.00
Tame Oat	11.00 @16.50
Wild Oat	10.00 @15.00
Alfalfa	9.50 @13.50
Stock	9.00 @10.50
Straw, per bale	45 @ 70c

### MILLSTUFFS.

Owing to the falling off in the export flour trade, and the increased demand for feedstuffs, the Northern mills are shipping very little to this market at present, and supplies here are very small. A more general local demand is also reported, causing a feeling of increased firmness all around, with several advances. Both red and white bran and middlings are 50 cents higher, while shorts have taken a

jump of about \$1.50, and rolled oats are very strong.

Alfalfa Meal (carload lots)	\$22.00
per ton	23.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @31.50
Red	29.50 @31.00
Broom Corn Feed, per ctl.	1.25 @ 1.30
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00
Jobbing	26.00
Corn Meal	37.00 @38.00
Cracked Corn	38.00 @39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50 @35.50
Mixed Feeds	23.00 @28.00
Oil Cake Meal, per ton	37.00 @38.50
Rollod Barley	29.00 @30.00
Shorts	32.50 @33.50

### VEGETABLES.

There is little feature to onions at present, as the demand is about up to the average, and while supplies are liberal the price is firmly held. Reports from Oregon indicate that the crop has been badly damaged by frost, which may have some effect here later on. Stocks of miscellaneous vegetables are excessive, and prices are in some cases lower than last week. Peas and beans are the only articles to show any advance, though green corn is scarce and good lots bring full figures. Tomatoes are very weak, with a heavy over-supply offered at buyers' prices.

Garlic, per lb.	6 @ 7c
Green Peas, lb.	4 @ 5c
String beans, lb.	3 @ 6c
Cabbage, per ctl.	60 @ 75c
Onions—	
New Yellow ctl.	50 @ 55c
Summer Squash, large box	40 @ 50c
Tomatoes, box	15 @ 40c
Turnips, sack	75c
Green Peppers, box	35 @ 50c
Cucumbers, box	40 @ 50c
Green corn, sack	\$1.25 @ 2.25
Egg Plant, box	40 @ 50c
Cauliflower, doz	65 @ 75c
Okra, box	35 @ 50c

### POULTRY.

Receipts of Eastern poultry continue more liberal, five cars having arrived early in the week, though this stock is mostly of superior quality and large sized young stock. Receipts of California poultry are likewise quite large, but much of this stock is rather inferior compared with that from the East, resulting in a somewhat weaker market, with a demand only for large fat hens and young ducks. All young stock is somewhat easier because of the preference given to Eastern poultry. Turkeys continue fairly firm, and more stock than is received could be disposed of to good advantage.

Broilers	\$3.50 @ 4.00
Small Broilers	3.00 @ 3.50
Fryers	4.50 @ 5.50
Hens, extra	7.00 @ 9.00
Hens, per doz.	5.00 @ 5.50
Small Hens	4.00 @ 4.50
Old Roosters	3.50 @ 4.50
Young Roosters	5.50 @ 6.50
Young Roosters, full grown	6.50 @ 7.50
Pigeons	1.25
Squabs	2.00 @ 2.50
Ducks	4.00 @ 8.00
Geese	2.00 @ 2.50
Spring Turkey, lb.	22 @ 24c
Gobblers, live	22 @ 24c
Hen Turkeys, live	22 @ 24c

### BUTTER.

The butter market has been fairly ac-

tive most of the week, though a few days of hot weather interfered somewhat with the demand. Arrivals are slightly larger than a week or two ago, and extras show a little decline, though the market is in good condition for an advance. The only other change is on storage extras, which have declined to 25½ cents, though the movement of this grade is now general. Low grade fresh and Eastern stock are also in good demand. The following prices are quoted by the San Francisco Dairy Exchange.

Cal. (extras) per lb.	31 c
Firsts	27½c
Seconds	22½c
Thirds	20 c
Eastern extras	27 c
Fresh Packing Stock, No. 1	23 c
Fresh Packing Stock, No. 2	20 c
Cal. Storage Extras	25½c

### EGGS.

Eggs are rather quiet on the street at present, and some dealers still report a feeling of weakness, though Exchange prices show continued strength. The easy feeling seems to exist principally in the lower grades, as extras have been quite scarce, causing a slight advance over last quotations. Firsts also show a marked advance, and are now in good demand.

California (extra) per doz.	41½c
Firsts	38 c
Seconds	26½c
Thirds	22 c
Eastern Selected	25 c
Eastern firsts	23 c
Eastern seconds	21 c
Storage, Cal., extras	30 c

### CHEESE.

Cheese is now quite firm, after an advance of ½ cent over last figures of California flats, and the market is much more active than a few weeks ago. The business, however, still runs mostly to the variety above mentioned, though there has been some business in New York cheddars at the appearing quotation.

Fancy California Flats, per lb.	12½c
Firsts	11½c
New Young Americas, Fancy	12½c
Oregon Flats	13 c
Oregon Y. A.	14½c
Storage, Cal. Flats	13 c
N. Y. Cheddars	16½c

### POTATOES.

The Oregon crop of late potatoes was badly frost-bitten last week, and this may have some effect on the market later on. Supplies have been liberal in this market, and while choice stock meets with a good demand, the price is a little weaker. Inferior stock is mostly neglected, as there is no shipping demand and supplies are becoming unwieldy.

River Whites, fancy ctl.	75 @ 85c
Common	50 @ 66c
Salinas Burbank, ctl.	\$1.20 @1.60
Sweet Potatoes, ctl.	1.35 @1.50

### FRESH FRUITS.

The fresh fruit market has been badly overstocked with most varieties during the greater part of the week, and prices are low. In some lines there are still large accumulations of poor stock, which is hard to move, though in general there is now a little improvement. Many lots of cantaloupes have had to be thrown away during the week, and prices are badly demoralized, though watermelons have been well taken. Apples are a little lower, but find a good demand, while quinces, prunes and figs are quiet. Peaches are still cheap. Pears are beginning to



clean up, but prices show no change. Muscat and Tokay grapes show some reduction.

Apples, fancy	90c @ \$1.10
Apples, common	40 @ 75c
Strawberries—	
Chest	\$4.00 @ 7.00
Blackberries, chest	2.00 @ 4.00
Raspberries	5.00 @ 6.00
Huckleberries, lb.	12½ @ 14c
Plums, crate	60 @ 1.00
Peaches, box	50c
Figs, box	30 @ 50c
Nutmeg Melons, box	15 @ 35c
Cantaloupes, crate	50 @ 1.00
Watermelons, doz	1.10 @ 2.00
Grapes, crate, Seedless	60 @ 75c
Muscats	40 @ 60c
Black	40 @ 60c
Tokays	40 @ 60c
Pears, Bartlett, box	75 @ 1.25
Other Varieties	40 @ 1.00
Quinces, box	40 @ 65c

## CITRUS FRUITS.

Grapefruit is entirely cleaned up at present. Lemons are plentiful, and prices show some reduction, while the movement of oranges continues about as usual, with no change in prices.

Choice Lemons	\$1.75 @ 2.00
Fancy Lemons	2.75 @ 3.25
Standard	1.00 @ 1.25
Limes	4.00 @ 5.00
Oranges—	
Valencias	2.50 @ 3.50
Grape Fruit	Nominal

## DRIED FRUITS.

There is a little more inquiry for some varieties, with a moderate demand in the East for spot prunes and raisins, but comparatively little business is being done on the new crop. The local packers are buying a good many small lots in various parts of the country, but are taking no great interest in most lines, and in general offer poor prices. They are quoting a reduction on apples and figs, and the weak feeling in peaches has resulted in a decline. Some peaches are being taken from the growers, but 4 to 4½ cents is about the highest price paid. The prune crop is far below expectations, the Oregon yield being only about half the normal, while the Santa Clara crop is about two-thirds of what was looked for. There is nothing new in the raisin situation. Most of the small growers are holding off, and comparatively little business has been done during the week, though most packers are willing to buy at 3½ cents. Local packers quote the following prices:

Evaporated Apples	5½ @ 6½c
Figs, black	2½ @ 3c
Figs, white	3½ @ 4c
Apricots, new crop	7 @ 10½c
Peaches, new crop	4½ @ 5½c
Prunes, 4-size basis	3½ @ 4c
Pears, new crop	6 @ 8c

## RAISINS.

2 Crown	4½c
3 Crown	5c
4 Crown	5½c
Seeded, per lb.	7c
Seedless Sultanias	4½c

## NEW CROP.

Loose Muscatels, 4 crown	6c
3 Crown	5½c
2 Crown	4½c
Thompson seedless	5½c
Seedless	6c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

The new crop of California chestnuts is now in the market, 20 cents being the price asked. Prices on walnuts and almonds are unchanged. Deliveries of almonds are being made in the Sacramento valley, and a few lots of the new crop are moving east. There is a moderate inquiry for walnuts at the new prices.

Almonds, Nonpareils	11½ @ 12c
IXL	10½ @ 11c
Ne Plus Ultra	10c
Drakes	9½c
Languedoc	9c
Hardshell	—c
Walnuts, Softshell No. 1	13c
Softshell, No. 2	10c

## NEW CROP.

Softshell, No. 1	12½c
Softshell, No. 2	8½c
Hardshells	less ½c
California Chestnuts	20c

## HONEY.

Prices quoted by local dealers show no change. There is still a small movement of new honey from the producing districts, though the greater part of the crop has been marketed. The demand is quiet.

Water White, Comb lb.	16 @ 17c
White	15c
Water-white, extracted	8 @ 8½c
Light Amber	7 @ 7½c

Dark Amber	5¼ @ 5½c
Candied	5¼ @ 5½c

## WOOL.

Quotations on wool are practically nominal, as local buyers show little interest, and there is no demand for California clips in the East. Some dealers express the opinion that loss is likely to result from the omission of the fall clipping which has been considered in some quarters.

Humboldt, year's staple	15 @ 18c
Northern Coast	11 @ 13c
San Joaquin	7 @ 9c
Northern, Mountain, free	6 @ 8c
Southern Coast	6 @ 8c
Nevada	9 @ 12c
Oregon	8 @ 15½c

## MEAT.

The market is quiet locally, and some reduction in prices is looked for, as sheep, cattle and hogs are now plentiful. So far, however, there has been no change of any importance.

Beef: Steers, per lb.	6½ @ 6¾c
Cows	5 @ 6c
Heifers	5 @ 6c
Veal: Large	6 @ 7½c
Small	8½ @ 9c
Mutton: Wethers	7 @ 8c
Ewes	6½ @ 7c
Lambs	8½ @ 9½c
Hogs, dressed	8 @ 9½c

## LIVESTOCK

Steers, No. 1	3½ @ 4c
No. 2	3½c
No. 3	2 @ 3c
Cows and Heifers, No. 1	3c
No. 2	2½c
Bulls and Stags	1½ @ 1½c
Calves, Light	4½ @ 4½c
Medium	4c
Heavy	3½c
Sheep, Wethers	3½c
Ewes	3½c
Spring Lambs, lb.	4 @ 4½c
Hogs, 100 to 150 lbs	6c
150 to 250 lbs	6½c
250 to 325 lb	5½ @ 5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Sept. 29, 1908.—The Valencia market is slightly better than a week ago, and there is now some call for the best fruit at advanced prices, but a large amount of the fruit to go is of inferior quality and will sell low.

Compared with former years this has been a very poor season for handlers of Valencias. A year ago at this time auction prices were over \$4.00 on the average and the Chapman brands were bringing from \$5.00 to \$6.00 a box. This year, outside of a few well known fancy brands, from \$3.00 to \$3.50 is a big price, and the average would not warrant a much higher price than \$2.00 f.o.b. In fact, a well known dealer stated today that he would not pay even \$2.00 for the ordinary brands of fancy fruit.

September shipments this year have been double those of last year, and there is still double the quantity of fruit left in the State that there was a year ago. The growers who refused three to three and one-half cents a pound in the early summer, and who held for late delivery, are the ones who will get left, and the buyers who bought at those prices will be hard hit. In consequence they are somewhat pessimistic as to opening prices for the coming season, and they predict that \$3.00 Valencias is a thing of the past.

The lemon market is also a little better, and the small quantity of foreign stock now available is a very good feature. There are now 22,000 boxes available, as against 50,000 at this time last year, and 33,000 boxes in 1906.

Of California lemons there have been shipped to date 4600 cars, while to the same time last year only 3325 cars had gone forward. The total citrus fruit shipments to date are 28,900 cars, against 27,250 to same date in 1907.

"THE OLD RELIABLE"

**DIETZ**

LANTERNS

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"

MADE BY R. E. DIETZ COMPANY NEW YORK

Largest Makers of Lanterns in the World

ESTABLISHED 1840

PIONEERS AND LEADERS

# Heat

Where you want it—  
When you want it—  
No smoke—no smell—no trouble.

Often you want heat in a hurry in some room in the house the furnace does not reach. It's so easy to pick up and carry a

## PERFECTION Oil Heater

(Equipped with Smokeless Device)

to the room you want to heat—suitable for any room in the house. It has a real smokeless device absolutely preventing smoke or smell—turn the wick as high as you can or as low as you like—brass font holds 4 quarts of oil that gives out glowing heat for 9 hours. Finished in japan and nickel—an ornament anywhere. Every heater warranted.

**The Rayo Lamp**

is the lamp for the student or reader. It gives a brilliant, steady light that makes study a pleasure. Made of brass, nickel plated and equipped with the latest improved central draft burner. Every lamp warranted. If you cannot obtain the Perfection Oil Heater or Rayo Lamp from your dealer write to our nearest agency for descriptive circular.

**STANDARD OIL COMPANY**  
(Incorporated)

## EUCALYPTUS

Growers of all varieties of commercial and ornamental Eucalypti.  
ECKSTEIN & ECKSTEIN, Modesto, Cal.  
ECKSTEIN BROS., Anaheim, Cal.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Sept. 29, 1908.—The grape market has declined somewhat during the past week, which is due to the heavy supply going forward and also to the Eastern markets being glutted with other varieties of fruit. Free on board sales have been made from 70c. to 80c., and the jobber is buying only when he is forced to do so; consequently, cars have been left on track in some of the markets for several days. The bulk of the grape shipments, however, are going to auction. Lodi averages 80c. to \$1.15 delivered for their Tokays; Blacklands, \$1.15 to \$1.40, and Florin, \$1.20 to \$1.50.

The cash buying price at Lodi was reduced from 75c. to 60c. the middle of last week, and it has been reported that there is not much buying, only where a shipper has orders in hand, and orders this week have not been coming in as freely as anticipated. The auction market should remain firm on Tokays at the present prices.

Malagas sold in Boston yesterday at \$1.00 to \$1.15; Chicago averaged \$1.00 to \$1.20. The supply going forward is not heavy, and the market will undoubtedly remain firm at the present values. There have been very few f.o.b. sales for Malagas.

The peach market is about the same as last week, Salways selling in auction from 55c. to 65c., clings 55c. to 65c. The bulk of the California peaches are going to auction, inasmuch as Western markets are filled with Colorado and Utah peaches.

Shipments for the seasons 1907 and 1908, ending September 23, are as follows: 1907, 4900 cars; 1908, 8070 cars.

Commissioner J. W. Jeffrey has announced that the thirty-fifth annual meeting of fruit growers, under the direction of the State Horticultural Society, will be held at Sacramento the first week in December.

**KWITURFIGURWURY**  
RAPID CALCULATOR. No book like it. Practical figure system. 25 cents by mail, worth more to anyone. TRY IT. MALONE'S SCHOOL OF FIGURES, 61, 60, St. Louis, Mo.

## PUBLISHER'S DEPARTMENT.

"Sow Good Seeds" is the advice of The Chas. H. Lilly Co., of Portland and Seattle, in this issue of the PACIFIC RURAL PRESS. This is one of the largest seed houses in the West, and they sell good seeds. Send for their new free catalogue.

The Golden Rule Nurseries, of Loomis, have the agency for Warnock's Remedy for the protection of fruit and ornamental trees. The remedy is claimed to be a preventive for the pear blight.

Geo. H. Croley, of 631-637 Brannan St., San Francisco, has just issued price list No. 51, and all poultry raisers should send for a copy. Mr. Croley established the pioneer poultry supply house on the Coast, and carries a full line of his own brands for poultry keepers.

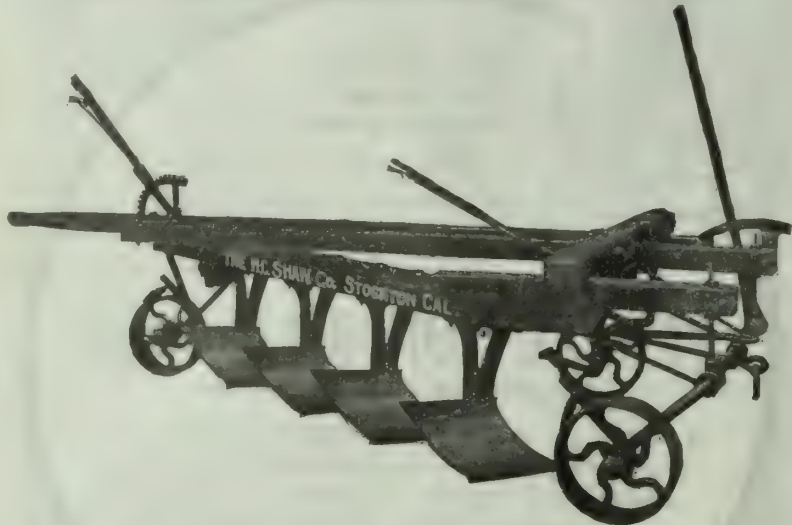
We are pleased to have in our columns again, at the beginning of the season, the advertisement of the Fancher Creek Nurseries. Mr. Roeding, the president of the company, is well known over the State as one of our best horticulturists as well as nurserymen. Not only is the Fancher Creek Nurseries a big institution and capable of absorbing all of the time of a good man, but somehow Mr. Roeding also finds time to look after his big vineyards, olive groves, fig orchards, and his latest venture in planting a large acreage to oranges near Exeter. Last year the Fancher Creek Nurseries did the biggest business in their history, but Mr. Roeding will try to beat the record again this season.

R. M. Teague of San Dimas Citrus Nurseries was in San Francisco this week on business. While in our office Mr. Teague informed us that he will have nearly 175,000 young citrus trees, "true to name," ready for the trade this season. Last year he sold over 100,000 trees, and thinks there will be no difficulty in disposing of the larger amount this year, as over 35,000 have already been contracted for. The San Dimas nurseries are the largest producers of citrus nursery trees in the world, and they have a trade built up that reaches into every orange or lemon growing district in the world. Mr. Teague paid the RURAL PRESS a compliment in saying that he always has had good results from his advertising in its columns.



# THIS IS THE PLOW

THAT ALL WANT, AFTER SEEING ONE IN USE.

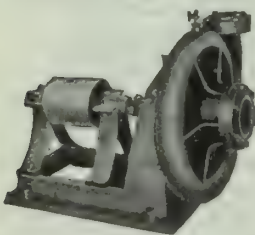


THE SHAW STOCKTON IMPROVED GANG PLOW

Drop us a card for Circular with Prices.

MANUFACTURED BY

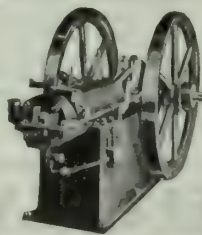
THE H. C. SHAW CO., Stockton, Cal.



**Gould's Centrifugal Pump**  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right. Runs in light wind. Has ball bearing Turntable and outer thrust.



**Stover Gasoline Engines**  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

PUMPS FOR EVERY SERVICE AND USE.

## WOODIN & LITTLE PUMP HOUSE

70 - 72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings. Send for Catalogue.

TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

### SOME RATES:

Sioux City	\$31.95	New Orleans	\$35.50
Council Bluffs	30.00	Peoria	36.75
Omaha	30.00	Pittsburg	47.00
St. Joseph	30.00	Memphis	36.70
Kansas City	30.00	Bloomington	36.75
Leavenworth	30.00	St. Paul	36.75
Denver	30.00	Minneapolis	36.75
Houston	30.00	Chicago	38.00
St. Louis	35.50	New York	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

## Southern Pacific

### GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## REX Lime and Sulphur Solution For Fruit Spray and Stock Dip.

This solution is guaranteed, when diluted according to directions for the dipping of Sheep and Cattle, to contain not to exceed one per cent of Lime (CaO), and not less than two per cent of Sulphur, combined in the form of Calcium Sulphides, and made according to Government formula.

The Department of Agriculture at Washington, D. C., has authorized the use of REX for Sheep Scab and Cattle Mange in the proportions of 1 gallon of REX to 15 gallons of water, making 800 gallons of Spray out of every barrel. Full directions for its use on every barrel. Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

Prepared by THE REX COMPANY, Omaha, Neb.



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

## Mococo Superphosphate

Land FERTILIZED with Mococo Superphosphate yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO

## PEAR-BLIGHT We can CURE IT

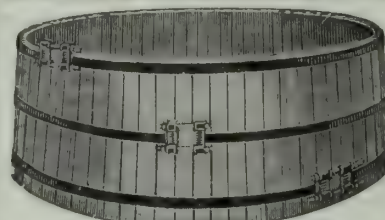
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

R. F. WILSON,

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.

## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir.

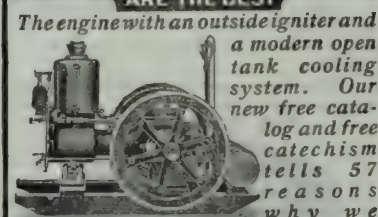
## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

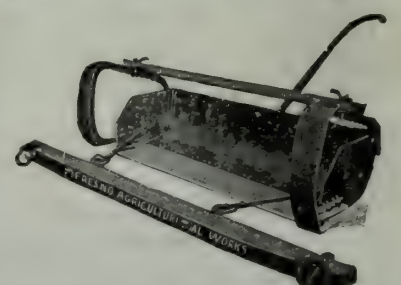
## Stickney Gasoline Engines ARE THE BEST



SEND FOR FREE CATALOG Stationery and Portable 1½ to 16 h. p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

De Laval Dairy Supply Co.  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO CALIFORNIA.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 15.

SAN FRANCISCO, SATURDAY, OCTOBER 10, 1908.

Thirty-eighth Year.

## ON THE UNIVERSITY FARM.

As the Short Courses in Agriculture and the State Farmers' Institute are in progress on the University Farm this week, it is timely to take a glance at a few scenes which indicate the development of this new phase of California's educational effort. It is hard to give anything like a comprehensive glance, for the farm covers nearly 800 acres and the buildings are numerous and placed where they seem best to serve the purposes in view. There will be ultimately a more or less compact group of educational buildings, but those in charge are building first what seem to be indispensable, and these are somewhat scattered. The buildings are to be buildings in harmony with an agricultural purpose, and are not massive or impressive. They are intended to be such buildings as a private owner of a large property might construct for diversified

of the same kind as would be constructed for practical farm purposes. The dairy barn, for instance, covers two-thirds of an acre, but, as the

is reasonable under our climatic conditions. The other buildings are more or less conformed to this general view and intention.

The expanse of the farm and its level character are indicated by some of the pictures which show distance. It is one of the best pieces of land in the State, and is representative of interior valley conditions. The general aspect of it will change considerably as the horticultural and silvicultural plantings assert themselves. At present the chief phase of picturesqueness is found in the grand old trees along an abandoned bed of Putah creek, of which one of the pictures gives a glimpse.

The instruction which begins this week is primarily for farmers—for busy men and women who want to know more about their everyday problems, but who can not spend as much time away from home as when they were young. Anyone over 17 years of age will be welcomed. The opening of the



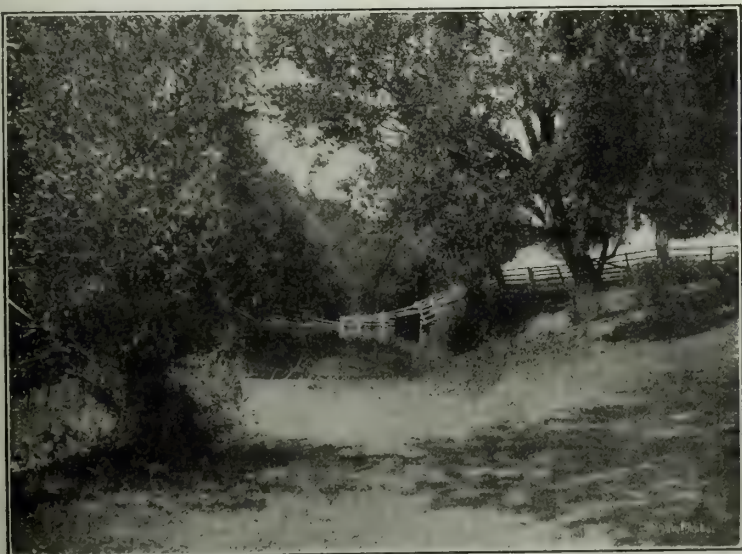
Cow Barn Covering Two-Thirds of An Acre.



Experimental Plats For Cereals.



The Creamery During Last Year's Farmers' Institute.



Putah Creek, South Boundary of the Farm.



Good Stand of Irrigated Sugar Beets.

## A FEW OF THE BUILDINGS AT THE UNIVERSITY FARM, DAVIS, YOLO COUNTY.

farm purposes, with the necessity of handling pupils provided for, and therefore rather larger but picture shows, it is not a dude barn, but one of capacity, secured by the light construction which school for youths over 15 years of age takes place in January, and more will be said about that later.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## The Week.

The autumnal equinox this year has been marked by blasts of oratory, followed by storms of applause. We do not refer to presidential electioneering, for that has consisted mainly of charges of qualification for membership in the Ananias Club which the candidates and other supporters prefer against each other. We have to look for suggestions of sublime statesmanship this year in the oratory of the great industrial development congresses which are being held west of the Missouri river. There is so much trust-oil in the eastern atmosphere that efforts at lofty oratory is like the attempts to climb a greased pole—all the orators slide back to the plane of commonplace lying or of charging lying upon others. The great West must save the country this year by keeping alive the fire of great national ideas, and it is doing it, not through the appeals of politics, but of industry.

Several great popular assemblies mark the last fortnight, and they extended from New York to California. We do not propose to catalogue them, not to outline their transactions. Fortunately, the daily journals in all cities, small and large, have wires to them, and give sketches of their proceedings. Fortunately, too, most people read these dailies, for the time has gone by when a weekly journal is relied upon for general news. It is the function of the weekly journal of the technical class, to which we belong, to comment upon doings which seem to bear upon industrial movements in its line and to give more in detail, as space permits, suggestions which will help people to work more intelligently and effectively. It is our method, then, to refrain from reproductions of current news to the effect that Senator Soothem poured oil upon the troubled waters of the assembly after Representative Stiremup had lashed them into high waves with his hurricane of words. We prefer rather to listen for the still small voice of deep industrial significance after the earthquake and the whirlwind have wrought and sought rest.

Now the still small voice which lingers resonant after the adjournment at Albuquerque is this: "The development of great national policies in forestry and irrigation in the West will proceed from the people sitting calmly in judgment upon the advanced propositions and policies proceeding from far-sighted experts and regulating the direction and speed with which these propositions and policies are to be realized, with due regard to phases of local development and livelihood, to the end that results eminently desirable shall be attained with the general support of the people, and not in spite of opposition which will largely disappear when things affected are readjusted and popular understanding of aims and purposes is

reached." There have been indications of a disposition to proceed along more imperial lines. It has seemed sometimes that a fiat method, thoroughly un-American, was to be invoked. It has, in fact, been suspected that these great popular assemblies were to be made to declare approval and support of certain governmental policies, and that every opposition or interrogation was to be knifed in committee and excluded from the platform. This may be essential to the life of a political convention; it is fatal to the continued life and usefulness of an industrial assembly. Perhaps the nearest approach to the wreckage of a national association was that which the Irrigation Congress itself experienced at the Sacramento meeting last year. The program was packed with national bureau men, the committees were led by them, the proceedings were shaped not so much by them as by those who thought they really did public service by preventing criticism. The result was that the experts declared the country on the way to the dogs by several different routes, and could only be saved by schedule from Washington. We do not blame the experts; they gave their best judgment of the trouble and what to do with it, and their misguided friends stamped out every other attempt at fact or remedy. It was indeed a sad spectacle of an American convention. We never had the slightest idea that the present progressive administration desired that kind of support, and experience in Congress since then has shown that such support awakens opposition which is apt to be angry, ill-informed, vindictive, and capable of doing injury.

We have invoked these memories simply to show how much more hopeful and democratic the situation really is, as shown by the methods prevailing at Albuquerque. The Washington bureaus were not emptied of their contents. The calamity howlers were relieved of tasks which might have seemed to them quite distasteful in the Western air, which is so charged with confidence and optimism. There were good representatives of the administration and the public service; there was free speech and frank discussion, and the people were assured that they had to deal with live questions themselves, and were not called together to praise paternalism and beaurocracy, the ways of which they either did not understand or, knowing, disapproved. It seems to us exceedingly important that this fact should be widely understood. In connection with the Albuquerque meeting, the well known Californian, Mr. W. P. Wheeler, Assistant Secretary of Commerce and Labor, who represented President Roosevelt, said:

"In a congress of this kind, where the prime object is a betterment of conditions in a great territory such as this tremendous region west of the Mississippi, nothing is to be gained by a concealment of facts. If any one district feels that it is being discriminated against by any branch of the Government, its protest should be heard, and every opportunity given for a full thrashing out of the difficulty.

"And this by no means must be understood as being an intimation that the President assumes that the protestants are in the right. It is simply the old principle of fair play. Let the fight be made and the deserving win. That is Mr. Roosevelt's idea.

"It would be a sad commentary on the spirit which imbues the heads of all departments of the Government today to admit for a moment that it is anything less than a spirit urging those chiefs to do the most for the good of the greatest number all the time. If mistakes have been made, if the protests of any section or any group of indi-

viduals are well founded, I am empowered, both by the President and by my own knowledge of the facts, to say that no one wants to know it more quickly than the Administration."

That is straight goods, all wool and a yard wide. Mr. Pinchot, Mr. Newell and others who are heading the subdivisions of the Government's great work in the West, do not need to be protected by a lot of mollycoddles whose policy seems to be to smother by enforced silence that which they have not force enough to fight. We hope now that this spirit has everlastingly gone out from our western industrial congresses. As we go to press the Trans-Mississippi Congress is in full swing in this city, and we expect the open-lid principle will govern its deliberations. It has to do not only with the development of the West, but its relations to the Pacific Ocean and all that touches it, to everything north and south on this hemisphere which can be reached by land, to everything everywhere which can be attained through the Panama canal—in fact, the region west of the Mississippi in its proper place in the world. If a wider subject is needed the reader will have to take up astronomy. We will see about that next week.

One of the products of free speech at the Albuquerque Congress was the adoption of a resolution that, in justice to the forest service and claimants to property rights within the National Forests, there should be laws which will provide for a review at the instance of any party affected, by a competent tribunal, of controversies relating to homestead entries or forest control or regulation, arising from any action, regulation or ruling of the forestry office. This takes the sting of arbitrary regulation by a bureau chief out of the situation. It is just what Californians fought for in the sulphur situation, and just what they secured through the intervention of President Roosevelt. It is rational and must prevail in some wise form.

Another product of free speech at Albuquerque was a declaration "that whenever large tracts of land suitable for agriculture, and which are not naturally forest, and which are not intended to be made forest, and which are not necessary or proper for the preservation of the forests or the water sheds or water supplies for the purpose to which they have been devoted, lie within forest reserve boundary, such tracts should be restored to entry as public lands." Another resolution is upon the utilization of streams for the purpose of electric power, and favors the removal of restrictions upon such use. These things are fair subjects for declaration, and it will comfort the people to be heard and to know that adjustment is now more likely to be reached by demonstration rather than preconception. The people are all right. Mr. Wheeler truly said: "In a congress so catholic as this there can be little question that the majority will be right in every case. And it makes no difference who is hurt by the ruling." It is not surprising that with the new assurance which the people have received of the attitude of the branches of the Government service through the President's representative, the congress should give sweeping endorsement to the work of the reclamation service, the forest service and the geological survey, and urge on Congress continued support and increased appropriations for all of these bureaus. The people are all right as to the general importance of the great work in the West, but the people must be trusted to assist in the work, not only by paying for it, but by intelligently co-operating with the experts as it proceeds.



## Queries and Replies.

### Experience on Poor Coast-Uplands.

To the Editor: I have a place of about 30 acres, 12 of which is nearly all hillsides that have been planted to oats, to my knowledge, seven years, and probably for many years previous; this must have nearly depleted the ground of a great deal of the requisites of this crop. In 1907 I got about 11 tons of hay, and this year only about six, at a cost of approximately \$18 per ton. Now this does not pay for the trouble, as I must hire the work done, that is, plowing, seeding, cutting and baling, and besides, I can buy now at above figure; thus I am anxious to increase the output if possible without too much outlay. The crop was spotted and the grain quite short in stem on the crown of hills. There was considerable rust, produced possibly by a mixture of white oats with the red seed. These features, however, are not the worst; this is a weed like the sorrel of the East, with a reddish tinge to leaf and stem. It is in spots, literally crowding out everything else. It is green now, and thriving fairly well without moisture since the last rain in March. A neighbor has four acres from which he cut  $\frac{3}{4}$  of a ton of hay. The ground is simply covered with the sorrel, and all in three years. Does it come from a depleted soil, and can it be exterminated. Can this soil of this part of the State be brought into better shape by a rotation of crops, and what? Will the cow-pea, such as used on worn out lands of the South Atlantic States, be used to advantage, either to plow under or to cut and use for forage? Should I sow right after the rains begin or wait until January?—New Farmer, Santa Barbara.

You are simply up against a proposition of thin land worn out by continued cropping, and this year short of moisture because of the deficient rainfall. There is no royal way to bring thin land back again into a more profitable condition; simply the old way of better cultivation and the use of fertilizers, the results, however, always being conditioned on the annual rainfall. The best possible treatment for such soil would be the plowing in of a considerable amount of stable manure very early in the season, so that the soil will have opportunity to settle back and the fertilizer to become assimilated by the effect of the winter rains. Under such treatment sorrel will disappear and better plants give you a more profitable return. The growth of a legume like cow-peas would be retroactive to the soil, but you will not get a good growth of cow-peas probably during the rainy season, because the temperatures would be too low, nor could you get a good summer growth, as they do on low and irrigated lands, because adequate moisture would not be present. Cow-peas have been tried as an upland crop in your district, with only partial success. You can restore your land by the use of commercial fertilizers and a complete fertilizer containing proper amounts of nitrogen, phosphoric acid and potash, such as all fertilizer dealers have in stock, would undoubtedly give you much better yield if the rainfall is adequate, but how the cost of that treatment would compare with the product could only be told by such experiments as you may be inclined to make.

In your part of the State all grains should be sown early for dry farming—that is, just as soon as the soil is moist to a good depth. Sowing after the first rains may sometimes be disappointing on dry uplands, because a drouth of sixty days or so may follow, which may cause the plants to perish, because the moisture has to be shared with the dry soil beneath. You cannot farm by calendar in California; one has to learn to judge of conditions and to take advantage of them intelligently. To break up the land after the first rain moistens it sufficiently, thus saving some moisture, and preparing the surface for the absorption of

all that follows, is one of the basic principles of dry farming. The cereal crop can be sown on such a land without reploting, covering with a disk harrow, when sufficient moisture has fallen to prevent the killing out of the young plant by drouth, to which allusion has been made. A very suggestive article along these lines will be found on another page of this issue.

### About Canning Interests.

To the Editor: Can you tell me to what extent are the various crops grown in this State, and some important facts concerning the history of the canning industry in this State. I wish to know the practicability of growing sweetcorn in all parts of the State, particularly on alkali soils; also the length of canning season for the various crops, and the amount of any one product—peas, string beans, sweetcorn, peaches, grapes, plums, etc.—necessary to make a canning factory profitable in any one community.—Enquirer, Mohave.

We cannot undertake to give a detailed account of the canning interests of California, historically or otherwise. The subject would fill a book. In a general way we may say that the canning interest, in point of value of product and in the amount of wages paid in their establishments, is greater in California than in any other State in the Union. The total amount of money invested in canning establishments in California is ten and a quarter millions, while New York is the only one which has more money, viz: ten and a half millions. It is not practicable to grow corn in all parts of California, and particularly impracticable on alkali soil. The canning season lasts from the early cherries in May to the the last tomatoes in October. To establish a cannery you need not only one product, but a good many products, so that the cannery may be employed during as long a season as possible. The latest established cannery, by co-operation of local capitalists and growers, is at Modesto, and if you will write to the Board of Trade, Modesto, Cal., you may be able to get descriptions of the cannery and the way in which it was established.

### Gypsum and Lime.

To the Editor: I have been told that pulverized gypsum will prevent the soil from caking, or will break up hardpan. A practical farmer in Kern county has been experimenting for some time with it. What do you think of its merits compared with lime for that purpose? Gypsum costs only \$6 a ton. In your reply to my question in your issue of July 27 you recommend from 500 to 1000 pounds of lime to the acre. Any information you can give on this point will be thankfully received.—Reader, Los Angeles County.

Gypsum will act in the same way as lime in rendering clays more friable, but not to the same extent—that is, you will get more granulation of the clay from a ton of lime than from a ton of gypsum. But in the growth of certain plants you will get more stimulation from gypsum than from lime, because it will render plant foods more available. It is, however, of itself only a plant food when the plant needs lime, which is not often in California soils. If you need most friability, use lime; if you need to increase plant food, use fertilizers which contain nitrogen, phosphoric acid and potash. Gypsum is apt to be overestimated because it makes other things work rather than work itself, and it is indeed a tonic rather than a food.

### The Dried Fruit Worm.

To the Editor: Enclosed please find sample of peaches that were ruined by some kind of bugs and worms. What's the cause of these bugs? We have lost about a hundred pounds of peaches. When we boxed these peaches they were good and dry, and I cannot see why the worms got into

them. We have quite a few peaches on hand and would not like to lose any more on this account. Do you think the balance of these peaches will spoil, too? Do you advise us to sell these peaches right away?—Beginner, Sacramento Valley.

You have to deal with the larvae of the dried fruit moth, commonly called dried fruit worms. The eggs are laid by the moth at or after the drying, or even after boxing, for she knows where to put the eggs so the little worms can crawl through the cracks into the fruit. You can kill everything now in the fruit by dry heating to 130 degrees, or by dipping in boiling water quickly, or by exposing the fruit in a tight box or room to the fumes of carbon bisulphide, which will all evaporate subsequently and not injure the fruit. After treatment the fruit must be kept away from moths or it will get another dose of eggs. Probably all your fruit will go in the same way if you have exposed it all in the same fashion, and if you can sell it to an experienced packer he will know what to do with it.

### Grasses for Hillsides Again.

To the Editor: Will you please advise us as to what grasses, or what mixture of grasses, you consider best to plant on the hills in Sonoma county for pasture; also the grasses to be planted on the hills in Mendocino county, also for pasture?

As to the best grasses for hillsides in Sonoma and Mendocino counties, we do not feel safe in recommending any grass for such lands, if the grower expects to make a permanent pasture; that is, to have the grass make a turf and retain life in the roots from year to year. After a third of a century of investigation and trial of such plants, we are forced to this conclusion. We have obtained nothing that will give us green fields on dry lands during the dry season without irrigation.

The grasses which will maintain life and give best growth on moderately dry lands, especially retentive bottoms, are Australian rye grass, tall oat grass, orchard grass and Hungarian brome grass. All these grasses are good winter growers, hold on late in the spring, and then bunch up and protect themselves during the dry season, ready for a new start from the root as soon as the days shorten and evaporation is reduced. There are hundreds, or even thousands, of acres of these grasses now rendering satisfactory service in California, but they are not in the dry hills to which your letter refers.

### Fertilizer Dust on Lemons.

To the Editor: I would like very much to have your opinion as to whether lemons now being picked, and yet to be picked within the next six weeks, and stored away for next summer's trade, would likely be affected as to their keeping quality by the distribution of commercial fertilizer in the grove. The fertilizer is, of course, composed greatly of decomposed animal matter, and in spreading it over the orchard, either by drill or broadcast, it passes up in clouds of dust more or less, and goes all through the trees and on the fruit.—Grower, Tulare County.

We are not aware that the question has ever arisen to public notice. We have never heard that danger was involved in such access of fertilizing material to the fruit. Our impression is that injury need not be feared, as the dust would be likely to be dislodged in handling or by the action of the wind or showers which may come during the picking, and anything that was still retained would be carried off in the washing which is done in the packing house before putting the fruit in storage. It seems to us that any danger which you anticipate is infinitesimal and may be disregarded.



## Horticulture.

### GROWING WINTER ONIONS.

California gardeners will be interested in what the Arizona Experiment Station says about winter grown onions as a profitable crop. For winter growing a very sandy loam, if rich enough, is preferable, on account of the greater ease of cultivation during the rainy season or after irrigation, and the freedom with which rain water can escape from the surface, where the onion does its main business. Such soils are also warmer than the clays, and better conducive to winter growth. In regard to onion culture, the station gives the following suggestions:

Onions may be grown from sets, from seed sown in the field, or by transplanting young onions from seed beds to the field. Although onions grown from sets may be matured about two weeks sooner than from seed, there is a large percentage of multipliers among bulbs so grown. Also many blossom stalks are sent up, requiring much labor to remove and seriously damaging the selling and keeping qualities of the crop. To the plan of sowing seed in the field there are several objections. Being somewhat difficult to germinate, the seed must be carefully sown in perfectly prepared soil. This entails much more expense in a large field than for seed beds only. Again, between planting time in September and the first frosts, several weeks of weedy weather intervene, necessitating several expensive cultivations. Also, the labor of thinning and replanting missed spaces is greater than for transplanting, and the cost of seed is more.

The best and cheapest method is to sow the seeds in beds and transplant later to the field. As soon as hot weather abates (usually in September, but often later in California) the seed is thickly sown in drills five inches apart in beds of well-fertilized soil. The water furrows must be placed at intervals suitable for sub-irrigation. Two pounds of seed thus planted will provide enough young onions for an acre. If the soil is moist when the seed is planted, the seedlings should begin to appear in about nine days. An irrigation will then bring the whole stand up quickly, and, with proper irrigation and cultivation thereafter, the young onions will be as large as slate pencils in nine or ten weeks and ready to transplant, usually in December.

The ridges having been prepared just in advance of planting, the young onions are lifted, as needed, the roots trimmed to an inch in length and the tops cut back about half. The rows are best laid out along the ridges by means of Crane's marker. This is a round cottonwood log two feet long and 10 to 12 inches in diameter, with three rows nine inches apart of pegs extending around the roller. The pegs should be about one and a half inches long and spaced at four to six inches, according to distance desired between onions. By means of a light frame tacked to the ends of the roller the marker is drawn along the ridge, leaving three perfectly uniform rows of holes. The trimmed plants are then dropped, one at each hole, set about one and a half inches deep and the soil firmly pressed about them by hand. It is then well to irrigate them lightly to insure an even start of the plants. By this plan about 120,000 onions an acre may be placed, planting five inches apart in the row, with three rows to each ridge.

### MR. MASLIN'S FIG ORCHARD IS A WONDER.

And so it is likely to prove that our old friend Mr. E. W. Maslin, valuable public servant and a master of amateur horticulture, builded better than he knew, perhaps, when he indulged in a seedling fig orchard in Placer county nearly a quarter of a century ago. Dr. Walter T. Swingle, who is conducting life-history investigations for the U. S. Department of Agriculture, and who was first to land the fig insect in California by the Roeding route, is disposed to believe that some of Mr. Maslin's seedlings are wonders, and will make

further study of them. Dr. Swingle gives this account of the Placer county plantation:

In 1885 Mr. E. W. Maslin planted the seeds of the best grade of Smyrna figs to be obtained in the market. Several hundred of these seedlings were set out in orchard form on his place at Loomis. This orchard was not a commercial success, and it was soon noticed that many of the trees were more like capri figs than Smyrna figs. In the fall of 1899 I found several promising capri figs there, and in the summer of 1906 Professor Mason found a very curious variety, a sort of hermaphrodite tree, that had enough of the qualities of a capri fig to support the Blastophaga (fig insect), and enough of those of the fertile fig tree to produce an abundant crop of summer generation buds just as the spring generation capri figs were ripening. It also bears numerous fertile seeds mingled with the insect-bearing galls.

By planting this variety among the other capri figs the Blastophaga will be able to breed uninterruptedly throughout the year, and not, as is now the case, almost completely die out in midsummer.

**The Capri Fig Orchard.**—It is clear, from what has preceded, that the Blastophaga has a very much better chance of breeding in a special capri fig orchard composed of a number of varieties. Some sorts of capri figs not particularly valuable for use in caprification may, nevertheless, be extremely valuable in furnishing suitable breeding places for the insect at some critical season, as, for instance, the new variety noted above from Mr. Maslin's seedling fig orchard.

Since March, 1908, I have realized the importance of securing all obtainable varieties of capri figs, and this object has been kept steadily in view ever since. A number of capri figs were secured by me in Naples in 1908, and others in 1899 in Algeria, Greece and Asia Minor, and in 1901 Mr. Carl S. Scofield made a special trip to the fig region of the Kabylie mountains of Algeria to secure the many capri figs that occur there. I secured some of the Italian sorts in 1902. In the mean time the Maslin seedling orchard has pointed out a way to obtain still more and ultimately still better sorts.

**New and Superior Figs and Capri Figs.**—There is nothing to indicate that the Smyrna type of fig is very highly bred or very widely different from the wild type of figs. On the contrary, among even the few dozen edible figs secured by Mr. Maslin there are several that are equal, if not superior, to the commercial Smyrna variety.

This being the case, there is every reason to expect to secure very superior varieties of drying figs and of capri figs by growing large numbers of trees from seeds of the best varieties pollinated by all the different capri figs. It must be remembered that the hereditary characters of the capri fig come into play in this breeding work, and that we might as well expect to improve the grade of Durham cattle with a scrub bull as to breed new and superior types of drying figs while using a poor type of capri fig. The hereditary character of capri figs can be seen only in the offspring, so we are forced to try as many different capri figs as possible in the hope of securing one that yields progeny of the highest order of excellence. This is another reason for securing all obtainable varieties of capri figs, as it by no means follows that the capri figs best adapted for artificial caprification on a commercial scale will be those yielding the best new sorts among their progeny.

## Citrus Fruits.

### HARDPAN.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

To judge by the frequent requests for a prescription to overcome hardpan, it would seem that this baneful soil condition is increasing in citrus orchards. This is a difficult and serious question, and before any suggestion can be intelligently made an examination of each soil is necessary, to find how the particular hardpan responds to water under test by physical analysis.

When the hardpan has been examined and its character ascertained, it will generally be found

practical to subdue it. The hardpans complained of are usually a foot or two feet below the surface, and they then occupy from six inches to as much as four or five feet of soil. Usually they are not very thick, depending upon the character of the soil. In some cases they have been characteristic of the soil continuously since the orchards were set out, but in many more instances they have been formed as a result of the methods of irrigation and, to some extent, cultivation practiced. While irrigation should be a carefully studied art, it has more frequently been of a hit-or-miss character, with very little attempt at suiting it to the peculiarities of the soil. All soils, under irrigation, containing a fair proportion of clay or silt, are liable to form hardpan at the depth of the loam if the greatest care is not taken to prevent it by irrigation. In a fine silt soil the methods of plowing and cultivation affect the formation of hardpan almost as much as the irrigation, but in a clay sub-soil the irrigation is wholly to blame.

The hardpan having been formed, a severe problem presents itself to find a plan to subdue it. The plan most probable of success is to sub-drain the soil. At first thought this seems an odd proposition to suggest—the draining of a soil which depends almost wholly on artificial irrigation to supply it with water. But a more careful study of the effect of drainage will convince the most skeptical. Drainage promotes the aeration of the soil, and by putting an absorbent drain tile through the hardpan the aeration provided makes the hard soil permeable to water. Once the hardpan becomes irrigated, it will not harden again if the drainage is kept open, as the hardpans are usually formed by water drying out at a certain level after the soil had been puddled by excessive water supply which had been unable to get away. The drainage prevents this re-occurring, and is about the only permanent cure for such hardpan.

A mechanical breaking up of the hardpan with machinery or explosives, so as to get air in and then soak up with water, effects a destruction of the hardpan, and if this is followed by intelligently careful irrigation, being sure to get enough and not too much water into the soil, and keep up a regular content of soil moisture, there should be no further formation of hardpan. But irrigators capable of doing this are too scarce to make such a plan average good practice. In fruit orchards the mechanical breaking up of a hardpan is not practical, because by so doing the tree roots would be destroyed and crops sacrificed.

Sometimes a hardpan can be broken up by simply running a deep sub-soil plow once both ways through the land between the orchard trees. This destroys only a minimum root surface, and allows the airing and opening up of a strip of soil all around each tree. If the hardpan is not too impervious to water this plan will succeed, but the same rule to prevent its re-forming applies, as in any case of mechanical breaking up. In any case the primary consideration is a physical soil examination for water action.

The idea voiced by some that cover crops can grow down into and break up hardpan is a fallacy. That the breaking up of a hardpan and mixing vegetable or any organic matter into it would make it more permeable to water and air is quite evident, but it is quite inconceivable that the roots of a cover crop can break it up. People who put forward such ideas do not know what a hardpan is; have, indeed, never made a mechanical examination even of a soil underlaid with hardpan.

A plow hardpan, or plow-sole, is quite a different matter, and is quite simply disposed of by the growing of mulch crops that send their roots down through it, and so change the character of the soil when they decompose that it will not form plow-sole, but will be friable and easily part with surplus water and absorb air.

### OLD ORCHARD AND SHORT CROPS.

No question is more interesting or puzzling to the thoughtful orange grower than why the old orchards are bearing short crops and size so unevenly. This is too important and too difficult a query to answer offhand, and requires careful enquiry as well as thought. It is such a broad ques-



tion that narrowing it down to a specific answer is well-nigh, if not absolutely, impossible. Without wishing to pose as a "told you so," it was predicted that the systems of cultivation and irrigation would sooner or later produce the result now complained of, and later the want of an intelligent pruning was added to the list of probable causes. Judging from the frantic and often chaotic attempts at fertilization that are being urged and accepted in a sort of desperation, the grower as well as his voluntary advisers are not in sight of land. An examination of many orchards has revealed sufficient cause for short crops and heavy dropping, but there are so many conditions that may qualify the findings, we will withhold the result of our observations for a few issues.

Several large and thoughtful growers, who by education and training are certainly able to form reasonable conclusions from ascertained fact, have recently asked the writer to give the best information obtainable on this point, and it is in answer to that call that we are now bending our efforts. We hope to be able to lay the matter intelligently before our readers and present a set of facts which will aid them in solving the mooted question.

At the same time, many valuable points may be elucidated which will simplify the culture of citrus fruits and make the business pleasanter as well as more profitable. Growers must face the stern facts, and, if necessary, be prepared to reverse their methods, for there is no use traveling round in a circle, frantically trying every imaginable fertilizer or new-fangled idea in cultivation. —T. C. W.

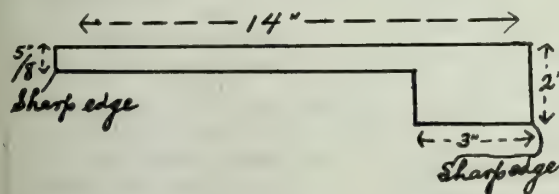
## The Vineyard.

### GRAFTING OVER OLD VINIFERA VINEYARDS.

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

(Concluded From Page 212 of Last Issue.)

**Tools Necessary.**—The only special tools needed are a curved pruning saw, a grafting or budding knife, a wooden maul, and a strong  $\frac{1}{2}$ -inch chisel, unless the vines are very large, that is, over three inches in diameter. In this case it is well to have a grafting tool made. Any blacksmith can make a good one from an old horseshoe file. This tool should be 14 inches long and about  $\frac{1}{2}$  inch in diameter. At one end it should be flattened out into a hatchet-shaped blade three inches long and two inches wide. This blade should be about  $\frac{5}{8}$  of an inch thick on the back, gradually tapering to a sharp edge. The other end of the tool should be shaped like a cold chisel, about  $\frac{3}{8}$  inch wide.



A Grafting Tool.

This cold chisel edge should be in the same plane as the hatchet edge and not at right angles to it, as sometimes made.

A convenient receptacle for holding the scions is made by cutting a coal-oil can horizontally through the middle and placing a round stick across the top for a handle. This will hold 50 or more scions, and by putting an inch of water in the bottom they can be kept perfectly fresh.

**Preparation of the Scions.**—Proper care of the scions is necessary for the best results. If the cuttings have been made and kept properly, they will show, on being cut, a clear, greenish white wood, green inner bark and firm, dry, light brown pith. If the pith is black or water-soaked, the wood streaked or spotted with black, or the bark loose or brownish, the cuttings have been injured by too much moisture or were poor cuttings to commence with, and should not be used.

A cutting which is too dry is harder to detect by its appearance. If suspected of being too dry, they may then be tested by placing two or three short pieces of 2-3 buds in moist sand in a warm room. If in a week they do not show signs of life

by the starting of roots at the bottom, they are unsafe to use.

Twenty-four hours before they are needed the cuttings should be taken out of the sand in which they have been stored and washed to remove all particles of sand which would blunt the grafting knife. They should then stand in fresh water for one or two days, but not more, until used.

**Method of Operating.**—The first thing to do is to clear away the earth from around the base of the vine, making a pit about 2 feet in diameter and 2 to 3 inches deeper than the level at which the grafting is to be done. The earth should be well cleaned off the stem of the vine and the rough dry bark removed. The vine is then ready for decapitation. This is done by sawing horizontally in such a place that about 2 inches of smooth, straight grain are left at the top. If the sawing is done at or too near a place where the grain of the wood is crooked or curly, great difficulty will be found by the grafter in making a good fit.

After leaving the decapitated vine about 24 hours to bleed it is ready for the insertion of the scion. If the vines are  $1\frac{1}{2}$  inches in diameter or less, one scion to each vine is sufficient. An attempt to put in more will usually result in having two badly fitting grafts in place of one good one. For larger vines two scions are preferable whenever they can both be made to fit securely. If both of these scions grow, the weaker is removed at the next pruning. In making the cleft a place should be chosen where the bark is smooth, straight and sound. The cleft should be made by splitting, not by cutting. First place the edge of the knife or grafting tool on the part of the sawed surface where the cleft is to be made, and which has been previously cleaned and smoothed with the grafting knife. With a slight blow of the wooden mallet the edge is driven about  $\frac{1}{8}$  of an inch into both wood and bark. The object of the mark thus made is to insure that the bark and wood split at the same place. The chisel or the chisel end of the grafting tool is then placed on the mark sufficiently far from the bark to allow of the insertion of the scion and then driven in an inch or so, sufficient to open a cleft wide enough to allow the entrance of the scion. The opening of the cleft is accomplished by pressing the chisel sideways. The scion is inserted and then, when the chisel is released and removed, the tension of the wood will hold the scion firmly in place.

The cleft, whenever possible, should not extend quite across the vine. If the cleft extends only part way it will close up more completely and hold the scion more firmly. With small vines it is often impossible to avoid splitting quite across, and it may then be necessary to tie the scion in by putting two or three turns of string or raffia around the stock. With large vines the pressure is occasionally too great, and sufficient to crush the scion. This is obviated by placing a small wedge of wood immediately behind the scion.

**Shaping the Scions.**—The scion is cut in the ordinary wedge form, a little thicker on the side which comes nearest to the bark. The length of the wedge depends on the character and size of the cleft in the stock, but should be such that very little of the cut surface of the scion extends above the level of the stock. The wedge will usually be long and tapering. It is inserted in such a way that the line between bark and wood coincide with the corresponding line on the stock. As the bark of the stock is thicker than that of the scion the outer surface of the scion will be a little lower than that of the stock.

It is not always possible to make the lines correspond exactly but perfectly satisfactory unions are obtained if these lines were very near together or cross in one or two places.

The cutting of the scion should be done with a very sharp, clean knife, and its insertion in the stock should be immediate, before it has a chance to become dry even on the surface. It is bad practice to prepare the scions beforehand.

**After the Scion Is Set.**—As soon as the scion is in place, all cut surface of stock and scion should be carefully covered with a couple of inches of moist, well pulverized soil, and a stake driven in such a position that it will support the first growth of the graft. The complete filling of the hole may be deferred for a few hours, except in extremely hot, dry weather, but not long enough to run any risk of having the scion become even

slightly dry. No wax, clay or similar material is needed. There is nothing better to put around the union than moist, loose soil. This gives the conditions of moisture and aeration most favorable to the uniting of the tissues. It is a good practice to cover the cleft in the stock with a little clay, a leaf, or anything that will exclude the soil, but unless the cleft is large this is not necessary. The filling up of the hole with soil should be complete and the whole scion may be covered up unless the soil has a tendency to bake. When finished each graft will be in the middle of a wide mound of soil. Narrow mounds may become too dry.

**Length of Scion.**—It is usual to use scions of two buds, but there is often advantage in having them longer. Three, and even more, buds have been used with advantage on large vines. With only two buds on such vines the growth is often so rapid and so large as to be almost unmanageable. With several buds it is sometimes possible to obtain five or six bunches of grapes the first year, which, if the variety is early, will ripen sufficiently for wine-making.

**After-Treatment of the Grafts.**—The proper management of the grafts during the first growing season is as important as the grafting itself.

The mounds should not be disturbed by hoe or cultivator until the unions are well formed. If the scions are completely covered and the mounds form a hard crust, this crust should be carefully broken with the fingers.

**Suckering.**—Many large vigorous shoots will come up from the old stock. If these are left too long they will choke or dwarf the graft. If they are removed too soon, many good grafts will be disturbed and killed by injuring the unions. Judgment and careful work are therefore needed in suckering. When the grafts have started to grow vigorously, so that the shoots can be tied to the stake, it is safe to commence suckering. The suckers can usually at this time be removed in bunches by pulling up by hand without removing any soil. Unless it is quite certain that the suckers are not entangled with the scion, some soil must be carefully removed until it is possible to see how to detach the suckers without disturbing the union.

Where grafts are slow in starting, and the suckers vigorous, it is necessary to sucker before the scion has grown much. This can be done safely if care is used.

**Tying Up the Shoots.**—When the union is complete the growth of the grafts on large vines is generally very rapid. A growth of two or three inches a day, and many canes 10 to 15 feet long on a vine at the end of the season, is common. Unless this vigorous growth is properly managed its benefits are not only lost, but it gives great trouble the following year and makes it impossible to obtain a properly shaped, healthy vine. If the canes are left to themselves they will often grow flat on the ground, and as they may be  $1\frac{1}{2}$  inches thick or more by the end of the season, the attempt to raise them up the next year will result in many of the finest grafts being torn out of the stock, and the rest will make ill-shaped vines, weakened by numerous large wounds.

The shoots should therefore be tied to the stake with a loose piece of string or thin rope as soon as they are long enough. If too many shoots start they should be thinned. This thinning should be done early, in order to throw all the available strength and growth into the shoots left. One shoot to each bud is enough on strong vines, and one shoot to a graft on weak or small vines.

When the shoots left have grown two or three feet they should be cut back six inches or so, in order to force out laterals. The laterals which start below eight or ten inches from the base of the shoot should be pinched off when small, but all laterals above that allowed to grow. The new vine is thus completely formed the first season, the main shoot forming the trunk of the vine and the laterals the two, three or four branches. Such a vine may produce almost a full crop the following year.

The cost of grafting over an old vineyard properly will in all cases be considerable, and will seldom be less than \$25 per 1000 vines above the ordinary cost of cultivation, and without reckoning the cost of stakes and the loss of crop. With large vines the cost may considerably exceed this.

FREDERIC T. BIOLETTI.

El Gavilan Vineyard, Hollister, California.



## Apiculture.

### GOVERNMENTAL HELP IN APICULTURE.

#### I.—State Work.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

It was my pleasure last week to have something to say in regard to Foul Brood Legislation, a form of governmental fostering of apiculture, and this subject has suggested that it would be profitable to review briefly some of the direct work done for beekeeping under State and National auspices.

In the beginnings of agriculture as a science in America we nearly always have to go back to our first Agricultural College and Experiment Station, that of Michigan, founded at Lansing and opened for instruction in 1857. It is almost impossible to estimate the influence that this first industrial college has wielded in the development of similar institutions in America and upon the work of the United States Department of Agriculture.

Entering college at Lansing in 1857, Albert John Cook was graduated in 1862, and became, after teaching several years in California, followed later by study at Harvard and a brief instructorship at Michigan, in 1869, Professor of Zoology and Entomology in the Michigan Agricultural College. Among his very first official acts was the purchase of bees with which to stock an experimental apiary, and all during his services of twenty-five years at Michigan, bees and beekeeping received a good part of his attention. Many valuable experiments were conducted, and in connection with his courses in entomology students received instruction in beekeeping. As an outgrowth of this work "The Manual of the Apiary" first appeared in 1875, a work which has passed through several editions, and so been brought quite recently up to date. The Michigan State Board of Agriculture reports contain much of interest in beekeeping lines. One of the early problems attacked was the wintering of bees, the result of Professor Cook's experiments being summarized in one of the early bulletins of the Agricultural Experiment Station of Michigan, Bulletin No. 8, published in 1885. Bulletin No. 61 (April, 1890) is entitled "Foul Brood," and Bulletin No. 65 of the same year is devoted to a report on "Planting for Honey." "Honey Analyses," appearing in July of 1893, represents an early investigation instigated by Professor Cook in a direction in which later work has been done by others.

In 1894 Professor Cook severed his official connection with the Michigan Agricultural College and accepted the chair of zoology in Pomona College, at which station he has been of considerable help and inspiration to the beekeepers of southern California; and his cloak at Michigan fell to other shoulders: J. R. Larrabee, R. L. Taylor, and J. M. Rankin, the last named of whom is better known to California beekeepers in connection with the U. S. Government Station at Chico, where Mr. Rankin labored until quite recently, for some three years.

Two other States which early in their history began work in beekeeping are Rhode Island and Colorado. Samuel Cushman was appointed with the founding of the Rhode Island Agricultural Experiment Station in March 1889, apiarist, and for several years devoted himself in a very promising way to beekeeping interests, until poultry claimed his entire attention, a work in which he placed Rhode Island in the lead.

In Colorado we find C. Max Brose doing work in apiculture, his first report appearing in 1888, for the year 1887 (Bulletin No. 5); and Colorado has kept up her work in this direction, under the efficient guidance of Prof. C. P. Gillette, a Michigan man who followed in the footsteps of his teacher, Professor Cook, and is doing in Colorado what his teacher did in Michigan. Bulletin No. 54 of the Colorado Agricultural Experiment Station, appearing in May, 1900, entitled "Apiary Experiments" and dealing with foundation in comb building, is a most worthy contribution, presenting much of value for the beekeeper. Colorado has always manifested an interest in wax and its use, and its latest publication is Bulletin No. 129, appearing last May, under the title of "Extraction of Beeswax." This publication should be in the hands of every practical beekeeper interested in

the economies of his apiary in the matter of his by-product, wax. Professor Gillette, like Professor Cook, has given beekeeping attention in connection with his teaching work in entomology.

Besides these States mentioned, during the late nineties as many as ten States published notes on beekeeping, covering such subjects as honey analyses, relation of bees to seed crops, notes on the natural history of the bee, apiary notes, use of bees in greenhouses, spraying with arsenites vs. bees, etc., etc. In 1901-02, two more stations began active experimental work in beekeeping. These are Montana and Texas. It was the privilege of the writer to conduct experiments at the Montana Agricultural Experiment Station during the years 1901-02, '02-03, '03-04, and '04-05, a summary of which experiments chiefly concerned with the wintering of bees in Montana's rigorous climate, are incorporated in Bulletin No. 67 of that station, entitled "Practical Beekeeping." (75 pp. Plates V. Figs. 15.)

The work started in Texas in 1902 was until December, 1905, in the hands of Louis Scholl, and is now being carried forward by his brother, Ernst Scholl, a recent graduate of the Texas A. and M. College, at College Station, where also is located the Agricultural Station of Texas. Mr. Scholl's recent publication, Bulletin No. 102, on "Texas Honey Plants," partly in report of work done by his brother and former entomologists, is a distinct contribution to our knowledge of the honey yielders of that section of the country and will be invaluable to the beekeepers of that State.

The Pennsylvania Department of Agriculture in 1901 published a bulletin of over a hundred pages, entitled "Bee Culture," Bulletin No. 77, by the well known authority, Dr. C. C. Miller, author of "Forty Years Among the Bees." The reports of the State Beekeepers' Association, beginning with the first report in December, 1904, contain much valuable information and appear regularly in the reports of the Pennsylvania official documents.

Arizona has two publications to her credit of direct value to California beekeepers, owing to their closeness to us. Bulletin No. 51, appearing in 1905, deals with "Bee Products in Arizona" and gives an excellent report on Arizona honeys. Bulletin No. 57, which appeared last June, treats in part with "Honey Vinegar," and is a new and valuable contribution to the subject.

In instruction work, aside from Michigan and Colorado, short courses have been given in Massachusetts, Pennsylvania, Montana, and lately in Tennessee. The last named State early had instruction work in apiculture, the writer's father, Mr. Frank Benton, having served as instructor in apiculture in that institution in the years 1875 and 1876; but this early beginning was lost, and Prof. G. M. Bentley now has begun again the teaching work in beekeeping with a short course in Bee Husbandry.

Our sister State, apiculturally speaking, Texas, offers, next to California, the most extended course in apiculture. Of our own university's work we will speak at another time.

Berkeley, October, 1908.

The annual statement compiled by the General Land Office shows that of an area of 754,895,296 acres of surveyed and unsurveyed public lands undisposed of on July 1, California has 23,232,284 surveyed and 6,640,209 unsurveyed acres, in all 29,872,493 acres. Alaska has 386,021,509 acres; Arizona, 42,769,202; Colorado, 23,696,697; Idaho, 26,785,002; Montana, 46,592,440; Nevada, 61,177,050; New Mexico, 44,777,905; Oregon, 16,857,803; Utah, 36,578,998; Washington, 4,350,001; Wyoming, 37,145,302.

Prof. C. C. Gorgeson, head of the Agricultural Experiment Stations in Alaska, says that he ate watermelons grown in the open at Manley Hot Springs, in the Tanana valley, on August 18; was served with tomatoes grown in the open, and his picture was taken in a cornfield where the stalks stood several feet high, and traveled through farms on the Tanana and Yukon where wheat, barley, oats and rice were maturing.

The Holister Free Lance says: Squirrels and rabbits are reported doing more damage this year than in many seasons past. Many young vineyards have been stripped of all foliage, and farmers have suffered greatly. Efforts to get rid of the pests have been only partially successful.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |   |
|--|---|
| 1 The Climate of California and its Local Modifications. | 20 The Nectarine.   |
| 2 Why the California Climate Specially Favors Fruits.    | 21 The Pear.  |
| 3 The Fruit Soils of California.                         | 22 Plums and Prunes.  |
| 4 The Wild Fruits of California.                         | 23 The Quince.  |
| 5 California Mission Fruits.                             | 24 Vine Propagating and Planting.                             |
| 6 Introduction of Improved Fruit Varieties.              | 25 Pruning and Care of the Vine.                              |
| 7 Clearing Land for Fruit.                               | 26 Grape Varieties in California.                             |
| 8 The Nursery.   | 27 The Date.  |
| 9 Budding and Grafting.                                  | 28 The Fig.   |
| 10 Preparation for Planting.                             | 29 The Olive.   |
| 11 Planting Trees and Vines.                             | 30 The Orange.  |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 31 The Lemon, Lime, etc. Persimmon, Pine-apple, Avocado, etc. |
| 13 Cultivation.  | 32 The Banana, Loquat.  |
| 14 Fertilizers for Fruit Trees and Vines.                | 33 Berries and Currants.                                      |
| 15 Irrigation for Fruit Trees and Vines.                 | 34 Almond, Walnut, Chestnut, Peanut, etc.                     |
| 16 The Apple.  | 35 Fruit Canning, Crystallizing and Drying.                   |
| 17 The Apricot.  | 36 Injurious Insects.   |
| 18 The Cherry.   | 37 Diseases of Trees and Vines.                               |
| 19 The Peach.  | 38 Injurious Animals and Birds.                               |
|  | 39 Protection from Winds and Frosts.                          |
|  | 40 Utilization of Fruit Wastes.                               |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for November Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

A large winery is being built at Martinez by J. C. Colton.

Winter pears are now being shipped East from Anderson.

The California Wine Association has offered \$8 per ton for the second crop of muscats in the Fresno district this season.

The wine grape crop in Santa Cruz county is not up to the average in quantity this year, but quality is much better.

Heavy receipts of late peaches from the back country have been coming into the San Diego market of late, and good prices have been received.

The Evans-Peters apple orchards, in the Yucaipa valley, near Redlands, will have a crop of about 7000 boxes this year. The trees are young ones.

The vineyardists around St. Helena are finding their wine grape crop to be much below the average as they harvest it this year. The quality is reported excellent.

At a banquet recently given at Santa Rosa the fruit of the spineless cactus was served. Luther Burbank furnished the fruit, which is said to be very delicious.

Mr. L. Brann of Martinez, while in our office recently, stated that the wine grape growers in that district were getting \$15 and \$16 per ton for their Zinfandel wine grapes.

W. Y. Walker, who has a small orchard near Sebastopol, sold 3000 boxes of fine apples this fall, at an average of 50 cents a box. One tree 12 years old produced 16 boxes of apples.

The champagne grape growers of southern France are in such a bad way financially that the Wine Merchants' Association has made them a grant of \$80,000 to tide them over.

A test case may be the outcome of the refusal of a property owner of Marysville to allow an inspector from the State Horticultural office to examine trees, for traces of the white fly.

Chappell Brothers have raised on their ranch in the Salinas valley this season 2000 boxes of apples, 12,000 sacks of potatoes and 5000 sacks of onions. All of which means they are going some.

The acreage planted to apple trees in the Rogue River valley, Oregon, will be largely increased this coming season. One company has already placed orders for the planting of 25,000 apple trees in that vicinity.

M. Burks during the season just closed sold from a four and a half acre peach orchard south of Yuba City \$690 worth of fruit. The peaches brought him from \$25 to \$35 a ton, and were disposed of to local canneries.

The Armsby offer, to buy the entire raisin crop this year at four cents, if 90% of the crop will be signed up for delivery to them, has been extended to October 21. About one-third of the crop had been signed up on October 1.

The fruit growers in the vicinity of Loomis, having about a thousand tons more of fruit than the canneries can handle, have offered to donate it to the poor of San Francisco and Sacramento, rather than see it waste.

About 300 acres of Navel orange trees will be planted in the Imperial valley the coming season. Last spring the acreage set to citrus fruits was about the same as above. Most of the groves are located near Brawley, Imperial, El Centro, Calexico and Holtville.

The apple growers around Watsonville will have another good season. The thirty packing houses of that place are all being operated to their utmost capacity, four

dryers are also running full blast and claim that 2000 people are engaged in handling this season's apples.

A company is being formed which will plant 2000 acres to walnuts in the Clayton valley, between Concord and Bay Point, in Contra Costa county. About 800 acres will be set out the coming winter, and the rest of the acreage inside of two years. San Francisco and Oakland parties have the work in hand.

At the fruit men's meeting at Kansas City last week it was stated by a representative of the California Fruit Growers' Exchange that they handled about 56% of the citrus crop of California last season. This means that the Exchange sold about 17,600 cars, valued at more than \$12,000,000, of oranges and lemons alone.

The shippers all seem to be coming to the conclusion that the coming orange crop in southern California will size up just about the same as that of the year just passing. They say that there will be less Navels, no doubt, but that there will be enough increase in Valencias to even up. In the North the crop is looking fine, and most of the shippers predict an increase of from 400 to 500 cars, which will make the crop of Tulare county and vicinity close to 2700 cars, some say 3000. In Butte county the production has run close to 200 cars, but as a slight increase is expected here, it is likely that all of the sections north of the Tehachapi will have in the neighborhood of 3000 cars, rather more than less.

### AGRICULTURE.

Much alfalfa seed is reported to have been ruined in the Tulare Lake district by the recent rains.

According to F. L. Hogue of Carpinteria, the bean crop has not been damaged by the recent rains in that vicinity.

The alfalfa farmers in Sutter county are now engaged in thrashing alfalfa seed, which is netting them from \$75 to \$100 per acre.

The celery growers in Orange county have out about 3000 acres this year, and expect to have a crop approximating 2000 cars.

The Louisa Drexel estate, which recently purchased the Wilbur property, near Yuba City, is now at work planting 2500 acres to alfalfa.

According to the Lemoore Leader, about 4000 acres have already been seeded to beets in the Corcoran section. A larger acreage was planted to beets this year than ever before.

The sugar factory at Corcoran has recently put in a new artesian well, which the superintendent of the factory estimates will flow one million gallons of water a day. The depth of the well is 2080 feet.

At a recent meeting held at El Centro, in the Imperial valley, 500 acres were pledged, and it is thought that this will be increased to 2000 acres, for spring planting to cotton. A cotton gin and compress will be erected there if 2000 acres or more are grown.

Twenty-one thrashing machines at work in Ventura county have each turned out about 1200 bags of beans per day. The late rain does not seem to have damaged them much, and there were a number of loads sold during the past week, the prices running from four to four and a half cents a pound.

The Oxnard sugar factory will discontinue receiving beets from the farmers for this season on October 10, and will close its campaign about the middle of the month. The harvest this season has given an average of about 13 tons to the acre from about 12,000 acres, making the season a prosperous one.

### LIVE STOCK.

The Texas fever in cattle is reported to be quite prevalent in San Luis Obispo county.

Cornell Brothers, of Porterville, have gone into thoroughbred cattle breeding. Last week they secured some fine Herefords of Sparks-Harrell of Visalia.

Carl Jakober of Sonoma has sent to Italy for machinery for an up-to-date cheese plant, and will soon commence the manufacture of all kinds of cheese.

The Imperial Valley Bee Keepers' Association has levied an assessment of 20 cents a colony on all of its members for the purpose of erecting a honey warehouse at El Centro.

While most of the honey producing counties in the southern part of the State report a shortage of that product this year, San Diego county will have a full crop, the honey output in that county being estimated at 25 carloads. The price this year will be up to the average.

A special meeting of the California Live Stock Producers' Association has been called for Saturday evening, October 17, at the Chamber of Commerce in Sacramento. All persons interested in stock raising are notified to attend. S. B. Wright of Santa Rosa is president of the association.

F. A. Mecham of Petaluma is reported to have sold during the last few days several bunches of high grade sheep, as well as some fine cattle. He states that there is an active demand for fine stock at good prices. While at the State Fair Mr. Mecham purchased nine head of prize-winning Shropshire sheep to add to his herd.

The milk condensing factory located at Buena Park, Orange county, has closed down, owing to the low supply of milk. The reason for this is that the dairymen in that section have been gradually sending more and more milk to the Los Angeles dealers. The supply for the factory has become so low that it is no longer profitable to operate.

### MISCELLANEOUS.

The Rogue River Valley Fair was held at Medford, Ore., during three days last week.

Five miles of public road south of San Jose are being paved with the petro-lithic process.

The cannery at Yuba City has closed for the season, after a very successful run. Over 80,000 cases of fruit were packed.

The forest fires that burned over 7000 acres in the mountains south of San Jose last week, have been gotten under control by back-firing.

The California State Grange held its annual meeting at Sacramento this week. We expect to have a full report of this meeting soon.

A farmers' electric power line is to be built, running through the Napa valley into Lake county, to supply farmers with electric lights and juice for pumping.

The cannery at Hanford reports an extra large pack of fruit of the best quality. Sales so far, however, have been slow, only ten per cent thus far having been sold.

Owing to the fact that there is a big supply of canned tomatoes in the market, the Napa cannery has closed down for the season without putting up this fruit as expected.

Thousands of eucalyptus trees are being planted in the Imperial valley this fall, and this winter a large acreage will be set out in the Silsbee district, while nearly every farmer around El Centro will improve his place in like manner.

The members of the Farmers' Hunting and Fishing Club of Sutter county are anticipating an excellent duck season.

This club has the best shooting preserves in the State, having a total of 17,000 acres of tule land, which the sub-members may shoot over.

The fathers of the Santa Clara college have recently decided to put the olive oil they have been making from the old trees planted in mission days near their buildings, on the market. Last season the olive crop produced 600 gallons of the very best olive oil.

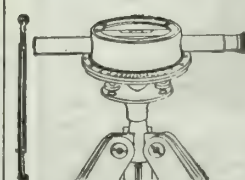
The cannery at Gridley has closed a very successful season, having packed over 50,000 cases, or 1,200,000 cans, of fruit, including peaches, pears and plums. The cannery has paid out to employees over \$35,000, besides the cost of the fruit from the growers.

Dr. Ekstein of Modesto, has organized a company for the growing of buhach in Stanislaus county on a commercial scale. Already the company has ten acres planted, which will be extended. Heretofore Atwater, in Merced county, was the only place where buhach was grown in commercial quantities.

Beginning January 1, the National Forestry Bureau will be administered from several Western cities, instead of from one headquarters at Washington. California national forests will be administered from San Francisco. The headquarters for the other districts are Portland, Salt Lake City, Denver, Missoula and Albuquerque.

A member of the PACIFIC RURAL PRESS staff, writing from Fresno, states that the Fair held there last week was a success. The attendance was 4500 daily. Many of the exhibits were very fine, notably those made by Geo. C. Roeding and the State University. Mr. Roeding had the central exhibit of the building, and his display of nursery products was good. The State University showed 120 varieties of grapes, 40 varieties of cactus, 28 varieties of eucalyptus wood made up in various ways, 35 varieties of wheat and 25 varieties of barley. Besides the above there were shown 8 varieties of clover crops. The chicken exhibits were very few in number, mostly from Hanford. In stock, the number shown locally was small, but from outside points was good. There were many displays made by local merchants, as well as by cream separator concerns and fertilizer companies. The domestic science department was large and very interesting. The management regards the fair as a success, and financially it paid.

## BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

**Used for Irrigation and Drainage Work**

Has the latest patented improvements in simplicity and usefulness.

Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco

Coast Agents.

Send for Circular.

**QUEENS**—CARNIOLANS, BANATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$1.00 each. **FRANK BENTON**, Box 17, Washington, D. C.

**10-Acre Fruit and Poultry Ranch**—Apples, pears, prunes, 3 acres vineyard, completely equipped poultry plant, house, water piped over place—\$2500. H. F. BLUHER, Novato, Cal.

**FOR SALE:** farms located everywhere, send for free bulletin. W. H. Burke, Clifton Springs, N. Y.



## ANOTHER FAIRY STORY.

Thomas Wyke, who lives on his beautiful ranch north of town, has succeeded in producing a seedless Muscatel grape. Some time ago he planted a Thompson seedless cutting and a Muscatel cutting together. The result was a union of cuttings beneath the ground. Just what he did to cause the union we know not, but we do know that the fruit has the combined flavor of both varieties, and is absolutely seedless, while the saccharine is of large percentage, making delicious grapes for any purpose. This is one more addition to the wonders of Kings county, and if Mr. Wyke can succeed in making cuttings from this union vine reproduce in kind, he not only has a fortune for himself but at once becomes a benefactor to the whole human family, much in line with Wizard Burbank. There seems to be no end to possibilities in Kings county and we hope Mr. Wyke will realize his fondest anticipations.—Lemore Republican.

## SEA-WEED AS A FERTILIZER.

To the Editor: I note your editorial in the PACIFIC RURAL PRESS in the September 26 number, regarding sea-weed as a fertilizer. The writer knows that in the southern part of Sweden the sea-weed is extensively used as fertilizer on the land adjacent to the coast, principally where they grow rye and potatoes on very sand soil, which could positively not produce a crop were it not for the plowing up of the ground and the use of the sea-weed as a fertilizer. There is hardly any stable manure to be had for mixing with the sea-weed, so therefore nearly all of the fertilizing qualities come from the sea-weed. The soil is so sandy that it actually looks like a gravel pit down in the bottom of some river, where, in this country, you get mason and concrete gravel.

P. M. PAULSON.

San Francisco.

The apple growers of the Alviso district have formed an organization, to be known as the Santa Clara County Apple Growers' Association, and have already bought eight cars of shooks to be used by its members. The crop in that locality is very large, many orchards running as heavy as 1000 boxes to the acre, and the fruit is very large and fine.

**Stickney Gasoline Engines**  
ARE THE BEST

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine Stationary and Portable 1½ to 16 h. p.

We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## THE Superlative Raspberry

Orders booked now for 2-year-old plants for December delivery. Send in your name and address for my 1909 Catalogue.

**A. MITTING, SANTA CRUZ, CALIFORNIA.**

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

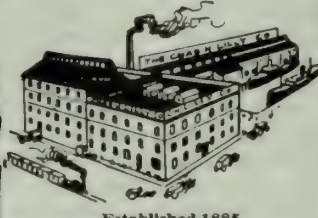
WRITE US

**SILVA & BERGTHOLDT CO.**  
Newcastle, Cal.

## SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S BEST SEEDS**



Established 1885

Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE AND PORTLAND

## Plants SEEDS BULBS Trees

WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Quotations will be given prospective planters of Alfalfa, Clovers, or Grasses.

Remember—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

44 Jackson St. Also Market St. San Francisco, Cal.



## EUCALYPTUS

Growers of all varieties of commercial and ornamental Eucalypti.  
ECKSTEIN & ECKSTEIN, Modesto, Cal.  
ECKSTEIN BROS., Anaheim, Cal.

### Navels, Valencia's, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**

Pasadena, Cal., R. D. No. 1

Phones, Home 2520—Main 949.

### CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

### CHICO NURSERY COMPANY

Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$60 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

### JOHNSON & MUSSER SEED CO.,

113 N. Main St., Los Angeles, Cal.

## SEED GRAIN BLACK and RED OATS, WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St., San Francisco, Cal.

Buyers of Grain and Beans. Members Merchants Exchange. Established in 1855. Correspondence invited.

# TREES

SEASON 1908-9.

**ORDER NOW FOR FUTURE DELIVERY.**

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

Geo. C. Roeding Pres. &amp; Mgr.

Box 18 Fresno, California, U.S.A.

## IMPROVED BERRY PLANTS

BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalogue tells the rest.

**G. H. HOPKINS & SON**  
BURBANK, CAL.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnock's Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**  
Loomis, Cal.

AGENTS WANTED.



## Live Stock and Dairy.

### HENRY MILLER, THE GREAT CALIFORNIA CATTLEMAN.

One of the most picturesque characters in California is Henry Miller, the surviving partner of Miller & Lux, a firm which has been prominent in California live stock industries for nearly half a century. Mr. Miller is the subject of a sketch by French Strother in the September World's Work. He is described as the last of the cattle kings—a pastoral dictator at 83. The article is as follows:

Ask any rancher on the Pacific Coast if he knows who Henry Miller is. He will tell you that Mr. Miller is the cattle king, and that he owns more land than any other rancher in the West.

"How much?"

"Millions of acres."

"How could one man get that much land?"

And then the rancher will wink.

"Grom the Government, most of it."

And then he will tell a story—every rancher in the West knows a story about Mr. Miller.

Most of this land is used as cattle and sheep ranges, but about 30 per cent of it is cultivated—to grain or hay or something else that will fatten live stock. Cattle raising is Mr. Miller's business. He has never invested nor speculated, nor yielded to the almost universal Western fever for mining, nor engaged in any mercantile business, except to run a few country stores near his ranches for the convenience of his men. Some of his lands are in the richest part of the already developed oilfields of Coalinga, Cal., but he refuses to spend a cent to dig wells for oil.

"Maybe it is there," he says, "but I know the cattle business, and I shall stick to it." He has made \$20,000,000 in it, so perhaps he is right.

Mr. Miller's success in cattle raising is his own secret. He buys cattle and sheep and hogs, lean or fat, runs them on his range, shipping them from ranch to ranch to utilize all the grass and stubble, puts his own grain into them, and when they go to market they always make a profit. He buys in tremendous quantities. He once ordered his head sheep-foreman to buy all the sheep for sale in Nevada at any reasonable price. The foreman bought all but 15,000 head which were held at \$5 apiece, which he thought too high. He reported to Mr. Miller in southern California. Without a pause Mr. Miller said: "Take the next train to Nevada and buy them."

There was a \$75,000 purchase.

He does not bargain. He will look at a herd of cattle or a likely band of sheep, ask the number, and offer a lump sum for the lot without further examination, even if there are thousands of head. And he will not alter the offer. The seller can take his check or let Mr. Miller go.

His ranches are models of neatness and order and thrifty management. Every one of them is better managed than the neighboring ranches. Every one of them

is under Mr. Miller's direct personal supervision, constantly. For forty years he has been traveling from ranch to ranch, inspecting his property, directing the planting of crops and the movements of his herds, buying and selling. He travels by train where he can, but usually drives a fast team, traveling 50 to 60 miles a day. He is 83 years old, and he still follows this custom. In April he was seen at one of his ranches, a hundred miles from his home, in an open buggy in a driving rain, directing the spring plowing of a great field.

He never rests—he hardly sleeps, of late years. Somebody asked him recently why he did not hire a manager to superintend his estate, and stop his rush of work.

"Whom could I hire?" was the sufficient answer.

He is still adding to it. He rarely sells land; he buys more. He has resisted the prevailing tendency to subdivide the great estate into colonies for small farms. He had an ambition, earlier in life, to own the whole State of California. He once said, half in earnest, that he owned half of the State, and that his son could own the other half if he would. But the father has outlived the son, and increases his holdings by the sheer momentum of his tremendous interests.

Mr. Miller was born ten years after Andrew Jackson won the Battle of New Orleans. He came to America when he was 16 and drifted westward from New York, reaching San Francisco when he was 21. He rose from the position of butcher boy to be a partner in a small retail butcher business with the late Charles W. Lux. The firm name of Miller & Lux is used today, though the business was incorporated long ago, Mr. Miller retaining considerably more than a controlling interest in it. The partners branched out into the cattle business, and that led them into acquiring land for grazing. Mr. Miller has dominated it from the first.

The Federal land laws were loosely construed in those days, and Miller & Lux's cowboys entered homesteads from the vast public domain, and made them over to the firm when they had perfected title. Other lands were bought and incorporated into the ranches, until it became a proverb in California that the firm could drive its cattle from Mexico to San Francisco and camp nightly on its own land. This is an exaggeration, but a conservative estimate, made for this article by a director of the estate, credits it with 600,000 acres in California alone. Mr. Miller also acquired lands in Nevada and Oregon, though he says that his one great mistake was leaving California—it prevented the realization of his dream of owning that State.

He has organized the business thoroughly. Each ranch is managed by a foreman, who has a sub-foreman for the farming, another for the cattle, and another for the sheep. The foreman's wife is usually responsible for the housekeeping and cooking for the men. Each group of ranches is managed, in turn, by a general manager, and there is a superintendent of all the sheep interests of the estate. But every ranch is under the constant personal supervision of Mr. Miller himself. He times his visits to the ranches so that he will not be expected. He goes first to the bedroom that is set apart in every ranch house for his exclusive use. If the room is spotlessly clean and in perfect order, he is pleased; if not, he makes trouble. Then he goes to the kitchen. He inspects the pantry for dirt, the food for bad service, the garbage buckets for wastefulness. He inspects the ranch buildings. Everything must be in perfect order. A piece of baling wire or an end of rope left to lie on the ground he

## THE TALK OF THE Cream Separator World The Improved De Laval

"It can't be beaten." "It's peaches and cream." "Nothing like it." "Ten years ahead of all others." "A triumph in separator construction." "Perfect in every feature."

These are but a few of the expressions one hears on every hand this year in praise of the new Improved DE LAVAL Cream Separator. From the Atlantic to the Pacific the Improved DE LAVAL has simply swept the field of all separator honors.

Well informed dairymen, once they investigate the new DE LAVAL, will have nothing else at any price or under any condition. In one instance 32 Wisconsin dairy farmers were forced to buy hand separators on account of their branch creamery closing down, and 31 of them bought DE LAVAL machines, notwithstanding all would-be competing makes of separators were hot after the business. Like instances can be pointed out in almost every section of the country.

The Improved DE LAVAL represents thirty years of manufacturing experience and the expenditure of many thousands of dollars in experimental work. It represents the knowledge gained from nearly a million DE LAVAL machines in practical use by dairymen throughout the world. It represents the best ideas and brain work of the world's most skilled separator and mechanical engineers. It is the product of the largest and finest equipped separator factory in existence.

Surely the 1908 DE LAVAL is ten years ahead of all others. If you haven't bought yours, write today for a DE LAVAL catalogue and any desired information.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

#### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 First Street  
PORTLAND, OREG.  
1018 Western Ave.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

PACIFIC OIL & LEAD WORKS, - - SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, - - PORTLAND, ORE.

regards as an evidence of unthrift; a dirty yard is evidence of negligence; a broken fence or a leaky roof is proof of bad management, and he gives way to a terrific temper when he sees it. He is liberal in many ways, but he considers wastefulness a crime.

On a visit to one ranch he noticed a hen with a fine brood of chicks. He called a companion's attention to them, and was as pleased with them as if they were golden eggs. A month later he visited the ranch again. He asked the stable man what had become of the chicks.

"Rats ate 'em," was the response.

"Rats ate 'em! Rats, eh? Rats, sign of decay! Where's that damned tramp of mine?"

The "tramp" was the foreman. He was called and got a tongue-lashing that was the premonition of his discharge a few months later for incompetency.

Despite his habit of close supervision, he allows great freedom of action to his most trusted employees. One of his chief lieutenants acted for years under instructions to "buy anything you see that will make money—cattle or sheep or land." He drew checks for hundreds of thousands of dollars, in all, against Mr. Miller's account for things that Mr. Miller had not previously passed upon.

"I have never seen one of those checks again, so I suppose it was all right," he says.

This man bought 200,000 sheep for Mr. Miller in one year—from June to June. Sometimes he would see his chief in Oregon, and discuss business with him, sometimes in Nevada or California, sometimes not at all for months. Once they met in Bakersfield, and as they parted Mr. Miller called him back.

"By the way, if you see any good land for sale, buy it. I have a little spare

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McAslin. R. D. Box 24, Sacramento, Cal.

## Horse Owners! Use

GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY USE FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.



money I want to invest."

"How much?"

"About three hundred thousand dollars—a little more than that."

He does not demand great speed in doing work; he prefers thoroughness that is pretty near perfection. But his employees must be workers. A vaquero asked him for a job. Mr. Miller said yes, he had one vacant.

"What's in it?" said the cowboy.

"Thirty dollars, thirty days, and thirty nights," was the response.

He is "a good man to work for," how ever. He is generous to people in distress; he feeds and lodges his men well, he rewards faithful service by looking out for those who have passed the age of usefulness in his employ.

He is often generous to people who have no claim upon him. The cook at every ranch has orders to feed every person who stops there hungry—and to ask no questions. Anybody who reaches one of his ranches at night may stable and feed his horses, lodge in the ranch house, and eat with the employees, without charge and without question. A man who needs meat may kill a sheep or a calf from Mr. Miller's herds, provided he uses the meat himself and does not sell it. Of course, these things are more than generosity; they are a protection against the spite of tramps and the depredations of thieves; but they indicate a pretty broad-minded man, too.

He has to make concession to necessity in other ways; he is known by everybody and he has to travel thousands of miles alone through a wild country. He is frequently held up and robbed in consequence; but he never attempts resistance nor reports such incidents to the officers of the law. If he did, the next man who robbed him would probably kill him, so he usually carries only a little money and charges the robberies to profit and loss.

Once he was robbed in Pacheco Pass by a Mexican, who took \$200 from him. Mr. Miller knew the man, and reminded him that he was a long way from home and asked the highwayman to lend him enough for expenses. The Mexican handed back a \$20 gold piece, and disappeared. Several years later Mr. Miller saw him on the street in Hanford and offered him \$20.

"I borrowed this from you once," he said.

"I never saw you before," said the Mexican.

"Oh, yes, you did. I borrowed \$20 from you in Pacheco Pass, three years ago."

And he made him take it.

But he is a fighter, too. He has "lawed" more, as the old-timers say, than any other man on the Coast. He employs an attorney in nearly every town near his ranches, and he will fight any legal dispute to the last resort.

Water is indispensable in this semi-arid country. A large share of Mr. Miller's

lands and cattle depend upon the San Joaquin river for their water supply. He owns much of the land that borders on the river, thus securing "riparian rights," and he took out in early days a great many patents from the Government to "allotments" of so many miner's inches apiece for diversions of the water from the stream, so that today he practically owns the entire flow of one of the largest two rivers in the State. He has had to fight for it most of his life—with armed bands of cowboys in many instances, and in the courts all the time—but he has beaten his last opponent, and the Supreme Court has recently affirmed his ownership.

But the fiercest of his fighting is past. The titles to his lands seem to be secure; he has reduced his business to a smoothly working organization, with a central office in San Francisco, in charge of his son-in-law; his time is filled with the labor of keeping his affairs in order, and with brief visits to his home in Gilroy, Cal.; he has resigned him ambition to own the whole State, and has exchanged it for another. He is trying to create a public sentiment for a new county, to include most of his holdings in the "West Side" of the San Joaquin valley, to be called Miller county.

### CONTAGIOUS ABORTION IN COWS.

By Dr. DAVID ROBERTS, State Veterinarian of Wisconsin.

Inasmuch as the cattle industry of the United States is in its infancy, and the future prospects are very bright for its development, I feel it my duty to call attention of the stock raisers of America to the importance of healthy stock. I think that all stock raisers will agree with me that the profits from stock raising are not so great but that they might be greater, and that the profits from a healthy herd of cattle is only a fair one. The profits from a diseased herd certainly must be very small. For instance, if the diseased cow can produce a reasonable profit, is it not natural for us to expect a healthy animal to produce a handsome profit?

It may be very important for the stock raiser to select the breed of cattle which he likes, and which will prove profitable in his locality, but the most important of all things in the line of stock raising is to lay the foundation for a healthy herd, be it pure bred or grades. This must not be overlooked.

The writer feels as if he has been and is now in a position to obtain valuable information and knowledge concerning the diseases of cattle which bring about the largest financial loss to the stock raisers of this country, and unhesitatingly says that, while tuberculosis in cattle is looked upon by stock raisers as being one of the most dangerous and destructive diseases we have to contend with, it does not begin to compare with infectious abortion in cattle in causing loss in actual dollars and cents. Many stock raisers are even unfamiliar with abortion in cows, or slinking of calves, as it is called, and oftentimes allow this dreaded disease to run along in a herd until it has ruined the herd as a profit producer and rendered them in a fit condition to contract other diseases, such as tuberculosis. In this manner the most valuable herds are often reduced to worthless animals, oftentimes unable to produce profit enough to pay for the feed they consume, and the owner wonders why he is so unsuccessful in stock raising, and often calls these conditions "hard luck," which has nothing to do with the case. Every stock owner in America can be the possessor of a strong, healthy, profit-producing herd of cattle, free from

these dreaded diseases, such as tuberculosis and infectious abortion, if he is only willing to accept the advice of those who have had actual and practical experience in this line.

Infectious abortion in cattle may be known by several different names, such as abortion, losing or slinking of calves, but the results are all the same. An absolutely healthy herd is sometimes endangered by what is called an accidental abortion. This form of abortion may become of an infectious nature and expose and infect the whole herd. For this reason it is very important to look after all such cases, and in fact any cow that does not appear to be up to standard in health and condition, should be given special attention, as one diseased cow endangers the whole herd.

I dare say that there are innumerable experiments carried on constantly in trying to eradicate infectious abortion in cattle, and it may be wise to mention a few, for the benefit of those who have not as yet gone to that expense. Possibly the one experiment that has been given the widest attention, and has brought about the greatest loss to the owner, is the disposing of each cow as she aborts, getting rid of her, and thinking by so doing he is getting rid of the disease, at the same time replacing the cow disposed of by buying another in her place. But the disease is still in the herd. Positive experience goes to prove that the new cow will soon contract the disease, and will invariably abort at some stage of pregnancy, and in this manner the disease is perpetuated from time to time, the herd is being reduced in value, the profits are curtailed, and the vitality is lowered, and in course of time each animal is brought to a condition that is no better than the average canner.

Cows that abort invariably retain the after-birth. This is often allowed to remain until it sloughs away, not only ruining the cow as a profit producer, but rendering her a hot-bed where the germs of the disease are propagated and multiplied.

Another experiment in trying to rid a herd of this disease is the giving of medicine in feed as a drench. Statistics show that a very small per cent of herds are successfully treated by giving medicine per month, in feed or as a drench. This goes to prove more positively that the disease is due to a germ, and should be treated as such. Infectious abortion is no respecter of breeds, and is not confined to any particular locality in the United States or Europe. I dare say that it is more prevalent in dairy districts, but exists everywhere, and treatment that is successful in this country is equally successful in Europe.

### LIVE STOCK BREEDERS' MEETING.

To the Editor: A special meeting of the California Live Stock Breeders' Association has been called for Saturday evening, October 17, at 8 o'clock, in the Chamber of Commerce, Sacramento, California, and all members and those interested in live stock are invited to be present.

At this time there will be brought up for consideration and discussion a number of questions of very great importance to the live stock interests of the State, and all are therefore urgently requested to attend and take part in the discussion.

E. W. MAJOR, Secy.

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide  
French Merino Sheep.  
Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
RAMS FOR SALE AT ALL TIMES  
P. O. Box 297 Sacramento, Cal. Home Telephone Dixon, Cal.



**The 1908 Improved U. S. CREAM SEPARATOR**  
Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 148 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.  
Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

### LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**  
Importer and Breeder of

### Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SONOMA CO., CAL.



**FRANK A. MECHAM**

Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MECHAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.



**To Make Harness Last**

Wisdom says "Save the harness." Experience says "You can only do it by using

**EUREKA Harness Oil**

to keep it always soft and pliable." Nothing harmful in Eureka Harness Oil. Benefits the harness—saves money for the owner.

MADE BY  
STANDARD OIL CO.  
(Incorporated)



## The Poultry Yard.

### POULTRY POINTS.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

"Eggs is Eggs," and growing more so each day; so that it behooves one to handle them with care and to doff the hat to the hen that produces them.

The laying quarters should be kept clean and the eggs gathered twice a day where many hens use the nests, in order to keep the eggs spotless and preserve their "bloom." When they are run over by the fowls, much handled or washed, this fresh and attractive appearance is lost. It also impairs their keeping qualities to wash them, and the up-to-date poultryman will so arrange and care for his poultry and quarters that it will not often be necessary. Gather the eggs with clean hands, and have a clean cloth to rub off any bit of dirt which adheres to them; those stained or badly soiled place in another basket and remove the stains by rubbing with a cloth wet in vinegar; then rinse in clear water and let dry without handling. Keep the eggs in a cool place, where the sun will not strike them. The sun will injure them in a short time if allowed to shine directly on them. Cover with a clean cloth to prevent evaporation and to keep the dust and moisture from settling upon them and giving them a stale appearance. Give the layers plenty of sweet, sound grain, cracked corn and green feed to secure richness of color and flavor and well filled eggs. The pullet eggs, which are in the majority just now, will naturally be small for a while; but by eliminating the exceedingly small ones and proper handling they find a ready market at a good figure.

**SAND AND GRAVEL.**—It pays to keep a load of this on hand. There is little sand in our soil, except in a few favored locations. It is not only useful in keeping the mud and droppings from sticking to their feet, but the fowls have use for it in their business. Plenty of coarse, sharp gravel and broken shells have much to do with the firm-shelled, marketable egg. When the sand is difficult to obtain, the pile should be kept in a clean place outside of the yards and used as needed to sift over the floors, in front of the nests, etc., a little each day after cleaning; otherwise it will soon be trampled in and mixed with the dirt.

**THE SCRATCHING SHED AND LITTER.**—To provide a scratching shed and litter is another important point in connection with the winter egg. The fowls that must crowd for shelter in dirty, drafty houses or stand about in sloppy, muddy yards during our long rains, cannot be expected to produce anything but colds and rheumatism. With a dry, protected spot, deep in clean litter where a sweet kernel may always be had for the scratching, the hens will sing and work gaily and lay the golden egg, let it rain and blow never so fiercely. One should provide litter before the first hard rain; then leaves, wild grasses and waste from the fields may be utilized. Hay and straw are so high with us that little of these can be afforded for the fowls; though it will pay to use even these during a rainy spell for a flock of laying hens.

**BE GENTLE.**—In going among fowls, especially in confined quarters, the poultryman should be quiet and gentle in his movements. If a change of place is sufficient to stop egg-production, what can we expect of a flock where the care-taker scares them into next week every time he enters their yards? There are men (let us hope there are no such women) who fly all to pieces if a fowl gets out of its

place or fails to do just the thing required of it—who are so rough and careless in their movements that it makes a hen nervous to look at them. This will not do in the poultry yard. Be quiet and gentle in your movements; teach the fowls to have confidence in you, to love the touch of your hand, the sound of your voice. It pays, and it is the Christian way.

**NOTES.**—The Agricultural College of Colorado is assisting the poultry interests of that State by holding poultry institutes in the various poultry centers of the State. Helpful lectures on the important points in poultry culture are given by the professors, and much interest and enthusiasm are shown. Basket picnics and a getting together and getting acquainted are indulged in by the poultry folk on the occasions. What's the matter with us that we can't have such treats to relieve the monotony of the poultry yard?

A women's club in one of Chicago's suburbs held its meetings in a building contiguous to a large duck farm. The quacking of the unmannerly ducks interfered with the deliberations of the meetings to such a degree that the ladies were forced to send the proprietor a request to muzzle his ducks or move his quarters. The ungallant man returned answer: "These ducks quack for my livelihood; you cackle for your own amusement." Sequel: The duck raiser moved.

Mrs. W. J. Sanford of Lebanon, Ind., has organized a Boys and Girls' Poultry Club, the membership to be made up from the youngsters of the county. Annual exhibitions will be made and the members helped and encouraged in every possible way. Our Coast counties should each have such an organization. It would give our boys and girls a live interest, draw them from less profitable amusements, and be a liberal education in patience, faithfulness, love of animals, and business methods.


### Answers to Questions.

**How MANY FOWLS?**—Miss M. P., a business woman of East Oakland, writes: "Among the many women with whom I come in touch, the crying need seems to be some small side issue that would be a source of extra income to help pay 'the baker, the butcher,' et al. Poultry is often considered, but though we read of wonderful things done by the hen, for some reason, most women don't seem to make any great thing out of her. Here is a question which has been propounded to me, and which I will pass on to the RURAL PRESS: How many fowls would one need to have to bring in a profit beyond their board and keep?"

"A profit." That is rather indefinite. How much profit? The right kind of a hen, kept in the right way, will always bring in a profit beyond her board and keep. One dollar per hen is a conservative estimate. Divide the amount of your desired profit by this and you will have the required number of hens.

"For some reason women don't seem to make any great thing out of the hen."

That is a point I have often studied, and I have considered the average flock of back yard and barn yard poultry—a promiscuous lot, of all ages and conditions, and few of the right age or condition. Scraps and slops as they happen to accumulate are thrown to them pell-mell, and a bit of grain once or twice a day; and in the rush for it starvation takes the hindmost. There is a family in Berkeley who cleared, in the year ending last June, \$50 above cost of feed from just one dozen hens! Why may not others do as well? Because they lack knowledge—system. In the series of five articles published in the



**POTASH**

**Rust insurance is worth having.**

A strong, well-nourished man is proof against the attack of disease germs. Likewise strong, sturdy wheat repels the attack of rust—the enemy that dwarfs the growth, shrivels the grain, lowers the profits. Potash makes a strong, sturdy, rust-proof plant—fills out the head—with a heavier berry. Commercial fertilizers are usually weak in Potash. Use a brand containing 6 per cent. of Potash. If you cannot get it, then balance and complete your application by adding 15 pounds of Muriate of Potash to each 100 pounds of fertilizer. *Potash is profit. Buy the Potash first.* Send for pamphlets containing facts about soil, crops, manures and fertilizers. Mailed free.

**GERMAN KALI WORKS**  
93 Nassau Street, New York  
Chicago—Monadnock Building  
Atlanta, Ga.—1224 Candler Bldg.

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

**COULSON POULTRY AND STOCK FOOD CO.**

PETALUMA, CAL.

RURAL PRESS this summer under the head, "Poultry for the Home," is all the information necessary to make poultry keeping a profit and a pleasure in the hands of any woman who will apply it. The practical knowledge contained in those five articles cost one woman fifteen years of study and experience to gain.

At the regular meeting of the Petaluma Poultry Keepers' Association held recently it was announced that the sum of \$425 had already been subscribed toward the guarantee fund for their coming poultry show, and that the prospects for a fine exhibit were excellent.

An ostrich farm has been established in East Oakland, having nearly fifty birds on show. The Cawston ostrich farm, in the southern part of the State, has been a great financial success.

An experiment was tried at Lodi last week on the keeping qualities of grapes, which will have a great influence on shipping. A car of grapes, picked and packed in the usual way, was kept in the roundhouse there the length of time it would have taken to send it to New York, and then opened. On examining the fruit it was found that almost the entire contents were badly affected with mildew. Better prices in the East will be received when the secret of better packing and handling has been discovered and put into practice.

F. D. Kendall and T. O. Robinson have perfected a dryer to handle vegetables and are now thinking of erecting a factory at Hanford. They expect to dry pumpkins to a powder, and to reduce other vegetables, such as carrots and onions, six to one. The advantages of drying vegetables are that the product will keep any length of time and the bulk is greatly reduced.

A \$75,000 wool-scouring plant is to be built at Fresno, to be completed in time for the clip next spring.

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN,** Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal **GEORGE H. CROLEY,** 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.65
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

**E. F. Adams**

364 Main St. Petaluma, Cal.

## Blake, Moffitt & Towne

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## The Home Circle.

### The Old Oak Wood.

When God pronounced his work all good  
He must have thought of the old oak  
wood;

The old oak wood on an autumn day,  
With the sunshine goldening all that way,  
And the glistening leaves of red and  
brown

Quietly, dreamily drifting down.

He must have thought of the redbird  
there,

With wings a-flash thro' the amber air;  
Of the bowed brown weeds that humbly  
wait

For the touch of the frost that, soon or  
late,

Will bring them death; of the asters  
white

In starry clumps on the hillside bright.

And the bending plumes of the goldenrod,  
All must have been in the thought of God;  
And the woodpecker's music, clear and  
strong,

Tapped on a dead limb all day long;  
And the silken gossamers, lightly spun,  
Floss of gold from the loom of the sun.

And He must have heard the meadow  
lark sing,

Far off there in the world's first spring.  
The meadow lark's song o'er the hilltop  
rise

To the dreamer standing with misty eyes  
At the edge of the wood, and listening  
lone

To the flutes of memory faintly blown.

—INGRAM CROCKETT.

### The Corn-Husking at Jug Ridge.

The corn-husking at Rube Snyder's place Saturday evening was a social event long looked forward to; and it drew together a large number of our best young people. It was the initial event of this kind this season, and was held in the new barn on the back place.

Some of the Stover's Mill set were there and, only for their presence among the cultured ladies and gentlemen of the Ridge, everything would have passed off with the utmost harmony. It is a pleasure to record that four of those wretches were laid out hors de combat very early in the evening; and were taken home on a stone sled by friends who were themselves in need of the ministering kindness of a stone sled and a yoke of oxen.

It was observed early in the husking that the Stover's Mill boys were getting all the red ears, and consequently were kissing our girls right and left; while the Ridge boys were simply left, if you will pardon the witticism. The Stover's Mill crowd had been around the circuit half a dozen times each, while the Ridge boys were left to suck our thumbs, as it were. We of Jug Ridge husked like fury in order to find a red ear and enjoy the delicious osculatory privileges which came with it; but were doomed to disappointment. We were ripping the husks off like madmen and finding nothing for our pains; at the same time the Mill boys were kept busy kissing our charming girls.

The adverse luck of the Ridge boys was exciting much chagrin, when, lo and behold! it was discovered by a lucky chance that the Stover's Mill crowd of hoodlums were perpetrating a most dastardly fraud and outrage upon us—a deep laid and diabolical piece of business, viz:

It was found that they had prepared and brought with them a can of red dye, we think, of pokeberry juice, and this they had hung, with devilish ingenuity, under one of the

chairs occupied by them. The plan of operation was for some one of the Stover's Mill boys to occupy this chair, and when he got ready an ear of corn would be surreptitiously immersed in this dye. In a moment it would be dry, and then, with a dexterity born of the devil, it would be flashed upon the husking party as a bona fide red ear fresh from the husk. This would not be gainsaid, and the fraudulent finder, with a wild swoop, would make the rounds of our girls, kissing every one he could grab, and none escaped. Then, in the excitement attendant upon the wholesale kissing, some other one of the Stover's Mill party would get this chair with the dye can under it, and the same outrage would be repeated. Is it any wonder these dastards were getting all the red ears? Our blood boils with righteous indignation when we think of this nefarious scheme and the brazen manner in which it was carried out.

Need we say that a riot followed this discovery? Nay, we wot not. We of the Ridge are not made of the stuff that tamely submits of such unseemly conduct.

It was the lynx eye of Persevere Benson who detected Zebulon Boyd dipping a yellow ear into the red dye under his chair; and in less time than it takes to tell it, he had "climbed his form," in common parlance; and a very pretty rough and tumble followed.

We think Persevere lacked discretion in tackling Zebulon, as the latter is known to be one of the most wiry of the Stover's Mill crowd. Persevere was no match for him, we regret to say, and Zebulon scattered the corn heap with his gallant form in a startling manner. With rare presence of mind under distressing circumstances, Persevere managed to point to the can of pokeberry juice under the chair, and the mystery of the sudden attack was made clear. An ear of corn was even found in the can, Zeb not having had time to remove it.

I wish I could convey to my many readers an adequate picture of the scene which followed this discovery. But here is where the puny pen falls from the grasp.

With a yell of rage the Ridge boys sprang at the throats of the dastardly Mill crowd, and literally flayed them alive (albeit my duty as a journalist compels me to say that the Mill boys were there or thereabouts all the time).

By a regrettable coincidence, after the two contending parties had each closed in with a foeman, there was no man left for your correspondent to assail. Although I was wrought up to a pitch of wild frenzy and eager for the fray, I had to ascend to the hayloft, whither the ladies had fled, to see that no ill befell them.

The conflict that raged below was something not often seen since the knights of old mopped the ensanguined ground with all that was mortal of each other.

N. B.—We are requested to announce that the spelling bee at the red schoolhouse next Thursday evening, at which a number of the Ridge boys were expected to contest, has been postponed for six weeks.—Our Scrapbook.

Willard—Papa, may I go swimming?  
Papa—Why, Willard, only an hour ago you complained of a pain in your stomach.

Willard—That's all right papa, I can swim on my back.

## OUR HOUSEHOLD.

Conducted by MRS. M. R. JAMES.

(TO OUR READERS: Helps and Hints in all matters relating to the Home are here given and asked. Send all communications to "Our Household," PACIFIC RURAL PRESS, 667 Howard St., San Francisco.)

### The Home Circle Chat.

ECONOMY IN THE KITCHEN. — This subject came up in our last chat.

"Economy!" exclaimed the Young Housekeeper, "I hate the word and I am afraid of the woman who economizes. She cuts a tiny pie into six pieces; her bread plate is always empty lest a slice be left to dry; her cake is tough and tasteless to save butter and eggs; her jellies and fruit are sour and watery to save sugar; there's a chill over her whole house to save fuel — I hate her and her economy!"

There was a gentle clapping of applause and the Good Housekeeper said: "You are right, my dear; only that is not economy; it is skimping, and Heaven save us from the woman who skimps. She defeats her own ends. The doctor bills come higher than fuel; the spoiled fruit is more expensive than sugar, and the general discomfort robs her home of its charm, and costs her much of the affection of her family. Economy is but another name for judicious management to prevent wastes that we may have the more to enjoy. Nature, the great mother, is lavish in expenditure yet she wastes not an atom, else our little globe would dwindle in space. There is an old saying that 'a woman can throw out with a spoon faster than a man can throw in with a shovel'; while Prof. Blot has concluded: 'Waste is carried on so extensively in American kitchens that it will soon be one of the common sciences.'"

"There's truth in that," thoughtfully admitted the Young Housekeeper. "I must 'fess up' to some on my own account. My old-fashioned aunt from the East, who made me that delightful visit last year, showed me many ways in which saving was a distinct improvement upon my wasteful practices." Urged to give a point, she continued: "When I began housekeeping, I didn't think it worth while to bother with such small things as the trimmings of fat, drippings and the like, and just dumped them into the ash barrel; at the same time I used butter for frying and such purposes. Aunt was shocked. She explained that butter burned readily and was unwholesome when heated to the temperature required in frying; that nothing could take the place of sweet drippings regardless of any question of economy. I have found it just so, and besides I save from a half pound to a pound of butter a week. This is my aunt's method:

"CARE OF FAT AND DRIPPINGS. — Trim all surplus fat from steak, chops, etc.; take the marrow out of soup bones before boiling them; let the water cool in which meats have been boiled and skim off the cake of fat; pour off the extra drippings from roasts, etc. These may be accumulated for two or three days if kept in a cool place. Save up the ten pound cheese cloth meal sacks to draw over the dishes containing such things and insure them against the stray fly. When ready to try out the fats, cut up the trimmings into small pieces and put all into a skillet or granite pan on the back of the stove; sprinkle a pinch of baking soda over them and slice in a raw potato to clarify the drippings; cover and let cook slowly, occasionally stirring from the bottom. When thoroughly rendered, the grease clear and the cracklings light brown, strain through a fine wire strainer into a stone jar or bright tin can. A pound coffee can is good as it has a tight lid and is of convenient size. It is best to have two jars or cans so that one may be thoroughly scalded with soda water and allowed to sun well while the other is being emptied. Great care must be used not to save the skimmings from

**TOWER'S FISH BRAND WATERPROOF OILED CLOTHING**

looks better—wears longer—and gives more bodily comfort because cut on large patterns, yet costs no more than the just as good kinds

**SUITS \$3.00 SLICKERS \$3.00**

SOLD EVERYWHERE

Every garment bearing the sign of the fish guaranteed waterproof

**TOWER'S FISH BRAND**

A. J. TOWER CO. BOSTON, U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO, CAN.



## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

## LADIES, USE LUSTRO

It will remove scratches and will polish your piano, furniture and all finished wood work. The best made. Try it. Full size 8 oz. can, express prepaid, 50c.

AGENTS WANTED.

LUSTRO SPECIALTY CO., Oakland, Cal.

boiled hams nor from the meats cooked with vegetables nor any fat that has been near fish. The least bit of fat with a strong or rancid flavor will ruin the whole."

After a vote of thanks, the Good Housekeeper said: "Our young friend has given us a valuable point in house-hold economy in spite of her vigorous protest at the start. While we are on the subject of fats, I wonder if many housekeepers know how easy it is to



## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elucution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,  
2230 Pacific Avenue,  
San Francisco, California.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

### San Francisco Business College

733 Fillmore St., San Francisco, Cal.

have pure, fresh lard instead of the questionable compound which comes in the grocers' cans. One has only to order 25 cents or 50 cents worth of lard in the leaf at a time, according to her need; cut in small bits; put it in a deep kettle (a shallow dish is not safe for the purpose), with a half cup of water and a pinch of soda and render the same as the drippings. Lard is considered more wholesome mixed with suet which may be easily done by taking half the amount of each and rendering together. This is sweet and pure and may be used for shortening in all darker cakes and plain ones as well as for pie crust, tea cakes, biscuits, etc.

"ECONOMY IN THE USE OF MEATS is another point which comes up in this connection. Few housekeepers can afford to always buy the most expensive and choice cuts. There are great possibilities in a round steak (in fact its flavor is considered finer than sirloin by many epicures), and even a piece from the neck or a knuckle bone may be worked into the most appetizing dish by the expert cook; while the most choice meat is ruined by careless and ignorant handling. Again, in sirloin and porterhouse steak there are the ends and tough portions which are simply wasted when fried or broiled. These should be trimmed off and stewed till tender in just enough boiling water to cover; then season and serve with cream gravy; or they may be chopped with the left-overs from roasts and the like and used for delicious hash, meat pie or toast.

"The subject of economy in the household is a large one which we can only touch upon in one meeting. We shall return to it from time to time, and close this chat with some recipes for the preparation of tough steak and odds and ends of meat:

"STUFFED BEEFSTEAK is as nice for dinner as a much more expensive roast, and it can be prepared from a rather poor flank or round steak. Pound well then season with salt and pepper and spread with a nice dressing made with bread or cracker crumbs the same as for the stuffing of a fowl. Roll up and tie it closely with clean white twine; put it into a quart of boiling water and boil slowly one hour. Lift it carefully into a dripping pan, sift a light dusting of flour over it, then lay a slice or two of salt pork or bits of butter over that; pour in the water used in boiling. Let it bake a rich brown in a hot oven, basting often. Place it in a hot platter

and make a nice gravy with the drippings. Garnish with parsley; some sprays of fresh parsley with slices of red boiled beets between them make an attractive edge for the platter.

"MEAT PIE.—Take the left-overs from roasts and boiled meats or chops; trim off all fat or gristle or hard bits; chop fine, put a layer in the bottom of a baking dish; season as necessary with salt and pepper; then a layer of powdered cracker or stale bread crumbs, sprinkled with bits of butter; fill the dish with alternate layers, then wet well with broth or water; on the top spread a thick layer of the crumbs which have been mixed with milk and a beaten egg or two and seasoned with salt; stick bits of butter over it, cover with a tin pan and bake a half or three-quarters of an hour. Ten minutes before serving, remove cover and brown the top. If it seems dry moisten with a little boiling water. Serve in baking dish, which should be one of granite ware, by setting dish in a larger platter, and garnish with a vine of nasturtium leaves and flowers around the edge of the platter.

Another way of making the pie is to cover the bones of the roasts and meats after cutting off the portions suitable for chopping, with a pint of cold water and let them simmer an hour or so; strain and add a chopped onion, three tablespoons Chili sauce and salt to taste with the chopped meats. Let all simmer a few minutes, thicken with flour; boil and cool; put a layer of this into the baking dish; then a layer of slices of hard boiled eggs and cold boiled potatoes; then another layer of meat, etc. Cover with pie or biscuit crust, make an opening in the center and bake forty minutes.

"MEAT TOAST.—Pour a little boiling water over the chopped meat and let it simmer a few minutes; then add a cup of rich milk; when it comes to a boil stir in a teaspoon of flour mixed smooth with a lump of butter, season to taste. Just before serving, toast evenly over a clear fire smooth slices of bread to a nice light brown; trim off any hard crusts; butter and lay in a hot meat platter; pour meat and gravy over them and garnish with slices of hard boiled eggs."

### No Dispute in That.

A man and his wife were airing their troubles on the sidewalk one Saturday evening when a good Samaritan intervened.

"See here, my man," he protested, "this sort of thing won't do."

"What business is it of yours, I'd like to know?" snarled the man, turning from his wife.

"It's only my business insofar as I can be of help in settling this dispute," answered the Samaritan mildly.

"This ain't no dispute," growled the man.

"No dispute! But, my dear friend—"

"I tell you it ain't no dispute," insisted the man. "She"—jerk his thumb toward the woman—"thinks she ain't goin' to get my week's wages, and I know darn well she ain't. Where's the dispute in that?"

### A Catch.

The late Susan B. Anthony once attended a wedding in Rochester, and at the reception she said to the bridegroom:

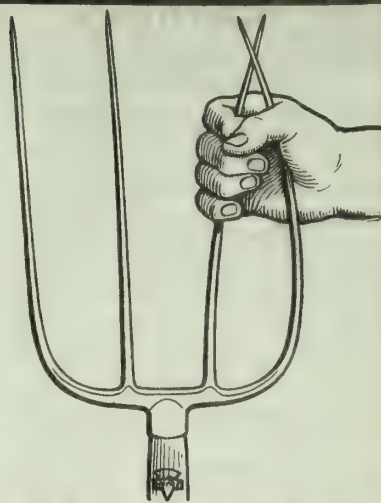
"If you want this marriage to be a happy one, you must be as kind and tender always as you are now. I once knew a young couple whose marriage had not turned out as happily as it should have done. The wife said to the husband one evening:

"Before we were married, dear, you were always giving me presents. Why do you never give me any now?"

"My love," the husband replied, "did you ever hear of a fisherman giving bait to a fish he had caught?"

## The Temper of a Fork

Try the temper of a Keen Kutter Fork—spring it, twist it, pry with it. After you've tried it you'll be willing to work with it.



## KEEN KUTTER



farm tools *don't break*—each has a fine oil temper which makes it withstand strain and keep a good edge or point. The Keen Kutter trade-mark covers Forks, Hoes, Rakes, Scythes, etc. as well as all bench tools—Axes, Hammers, Saws, Planes, Adzes, Chisels, Augers, Bits, Braces, Gimlets, Bevels, Squares, Drawknives, Gouges, etc.

If not with your dealer, write us.

"The Recollection of Quality Remains Long After the Price is Forgotten."—E. C. Simmons. Trade Mark Registered.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions. You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.

POSITIONS SECURED.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.

## TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

### SOME RATES:

Sioux City	-	-	-	\$31.95	New Orleans	-	-	-	\$35.50
Council Bluffs	-	-	-	30.00	Peoria	-	-	-	36.75
Omaha	-	-	-	30.00	Pittsburg	-	-	-	47.00
St. Joseph	-	-	-	30.00	Memphis	-	-	-	36.70
Kansas City	-	-	-	30.00	Bloomington	-	-	-	36.75
Leavenworth	-	-	-	30.00	St. Paul	-	-	-	36.75
Denver	-	-	-	30.00	Minneapolis	-	-	-	36.75
Houston	-	-	-	30.00	Chicago	-	-	-	38.00
St. Louis	-	-	-	35.50	New York	-	-	-	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

## Southern Pacific

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## DON'T BUY GASOLINE ENGINES

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.



## THE MARKETS.

San Francisco, Oct. 7, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

The local wheat market has shown little change for several weeks, prices remaining exactly as formerly quoted. Considerable grain is being brought in from the North, and stocks on hand are fully sufficient for the spot demand. While there is a moderate movement for the milling interest, buying is by no means active. There has been no trading in futures of any consequence for some time.

California White Australian..	\$1.75 @1.80
California Club.....	1.67 @1.70
California Milling.....	1.70 @1.72½
California lower grades.....	1.45 @1.60
Northern Club.....	1.67½ @1.70
Northern Bluestem.....	1.75 @1.80
Northern Red.....	1.65
Turkey Red.....	1.75 @1.80

## BARLEY.

Barley continues to move for export in moderate quantities, and shipping grades are a little higher, as high as \$1.40 being quoted, but there is little interest in brewing. All grades of feed have advanced, nothing being now offered for less than \$1.22½. Receipts have been fairly liberal, and stocks in the warehouses show a material increase since September 1.

Brewing.....	\$1.37½ @1.40
Shipping.....	1.37½ @1.40
heavily.....	1.55 @1.60
Good to Choice Feed, per ctl..	1.32½ @1.37½
Common feed.....	1.22½ @1.30

## OATS.

Prices are unchanged, but arrivals have been liberal, and supplies of reds, whites and blacks are now plentiful, causing a weaker feeling on the two former, with sellers making slight concessions. The market is not so active as it was the greater part of last month. Very little gray oats are offered, but in the absence of a strong demand the price is unchanged.

Choice white, per ctl.....	\$1.70 @1.75
No. 1, white.....	1.65 @1.67½
Gray.....	1.55 @1.62½
Red, seed.....	1.85 @2.00
Red, feed.....	1.45 @1.75
Black.....	2.00 @2.60

## CORN.

There is practically no market in this grain at present. Arrivals for the past month have been very small, and only three tons are held in local warehouses. Quotations on Western grain have been advanced again, and at the present range of values the local buyers are showing no interest in the market.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	\$1.85 @1.90
White.....	Nominal
Western State Yellow.....	1.90
White, in bulk.....	1.85
Mixed, in bulk.....	1.81

## RYE.

Rye is very quiet, with little demand in evidence. Holders continue to quote the prices given below, but few sales are made.

California.....	\$1.40 @1.45
-----------------	--------------

## BEANS.

New beans are now arriving freely and all varieties are finding their way to market with the exception of small whites and pinks, which will not arrive freely for a few weeks more. During the week a fair shipping movement has set in, and inquiries and orders are coming in for immediate shipment, as well as deferred delivery. Under the weight of increased offerings and arrivals, prices of certain varieties have taken a downward movement, notably on limas and pinks. A very strong market, however, is reported for large white beans, and there is a strong feeling on small whites in growing centers. An advance has also been made in large sized garbanzos, and there is more inquiry for the medium size, though the small size is neglected. Some sales of cranberry beans have been made for Eastern shipment. Favas are quiet. The market is apparently on a more settled basis, and while some varieties may decline, values should soon be reasonably well established.

Bayos, per ctl.....	\$2.50 @2.65
Blackeyes.....	3.10 @3.20

Cranberry Beans.....	2.50
Garbanzos.....	1.75 @2.90
Horse Beans.....	1.75
Small White.....	4.25 @4.50
Large White.....	3.00 @3.25
Limas.....	4.50 @4.60
Pea.....	4.50
Pink.....	2.50 @2.65
Red.....	3.00 @3.50
Red Kidneys.....	2.75 @3.25

## SEEDS.

There has been some inquiry for certain varieties of seeds, but there is so far no general movement. By the end of the month, however, considerable inquiry is looked for. Alfalfa seed is now being harvested in several sections, and will soon be in demand for fall planting, when strong prices are likely to develop. Local dealers quote the following figures:

Alfalfa, per lb.....	14½ @18c
Broomcorn Seed, per ton.....	\$20.00 @25.00
Brown Mustard, per lb.....	3½ @3½c
Canary.....	4½c
Flaxseed.....	3c
Hemp.....	4½ @4½c
Millet.....	2½ @3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

## FLOUR.

All quotations are as last reported. Export business is quiet, both here and in the North, but the local demand is about up to the average.

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras.....	5.40 @5.65
Superfine.....	4.20 @4.50
Oregon and Washington, Family.....	4.90 @5.40

## HAY.

Arrivals of hay in this market continue to decrease, the total for the past week amounting to 2370 tons, in comparison with 2590 tons last week. This reduction in receipts, and the continued dry weather, have caused a material advance in prices, and a continuation of present conditions is likely to result in a steady improvement in prices. The advance is more marked in the choicer grades, though it extends to everything but stock hay and alfalfa. The outlook is unchanged, for while the demand is light, stocks are small. Should the rains hold off long, the consumption will be increased, which will tend to further advance prices. General economy is noticed, as feeders are reducing their requirements to a minimum. The regular hay trade is not likely to be restored until there is a revival in general business, which may be delayed until another season. The following prices are quoted by local dealers:

Choice Wheat, per ton.....	\$18.00 @20.00
Other Grades Wheat.....	12.00 @17.50
Wheat and Oat.....	12.00 @17.00
Tame Oat.....	11.50 @17.50
Wild Oat.....	11.00 @16.00
Alfalfa.....	9.50 @13.50
Stock.....	9.50 @10.50
Straw, per bale.....	45 @70c

## MILLSTUFFS.

Stocks of bran are somewhat larger than a month ago, but very little is now coming in, and firm prices rule on bran, shorts and middlings. The high prices tend to limit the demand, as business is confined to supplying immediate necessities. Rolled barley and other feedstuffs are steady to firm at former prices.

Alfalfa Meal (carload lots) per ton.....	\$22.00
Jobbing.....	23.00
Bran, ton—	
White.....	\$30.00 @31.50
Red.....	29.50 @31.00
Broom Corn Feed, per ctl.....	1.25 @1.30
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00
Jobbing.....	26.00
Corn Meal.....	37.00 @38.00
Cracked Corn.....	38.00 @39.00
Mealalfa.....	22.00
Jobbing.....	23.00
Middlings.....	33.50 @35.50
Mixed Feeds.....	23.00 @28.00
Oil Cake Meal, per ton.....	37.00 @38.50
Rolled Barley.....	29.00 @30.00
Shorts.....	32.50 @33.50

## VEGETABLES.

The local demand for onions is about average, but as there is no demand for shipment to other quarters, and supplies are liberal, the price is inclined to ease. Miscellaneous vegetables are in lighter supply than last week, and in spite of a rather smaller demand some varieties show an advance. Tomatoes are well cleaned up, and prices are firmly

held. Summer squash and cucumbers are also higher. Offerings of green corn are now very light, but as there is little demand this article is no longer an important feature. String beans and cauliflower are easier.

Garlic, per lb.....	6 @7c
Green Peas, lb.....	4 @5c
String beans, lb.....	2 @3c
Cabbage, per ctl.....	60 @75c
Onions—	
Australian.....	55c
Yellow, ctl.....	50c
Summer Squash, large box.....	50 @75c
Marrowfat Squash, ton.....	\$10.00 @15.00
Tomatoes, box.....	35 @65c
Turnips, sack.....	75c
Green Peppers, box.....	35 @50c
Cucumbers, box.....	75 @90c
Green corn, sack.....	1.50 @2.00
Egg Plant, box.....	40 @50c
Cauliflower, doz.....	50 @60c
Okra, box.....	35 @50c

## POULTRY.

Three cars of Eastern poultry arrived early in the week, and with two more coming later on the market has been well supplied. With liberal receipts of California stock, and considerable competition from wild ducks, some weakness is looked for on nearly all lines except extra hens, fat ducks and geese, and good squabs. Some varieties already show a reduction, and native stock in general receives little attention. Wild ducks opened at stiff prices, but have declined this week. Turkeys are quiet, with prices well maintained.

Broilers.....	\$3.50 @4.00
Small Broilers.....	3.00 @3.50
Fryers.....	4.00 @5.00
Hens, extra.....	7.00 @9.00
Hens, per doz.....	4.50 @5.50
Small Hens.....	3.50 @4.50
Old Roosters.....	3.50 @4.50
Young Roosters.....	5.00 @6.00
Young Roosters, full grown.....	6.50 @7.50
Pigeons.....	1.25
Squabs.....	2.00 @2.50
Ducks.....	4.00 @7.00
Geese.....	2.00 @2.50
Spring Turkey, lb.....	22 @24c
Gobblers, live.....	22 @24c
Hen Turkeys, live.....	22 @24c

## BUTTER.

Butter has been rather quiet this week, with supplies of most grades fully equal to the demand, though holders of fancy fresh stock have had little difficulty in disposing of their stock. Some pressure to sell, however, developed several days ago, which caused a decline of 2 cents, though the market is now recovering, and offerings are small. Firsts are also ½ cent off. Extra storage stock is moving freely at slightly higher prices.

Cal. (extras) per lb.....	30½c
Firsts.....	26 c
Seconds.....	22½c
Thirds.....	26 c
Eastern extras.....	27 c
Fresh Packing Stock, No. 1.....	23 c
Fresh Packing Stock, No. 2.....	20 c
Cal. Storage Extras.....	26½c

## EGGS.

The price of fresh extra eggs has been rising steadily since last report, as receipts have fallen off considerably, and it is now difficult to fill the demand. Extras are 4½ cents higher, at 46 cents, while most of the lower grades now share in the rise, as the demand has turned strongly in that direction. Storage stock shows no change, and is in better demand than low-grade fresh. The following prices are quoted in the Dairy Exchange:

California (extra) per doz.....	46 c
Firsts.....	40 c
Seconds.....	26½c
Thirds.....	23 c
Eastern Selected.....	25½c
Eastern firsts.....	23½c
Eastern seconds.....	22 c
Storage, Cal., extras.....	30 c

## CHEESE.

Trading in cheese is somewhat more active, and with smaller offerings the price continues to advance. Both fancy fresh flats and new Young Americas are ½ cent higher than last week.

Fancy California Flats, per lb.....	13 c
Firsts.....	11½c
New Young Americas, fancy.....	13 c
Oregon Flats.....	13 c
Oregon Y. A.....	14½c
Storage, Cal. Flats.....	13 c
N. Y. heddars.....	16½c

## POTATOES.

Oregon Burbanks are now offered in this market, and move fairly well at the prices quoted below. Other varieties show

## The "South Bend"

NO. 10 A PLOW.



THE BEST CHILLED PLOW IN THE WORLD.

The No. 10-A is a general purpose, two-horse plow, and is one size larger than the No. 4-A. It has all the fine features of the regular South Bend line, and is probably adapted to a greater variety of soils than any other make of plow of its size. For the farmer desiring a plow of liberal capacity, but somewhat lighter than the No. 15, the No. 10-A is highly recommended. Furrow capacity 12 to 13 inches. Weight 112 pounds. Shares are made plain chilled and slip nose chilled. Wheels, jointers and rolling coulters are made to fit the No. 10-A, and will be furnished when ordered.

Write us for catalogue describing the complete South Bend Line of Plows.

GENERAL AGENTS.

PACIFIC IMPLEMENT COMPANY

135 Kansas St., San Francisco.

Little change, all choice stock being in fair demand, but supplies are quite liberal and prices have a tendency to weakness.

River Whites, fancy, ctl.....	75 @85c
Common.....	45 @60c
Salinas Burbank, ctl.....	\$1.25 @1.60
Oregon Burbanks.....	1.25 @1.35
Sweet Potatoes, ctl.....	1.35 @1.50

## FRESH FRUITS.

The fruit market has been well cleaned up, and with receipts running light prices are considerably stronger. Apples, plums, peaches and some varieties of grapes are higher, and nutmeg melons, while still weak and plentiful, are higher than last week. Quinces and winter pears are lower. Cranberries are now in the market, both from Cape Cod and Coos Bay. Huckleberries are a little higher. There is little movement in other lines of berries. Small lots of pomegranates and persimmons have appeared, and move slowly at the quotations below.

Apples, fancy.....	90c @1.25
Apples, common.....	40 @75c
Strawberries—	
Chest.....	\$5.00 @6.00
Blackberries, chest.....	3.00 @4.00
Raspberries.....	5.00 @7.00
Huckleberries, lb.....	13 @15c
Cranberries—	
Cape Cod, bbl.....	\$10.00 @10.50
Coos Bay, box.....	4.00 @4.25
Plums, crate.....	50 @85
Peaches, box.....	50 @75c
Figs, box.....	65 @75c
Nutmeg Melons, box.....	15 @40c
Cantaloupes, crate.....	50 @1.00
Watermelons, doz.....	1.00 @2.00
Grapes, crate, Seedless.....	75 @85c
Muscats.....	50 @65c
Cornichon.....	85 @1.00
Tokays.....	40 @60c
Pears, Bartlett, box.....	75 @1.25
Other Varieties.....	40 @75c
Quinces, box.....	50 @65c
Pomegranates, box.....	90 @1.25
Persimmons, box.....	75 @1.00

## CITRUS FRUITS.

Supplies of oranges are small, but of choice quality, and quotations show a narrow range. Choice lemons are a little higher. Some new crop grapefruit has arrived, but is unattractive and finds little demand.

Choice Lemons.....	\$1.75 @2.25
Fancy Lemons.....	2.75 @3.25
Standard.....	1.00 @1.25
Limes.....	4.00 @5.00
Oranges—	
Valencias.....	3.25 @3.50
Grape Fruit.....	Nominal

## DRIED FRUITS.

There is little movement of dried fruits and raisins to the East at present. A little demand for spot prunes is noticed among Eastern buyers, but little inquiry is made for the new crop. It is now considered that little new business is likely to develop until the weather is colder, but the Eastern trade should be in a good position to buy, as stocks generally are light. There is little feature in the local situation, aside from the extension of time on the Armsby raisin offer. The



local packers are buying up the various fruits at former prices. So far they have not done much in prunes, as the growers are inclined to ask higher prices than have yet been offered.

Evaporated Apples .....	5½ @ 6½c
Figs, black.....	2½ @ 3 c
Figs, white.....	3½ @ 4c
Apricots, new crop.....	7 @ 10½c
Peaches, new crop.....	4½ @ 5½c
Prunes, 4-size basis.....	3½ @ 4 c
Pears, new crop.....	6 @ 8 c

## RAISINS.

2 Crown .....	4½c
3 Crown .....	5 c
4 Crown .....	5½c
Seeded, per lb.....	7 c
Seedless Sultanias .....	4½c

## NEW CROP.

Loose Muscatels, 4 crown.....	6 c
3 Crown.....	5½c
2 Crown.....	4½c
Thompson seedless.....	5½c
Seedless.....	6 c
Clusters—Imperial.....	\$3.00
Dehesa.....	2.50
Fancy.....	2.00
London Layers.....	\$1.25 @ 1.35

## NUTS.

New almonds are being delivered in considerable quantities, and several lots have gone East within the last week or two. The walnut crop is being gathered, and a large part of it has been placed. There is a fair demand for both descriptions, and prices are unchanged.

Almonds, Nonpareils.....	11½ @ 12c
I X L.....	10½ @ 11c
Ne Plus Ultra.....	10 c
Drakes.....	9½c
Languedoc.....	9 c
Hardshell.....	— c
Walnuts, Softshell No. 1.....	13 c
Softshell, No. 2.....	10 c

## NEW CROP.

Softshell, No. 1.....	12½c
Softshell, No. 2.....	8½c
Hardshells.....	less ½c
California Chestnuts.....	20 c

## HONEY.

Some good sized lots of honey are coming into the market, and some of the growers in the southern part of the State are shipping East direct. White and water white extracted and fancy comb meet with a fair demand here, but little attention is paid to low-grade lots.

Water White, Comb lb.....	16 @ 17c
White.....	15c
Water-white, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c

Dark Amber.....	5½ @ 5½c
Candied.....	5½ @ 5½c

## HOPS.

There is a wide variation in various estimates of the world's hop crop this year, the minimum being somewhat below, and the maximum considerably above last year's yield. The Coast crop has been greatly reduced, but without any improvement in prices so far. There is very little movement, and some new contracts have been reported as low as 7 cents.

1906 crop.....	1½ @ 2½c
1907 crop.....	4 @ 6 c
Contracts.....	7 @ 10 c

## WOOL.

Continued dullness prevails in the wool market, and prices remain stationary, with neither buyers nor sellers taking much interest under present conditions. California clips so far receive very little attention from the Eastern manufacturing interests, and offerings are hard to move.

Humboldt, year's staple.....	15 @ 18 c
Northern Coast.....	11 @ 13 c
San Joaquin.....	7 @ 9 c
Northern, Mountain, free.....	6 @ 8 c
Southern Coast.....	6 @ 8 c
Nevada.....	9 @ 12 c
Oregon.....	8 @ 15½c

## MEAT.

Prices show no material change, but there is a feeling of weakness in nearly all lines. Few sheep are now arriving from Nevada, as supplies are now plentiful. Beef is also in good supply. Hogs remain steady.

Beef: Steers, per lb.....	6½ @ 6½c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7½c
Small.....	8 @ 9 c
Mutton: Wethers.....	7 @ 8 c
Ewes.....	6½ @ 7 c
Lambs.....	8½ @ 9½c
Hogs, dressed.....	8 @ 9½c

## LIVESTOCK

Steers, No. 1.....	3½ @ 4 c
No. 2.....	3½c
No. 3.....	2 @ 3 c
Cows and Heifers, No. 1.....	3 c
No. 2.....	2½c
Bulls and Stags.....	1½ @ 1½c
Calves, Light.....	4½ @ 4½c
Medium.....	4 c
Heavy.....	3½c
Sheep, Wethers.....	3½c
Ewes.....	3½c
Lambs, lb.....	4 @ 4½c
Hogs, 100 to 150 lbs.....	6 c
150 to 250 lbs.....	6½c
250 to 325 lb.....	5½ @ 5½c
Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.	

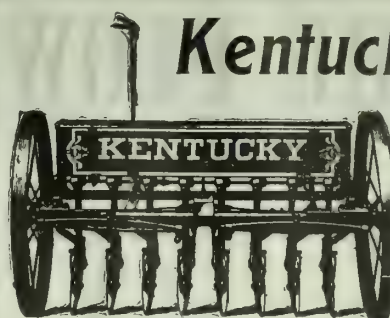
## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Oct. 6, 1908.—A casual look at the present orange situation would lead the observer to believe that the consuming public wanted no oranges at this time of the year, even at comparatively low prices. What are the facts? The answer is that, even if the prices are low, the fruit is put before the consumer at too high a figure to tempt him. He will buy oranges at a certain price per dozen or by the piece, but when he thinks that price too high, he turns to other fruits, and just now he can buy cheap Porto Ricos, and he is giving Valencia's the go-by. This will be more emphatically the case as the season advances. Our fruit is getting older all the time, and the newer, cheaper fruit will have the call.

People will not pay high grade prices for low-grade fruit, and that is largely the trouble with Valencias at the present time. Too much fruit has been held too long and the quality is not there, only in exceptional cases. These cases will bring very good prices to the end, for they appeal to the high-class trade, that will pay almost any price for fruit they require to satisfy their customers. This is the fancy groceries, the big hotels and the transatlantic steamers.

This has been one of the years when the grower missed it by not taking the early offers of the cash buyers, and where the cash buyer missed it if he did not ship early. Since June the Valencia market has been uncertain, the demand light and prices low on everything but the very best of the stock.

The shipments are still keeping close to 100 cars a week, but there must be a let-



**Kentucky Disc Drills**

meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

**PACIFIC IMPLEMENT COMPANY**  
135 Kansas St., San Francisco.

up soon. It looks as though it must come within a week, as it does not seem possible that there can be 100 cars of oranges left in California today. There have been shipped to date 24,350 cars of oranges, against 24,300 for last season, and our earlier prediction of a total of 24,400 cars will not be very far wrong.

The lemon market is rather quiet, but stronger than for some little time, in spite of cooler weather. The principal causes of this result are that dealers are rapidly cleaning up on the old stock that they purchased at high prices, and the fact that Sicily stock is scarce and of poor quality. At the last sale of imported lemons the bulk of the fruit offered was raff raff stuff that would have been thrown overboard a few weeks ago, yet it all sold, and the better grades of really good stock sold from 50 to 75c. a box higher.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Oct. 6, 1908.

Since our report last week the Tokay market has declined a trifle. There are very few f.o.b. sales being made. Auction averages yesterday were as follows: New York: Lodi, 12 cars, 75 to 95c.; Florin, 6 cars, 90c. to \$1.20; Elk Grove, 1 car, \$1.35. Chicago: Lodi, 11 cars, 75 to 90c.; Florin, 1 car, \$1.10.

The carrying quality of the fruit from Lodi is very poor, and as a result a large percentage of cars shipped on order have been refused at destination. Some of these rejected cars have been placed on consignment, but the majority go to auction, where very low prices are realized, consequently the general returns made to Lodi shippers are far from glittering.

Florin Tokays have sold quite well throughout the season, and growers in that section will receive a fair profit. Shipments from Florin will decrease from now on, although no change is expected in Lodi shipments for the immediate future. The market will probably remain firm at the present prices.

Malagas are all going to auction. The range of prices is 80c. to \$1.15, delivered. Shipments from now on will rapidly decrease.

The first car of Emperors will probably go forward about the 20th, although shipments will not commence in earnest until the first of November.

Comparative shipments for the seasons of 1907 and 1908, up to September 30, are as follows: 1907, 5271 cars; 1908, 8892 cars. Additional, not reported, season 1908, 561. Total, 9453 cars.

H. E. Bothin, a very prominent real estate man of San Francisco, who is making a beauty spot of Bothin Park, near Hemet, will plant 75 acres of the tract to oranges this season. Already 75 acres has been set out, and ultimately Mr. Bothin will have the whole of the 400 acres in oranges. The tract is laid out to be a park when completed, and will rival the famous Smiley Heights at Redlands.

The suit of the old California Raisin Growers' Association vs. the Abbots et al., was finally decided at Fresno this week, in favor of the association. The suit was for an accounting of the proceeds of the sale of the 1903 crop of raisins, and involved \$2,266,170.05, and nearly 2500 growers were involved.

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayotte.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS.

## EUCALYPTUS TREES,

by the 1000 or 100,000, no stronger stock grown in the open, without lath screen or shade; therefore hardened to all weather.

## GENERAL NURSERY STOCK

**LEONARD COATES NURSERY CO., Inc.**

ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

## PUBLISHER'S DEPARTMENT.

Eucalyptus tree growing is rapidly assuming commercial proportions in this State. Nurserymen could not fill the demand for young trees last season, so that many of them have prepared for a big demand this winter, but if anything like the acreage is set out that is now contemplated, the amount of stock now growing will not near go around. Eckstein & Eckstein are advertising all varieties, and are ready to book orders.

A. Mitting is advertising 2-year-old Superlative Raspberry plants for December delivery, in this issue of the PACIFIC RURAL PRESS. Send for his catalogue.

The Lustru Specialty Co., of Oakland, is advertising its preparation to clean furniture, etc. It is a good firm, and wants agents to introduce the preparation. A good chance to earn Christmas money.

The Pacific Implement Co., one of the largest on the Coast, has two advertisements in this paper. Good treatment and good honest values will be given by this firm to our readers.

Have you sent to the Mountain Copper Co., 150 Pine St., San Francisco, for their pamphlet on fertilizing? Every grain grower will be especially interested in reading it.

Rainmaker Hatfield is to commence work by November 1, under contract to produce 12 inches of rain in Merced, Stanislaus and San Joaquin counties by next April. If he succeeds he is to receive \$3000.

A number of sheepmen of Yuba and Sutter counties have been ordered by State officials to re-dip their sheep this fall, owing to the faulty way in which the work was done last spring.



**MICA**  
**Axle Grease**  
Helps the horses.  
Saves the wagon.  
Pays the teamster.

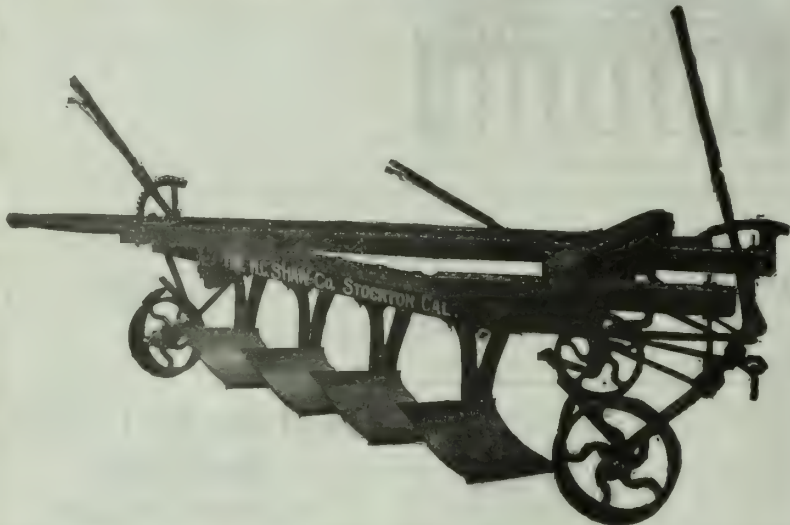
Mica Axle Grease has a long wearing quality, which makes it the most economical of all lubricants. Especially adapted to heavy wagons and hard teaming. Ask your dealer for Mica Axle Grease.

**STANDARD OIL COMPANY**  
(Incorporated)



# THIS IS THE PLOW

THAT ALL WANT, AFTER SEEING ONE IN USE.

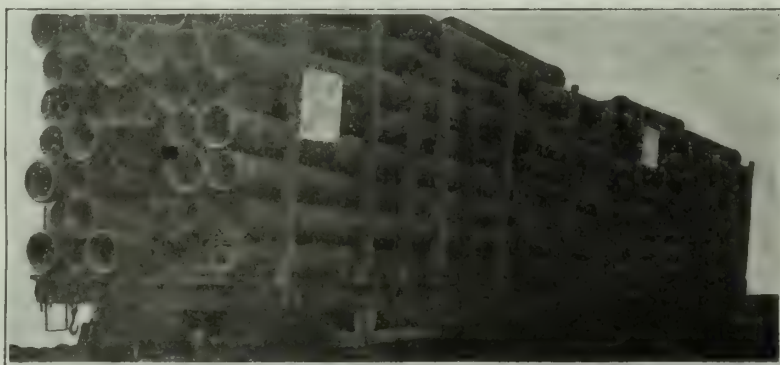


THE SHAW STOCKTON IMPROVED GANG PLOW

Drop us a card for Circular with Prices.

MANUFACTURED BY

THE H. C. SHAW CO., Stockton, Cal.



WOOD  
PIPE

Made from California  
Redwood or Selected  
Washington Douglas Fir

NATIONAL WOOD PIPE COMPANY  
Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## REX Lime and Sulphur Solution

For Fruit Spray and Stock Dip.

This solution is guaranteed, when diluted according to directions for the dipping of Sheep and Cattle, to contain not to exceed one per cent of Lime (CaO), and not less than two per cent of Sulphur, combined in the form of Calcium Sulphides, and made according to Government formula.

The Department of Agriculture at Washington, D. C., has authorized the use of REX for Sheep Scab and Cattle Mange in the proportions of 1 gallon of REX to 15 gallons of water, making 800 gallons of Spray out of every barrel. Full directions for its use on every barrel. Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

Prepared by THE REX COMPANY, Omaha, Neb.

"THE OLD RELIABLE"

DIETZ  
LANTERNS

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1860  
PIONEERS AND LEADERS

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts. San Francisco.

## PEAR-BLIGHT We can CURE IT

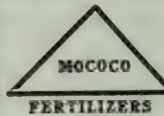
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

PEAR-BLIGHT REMEDY COMPANY



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

Mococo Superphosphate

Land FERTILIZED with Mococo Superphosphate yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

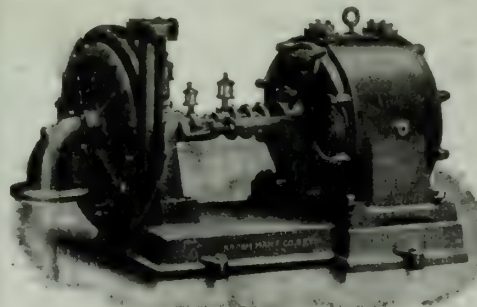
FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

Western Gas and Power Company  
OAKLAND, CAL.

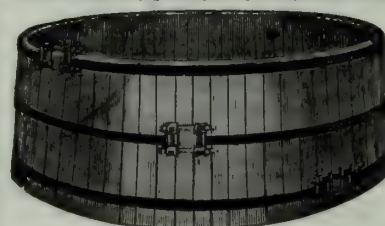


## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

Krogh Man'f'g. Co.

127 to 133 Beale St., San Francisco, Cal.  
Send for new catalogue No. 60 just issued.



## TANKS

Wine Tanks, Water Tanks, Stock Tanks, Cyanide Tanks. Two million gallons of wine tankage built this year. Write now for my prices. Lumber direct from the forest. This means low prices. Fruit Boxes and Trays of all kinds, in stock and special kinds made to order on short notice. Independent.

R. F. WILSON,

General Manufacturing, Main St. near Lincoln St., STOCKTON, CALIFORNIA.



WINE TANK.

## Tanks

WINDELER'S PLANING MILL  
AND COOPERAGE

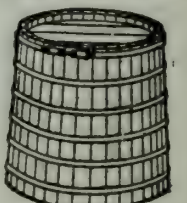
GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.

FRANCIS SMITH & CO., Manufacturers of

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 16.

SAN FRANCISCO, SATURDAY, OCTOBER 17, 1908.

Thirty-eighth Year.

## Berries in the San Joaquin.

Written for the PACIFIC RURAL PRESS  
By S. D. ENGLAND.

In writing of berry culture at Reedley, Fresno county, at your request, with the idea of interesting and assisting PACIFIC RURAL PRESS readers who may wish to engage in berry growing, I will try to state briefly my experience. In the first place, berry growing comes under the head of strenuous farming. Some people think they can plant a berry patch and gathering the harvest will be the only labor, and a bank account the sure result. But it is not so. Close attention is required at all times.

The soil here is "white ash," eight to ten feet deep. It works easily. Water from the Alta Irrigation District costs about 50 cents per acre a year. Our place is located on Kings river, and we have a pumping plant also, as water must be available at all times for berries. With a 12-horsepower Webster gas engine and a 4-inch centrifugal pump we raise water 42 feet at the rate of 450 gallons per minute. It burns about 12 gallons distillate in 10 hours run.

I have been growing strawberries, raspberries, loganberries and Mammoth blackberries for four years. My chief industry, however, is fruit and raisins. I will give my methods of the care of each variety of berries, but will treat especially of the Mammoth blackberry, which is the finest

about 10 to 18 inches long. The young branches from near the ground produce more and larger berries. The care of loganberries runs about the same as the Mammoth blackberry, except the thinning of the vines. After they are two years old, if too much top is left to bear, the berries will not mature, and will be small and dry up before maturing.

one wire on top. I keep the young sprouts all cut back, not allowing them to grow into and become tangled with the old wood, or run over the ground, until the crop is harvested. Then I at once remove all the old wood, giving the new a chance to grow, irrigating and cultivating well. As the new wood gets long enough I put it up over the wire, and continue this until the hedge is full enough.



MR. ENGLAND'S BERRY FARM AT PICKING TIME.

I have the genuine Mammoth blackberry. They begin ripening here about May 20 and end the last of June, coming before the hot weather for the canning. On account of their size and because

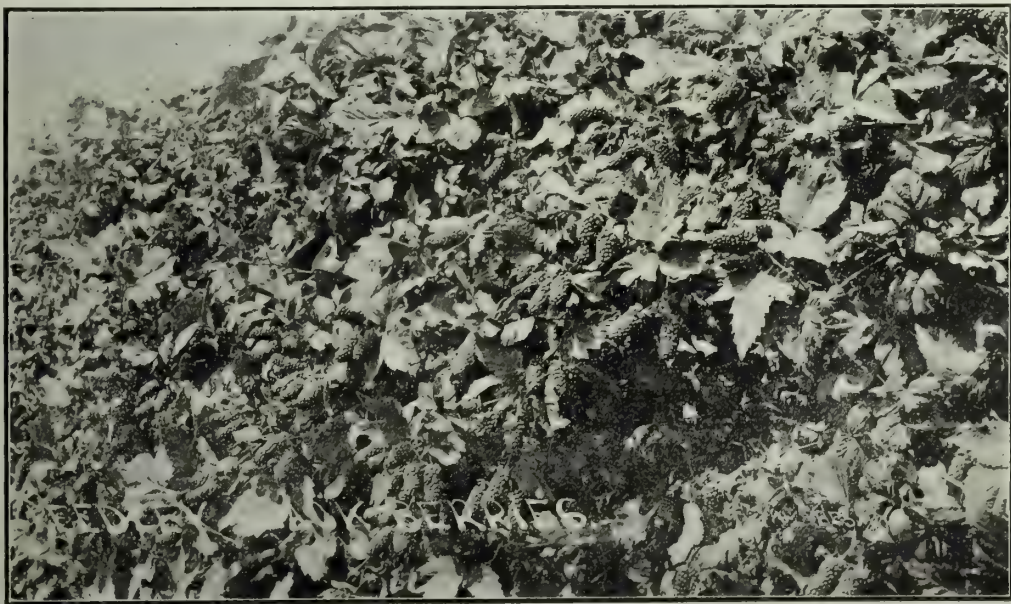
When full enough, prune off the surplus and clip all the tips that hang down about 10 inches from the ground, unless you want new plants. If the hedge is too thick and heavy, berries will not be picked which are on the inside of the vines, and will waste. The Japanese seem to be the best pickers. I have tried children for pickers: as a rule they are not careful in handling berries. It costs 20 to 25 cents per crate of 24 boxes for picking.

As to marketing, to be a salesman is the secret of success. No rule can be laid down for this. For our local market I aim to always supply the choicest berries, with boxes well filled, and pay extra for the picking for this trade.

We have picked 20 crates at one picking on a row of 60 vines; for the season about one ton of berries to the row is the yield.

I have fertilized with barnyard manure, put on in the fall or early winter and plowed under. It pays well to fertilize. Spraying with bluestone wash just before the buds open prevents the leaf blight. The lime, sulphur and salt will burn the leaves unless very weak, and I would not advise to use it at all.

I learned last summer from fruit dealers that the Mammoths in the San Francisco market go for black loganberries. I shipped about 200 crates of Mammoth to San Francisco this season, and I think they ought to go in the trade by their right name, as you explained some months ago in the PACIFIC RURAL PRESS. Both berries are by the same originator, Judge Logan, of Santa Cruz, but nothing but confusion results from calling them black loganberries, and the practice ought to be stopped.



THE MAMMOTH BLACKBERRY FRUITING AT REEDLEY.

and best blackberry I have ever seen, and I remember picking berries on my father's farm at Hollister when I was 10 years old.

Strawberries bear here from April 1 to July. They do best the second year; then it pays to re-plant with No. 1 sets grown from young plants.

I prune the raspberries in early spring, cutting all the old wood away, and leave the new wood

they hang mostly on the outside of the vines, they are easily picked. The berries grow from one to one and a half inches, many to two and a half inches long. I have picked 13 berries which weighed one pound. They will hang on the vines many days after ripening without dropping off.

My Mammoth berries are planted in rows 10 by 10 feet part, with stakes 4½ to 5 feet high, with



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor

FRANK HONEYWELL - - - Business Manager

## The Week.

It is fortunate that as field activity in California agriculture declines, forum activity advances. This is, of course, the way with these two branches of agricultural endeavor everywhere: the summer for work, the winter for talk, has been the arrangement since the time of—Adam, we were disposed to write, but Adam was, climatically, a Californian, and lolled in the garden all the year round, until he made the mistake of his life and took to a prehistoric kind of "queening," so that his father had to set him to work to save his manhood. Probably Adam had to work all the year, because he had no winter to cover his fields with snow and ice, and Eve had to do the talking—hence the supremacy of her sex in that regard. But Adam's successors in California have learned a better way, and that is, not to work all the time, but to seize a few weeks which lie between the late fruit and the early pruning, between the dry feed and the new grass, or, as we may also say, between the scant milk-flow and the new freshening, as the best substitute for an idle winter, when it comes to talking about how to work better after the fall rains bring the opening of the California growing season. We have indulged in these references to explain to the hundreds of new readers who have recently come to the State why it is that we have our agricultural short courses, conventions, congresses, State institutes, etc., before the holidays, while in Eastern regions they come in the dead of winter, because there is nothing else doing. California has a life of winter, not a death of it, and it is naturally too busy a time for much forum indulgence.

In accordance with this disposition of seasonable things, last week was marked by three great talking events, all for the sake of agriculture: the annual meeting of the State Grange, the State Farmers' Institute, and the opening of the University Farm Short Courses, to which reference was made last week. All these three events were also closely associated, not only in spirit and purpose but in fact, and each ministered to the success of the other. The State Grange meeting was the most notable in recent years, the attendance was larger than usual, the preparations by the Sacramento county Granges more varied and delightful, the transactions unusually significant and harmoniously reached. We felt a keen delight to see the Grangers' procession as it covered the short half mile from the railway station at Davis to the gate of the great farm of the University. There were many whom we have known for decades for their earnest thought and active work for the advancement of the California farmer, socially, educationally and industrially. Some of them are getting a little scant or frosty at the top and a little light in thigh and calf from the mental measurements which we first made of them, but as the glorious October sunshine of the Sacra-

mento valley fell upon them as they paced along beneath the towering walnuts of the village street leading to the farm, it was good to see their erect carriage and uplifted faces, still set westward, as they have been since some of them took up the California trail more than half a century ago. They still believe in the West, and so shall they believe and strive in and for the West until they pass quietly and singly still farther westward through the Golden Gate into the great pacific hereafter. A true Granger is grand—how grand, the next generation will know better than this.

We were delighted also to see how earnest and cordial both Grangers and other California farmers were in their declarations of interest and confidence in the greater facilities for agricultural education which they have done so much to secure and which they will do even more to maintain. The keynote of the State Institute was struck in the address of President Wheeler, when he declared so forcibly for education which shall teach men and women how to live better lives, do better work. And when he gave a few notes of the progress and work of the agricultural department of the University, all were deeply interested. We give a few notes:

"Many people in this State are unaware how widely spread and highly differentiated is the work of the Agricultural Department of the University of California. First, as to the University courses in agriculture, 715 students of the University were taught last year in the classes of the Agricultural Department. Of these, 145 were enrolled as regular agricultural students—candidates for a degree. In 1901 there were but 31 such pupils. The number has multiplied, therefore, nearly by five, and shows itself in the current year still in rapid increase. The entering class is far the largest in the history of the institution. There were 14 regular graduates in the full course in 1908, whereas in 1901 there were but 2. In 1901, 47 subjects were taught in the department, and 76 in 1908. The number of the teaching force had increased in the same time from 11 to 26.

"University Extension in Agriculture has been pursued to the limit of available funds in reading courses and farmers' institutes. Eighty-eight institutes were held in 1907, with a total of 294 sessions and an attendance of 27,912 persons, which is an increase of 36% over the preceding year. The total number of regular lecturers employed was 24, besides 190 voluntary speakers. The demand for this work is much greater than we are able to meet with the present appropriation.

"A very important branch of the work is the correspondence instruction. From the director's office alone in the year 1907, 7152 answers were written to letters requesting agricultural information or advice. This does not include letters referred to other members of the staff to answer. Including such letters, a total of not less than 15,000 would be reached. In the year 1907, 13 bulletins, 9 circulars, and 2 numbers of the scientific series were issued, with a total of about 70,000,000 pages in the entire edition. There are 11,000 addresses on the regular mailing list of the station. The total number of employees of the department is at present 141, of whom 96 are laborers or scientific assistants, and do not give instruction. The remaining 45 give instruction either in the University courses, at farmers' institutes, or at the University Farm; some at all three. The work of experimentation is now being conducted at seven different stations, aside from the work on the University grounds."

Another striking educational feature of the

State Farmers' Institute was the presence and participation of two famous heads of agricultural instruction and research in other distant States. The distinguished guest of the Institute was Dean and Director C. F. Curtiss of the Iowa Agricultural College. Professor Curtiss was invited to attend the Institute at the suggestion of members of the California Breeders' Association and other stock men, and they acted the royal host to a most kind and appreciative guest. Professor Curtiss' talks at the Institute were full of force in support of full technical and ample culture also for the coming generation of farmers. He believed in short courses for those who had to be content with them, but counselled all who can command time and funds to pursue the full college course, even if they had to take them by installments, with efforts for support intervening. He gave many instances of those who had accomplished this, even with a start rather late in life, and described the success of such resolute students. In every way Director Curtiss exerted a strong influence for sound and adequate agricultural learning which will long be potent in California. His delightful personality and genial spirit were charming to all who came to know him during his all too brief visit. Another notable man at the State Institute was ex-Director I. P. Roberts, who for 30 years guided agricultural effort at Cornell University, and is now giving his mature years to the enjoyment of leisure life in California. Professor Roberts has just passed his 75th birthday, and has acknowledged a barrel of congratulatory letters from his old pupils in all parts of the world to establish that event, but all who heard his ringing voluntary address near the close of the Institute were again assured that California is the place of the world for old men to renew their youth. Professor Roberts is one of the most welcome men that California has recently fallen heir to, and his clear head and forcible speech will help us in all our educational undertakings in the agricultural line, which is now so popular in this State.

Of course there were many other notable men and women at the State Farmers' Institute, and their words made for wisdom and their greetings for joy. It is impossible to do them justice in a paragraph. We begin this week such reproduction of their words as we can compass in this and coming issues. The paper of Mr. Arthur R. Briggs, president of the State Board of Trade, of which we give leading parts upon another page, will ring true for all who desire insight and discrimination among the philosophies of so-called "dry farming" and help to an appreciation of the fact that some conceptions of dry farming are neither new nor true. Other notable productions of the Institute will appear as opportunity arrives.

The University Farm Short Courses began with the dairy school last week, and the dairy workers in their white uniforms comprised an interesting section of the assembly. These, with the courses in other industries which begin later, have already an enrollment of upward of a hundred, and may go considerably beyond that as the unannounced arrivals appear for the particular lines of work which they prefer. Secondary work for boys from the grammar schools will open in January, and the first of a contemplated group of four dormitories will be ready for their occupation. It must be claimed that the enterprise opens well, and the earnest desire of those charged with its development is that California farmers shall draw nigh unto it in sympathy and support, measuring its motives, considering its methods, helping it to be good and useful and worthy of California.



## Queries and Replies.

### Almond Growing.

To the Editor: I would like some information regarding the growing of almonds and was told that you were the proper one to write to for it. I would like particularly to know the following, and any other information you see fit to give would be appreciated: The chances of a failure of crop? The average production per tree? When they begin bearing? When in full bearing? If it is an expensive crop to harvest and get ready for the market? If the demand for almonds is good? The best variety to put out? The best size tree to plant? I will be thankful for any information you may give me in reply to the above questions.—Enquirer, Oakland.

The culture of the almond in California will be quite fully discussed in the forthcoming edition of our book on "California Fruits," which will soon escape from the printers, who have been doing their best for speed with a larger book, and which made great requirements upon the author's available time. Brief answers will be undertaken, although they may be somewhat arbitrary and are subject to explanation which it is impossible to give here.

The chances of failure in the almond crop are very great. Unless you plant in the right sort of a place you are almost sure of losing the crop most of the time. If you take the whole acreage of trees and divide it into the product of some years, the average would not be over five pounds to the tree. In more favorable years from 10 to 15 pounds; instances of individual acreages where all conditions are favorable have run from 25 to even 40 pounds to the tree, but this is exceptional. Bearing begins, as with peaches, in the third year. Trees on good soils, in good situations, 25 years old still give what might be called a full crop when everything is favorable. It is an easy and cheap crop to get ready for the market. The demand is excellent. The California product will range all the way from 25 to 400 carloads, according to the character of the season, and the price will run from 7½ to 15 cents a pound, according to variety. Some of the cheaper varieties are more remunerative than the costly, because of larger amount and greater regularity in bearing. At present these lower varieties which are in demand for planting are Drake's Seedling and the Texas Prolific. Of the higher priced varieties the Nonpareil is perhaps in the lead. The best tree to plant is the yearling—that is, one year's growth from the bud.

### Burr Clover—Oyster Shell Scale.

To the Editor: Please let me know through the PRESS how and when to sow burr clover in the open field for pasture. How should the soil be prepared? Are our soil and climate suited to its growth? I am sending you a piece of apple peeling infested with some kind of scale. Can you tell me what it is and what to do for it? The tree stands near a hedge of cypress.—Rancher, Mendocino County.

Burr clover is used to making a catch from surface sowing at the beginning of the rainy season, and it is all the surer to catch if you use the hulled seed which the seedsmen now offer in any quantity. You can also help the catch by harrowing after sowing. This is for land which you do not desire to break up. On plowed land you can put in burr clover just as you would alfalfa or any other clover or grass seed. The scale you send is the old oyster shell bark louse of the apple. It is, fortunately, not a very bad scale generally, because it is hard to kill when it is sealed down tight over the eggs. You probably have a bad case, from the freedom with which it runs out on the fruit. One of the best ways to hit the scale

and protect the fruit is to spray with kerosene emulsion after the fruit has set and you see with a magnifier that the young scales are running around freely. Properly made emulsion will not hurt foliage or fruit. The cypress hedge has no connection with this scale, which belongs primarily to the apple tree, although it takes the pear and some other trees.

### Almond Hulls for Stock Feeding.

To the Editor: Will you kindly inform me through your paper the nutritive value of almond hulls for feeding stock, and also the best way to prepare the hulls for that purpose, and the proper quantity to be given at one time.—Grower, Contra Costa County.

On the basis of an analysis of ground almond hulls, Professor Jaffa of the Agricultural Experiment Station found that the protein content of almond hull meal is greater than that of wheat hay, about equal to that found in first quality of oat hay, but less than one-half that reported for alfalfa hay, bran or middlings, etc. The percentage of starch, etc., approaches very closely to that of the cereals and other mill products. The amount of fiber, however, is much larger than that recorded for the feeds just mentioned. Practical experience has demonstrated the value of almond meal as a food for stock, and chemical analysis shows why this should be so. The best results, however, will be obtained, and no trouble need be anticipated, when this material is cautiously fed as a substitute for part of the grain or mill by-products in the ration, with hay and oilcake meal. Theoretically the availability of the nutritive contents of the hulls is increased by grinding, but in practice it is found that grinding is unnecessary. If the hulls are soaked in water before feeding, and sprinkled with bran, they become more attractive to the stock. It seems to be common to give the animals all they will eat.

### Walnuts and Table Grapes.

To the Editor: I have a piece of land in the San Joaquin valley which I wish to put into table grapes. How is the Tokay? Would it do to plant walnuts on the same land with the grapes?—Owner, San Francisco.

There are many places in California where the Tokay grape is growing well and selling well. It is certainly one of our leading commercial varieties, as shown by Mr. Bioletti in the PACIFIC RURAL PRESS of September 12, but we cannot undertake to advise you as to the commercial bearings of this or any other variety. Planters must get all the information they can, and we will help them to this end, but they must take their own business risks.

As to English walnuts, people are now planting them largely in the same districts in the Sacramento and in the San Joaquin valleys, where the largest quantities of Tokay grapes are grown for shipment, but even in those districts there is a great variation in soil, and some Tokays grow well on soil which certainly would not suit the English walnut, because grapes, well cultivated or lightly irrigated, may do excellently on shallow soils which would give nothing but a stunted and unprofitable walnut tree. If you have a deep, free soil, you can do what you propose with considerable confidence.

### Nitro-Cultures for Beans.

To the Editor: I have read a good deal about "Nitrogen Culture." Beans are one of the things mentioned, and double the yield is promised if the nitrogen is used. Is it really a fact?—Farmer, San Luis Obispo.

There may be cases in which the introduction of nitrogen gathering bacteria may be desirable.

That has not been fully demonstrated for California, although some experiments point that way. We have been obtaining for years perfectly satisfactory yields of beans on good bean land before nitro-culture was thought of. Presumably we do not usually need it, but there may be places where the introduction would be of advantage. This can only be told by experiment. You can easily make it out any time by taking soil from a field which is yielding beans satisfactorily and scattering it upon a portion of the new land, and then notice whether you get a better crop on the part which is thus inoculated.

### Flat-Headed Borers.

To the Editor: Can you tell me how to get rid of borers in my young peach trees, and how to prevent their reappearance another year? The worms are about one half inch long, yellow in color, with large flat heads. I find the young and the larva in the soil at the root of the tree. In some cases they girdle the tree just under the bark; in others they go straight in and work, usually downward, through the heart of the tree.—Grower, Orsi.

You have allowed the bark of your trees to become sunburned. If you had protected it by whitewash or tree protectors, or winding with burlap, you would not have borers to deal with. The best you can do with this generation is to dig them out, or open enough to see the hole, and follow the hole with a puncturing wire, which will end the work where he now is. Use whitewash freely on all bark the sun can reach—even limbs, if they are unprotected by foliage. It may be well to do this now, to save chance of burning by hot fall sunshine, but particularly get at it before the spring sunshine gets hot. If your trees are badly sunburned and bored, you had better replace all such with new trees, and give them a chance for their life by shading from the sun.

### Vineyard Cover Crops.

To the Editor: I want to plant something in a young vineyard, as soon as it rains, that I can turn stock in on, and that can be plowed under in the spring as green manure. Will any of the following be suitable: Cow peas, soy beans, hairy vetch, spring tares, etc.? The ground is well worked, entirely free from weeds, and the seed could be sowed now and harrowed in, and come right along as the grain does. I want something that will make a good winter growth.—Planter, Sacramento County.

We would not want much stock in a young vineyard, nor should we expect to have much to plow under in the spring, nor many vines to plow for, under that treatment. If you keep stock out you can get a good crop of heavy vetch, winter vetch, Canada peas or common California field peas or burr clover by starting immediately after the rains. Cow peas and soy beans are not good winter growers, with such frosts as you are likely to have.

### Almonds and Chestnuts.

To the Editor: As a reader of your valuable paper, may I ask if there are varieties of almonds and chestnuts grown as a commercial success in the San Joaquin valley.—Enquirer, Dos Palos.

A large product of almonds is secured in the northern parts of the valley, in Contra Costa and San Joaquin counties, and there are some satisfactory orchards in the eastern parts of Stanislaus and Merced counties. Otherwise almonds are scattering in the valley. More chestnuts have been planted in Stanislaus county than in all the rest of the valley combined, and that it not very many either. The chestnut seems to be more satisfactory on suitable soils in the foothills than on the plains.



## Horticulture.

### BUDDING WALNUTS.

Supplementary to his interesting article on budding walnuts which appeared in the PACIFIC RURAL PRESS of September 5, Mr. J. B. Neff of Anaheim writes as follows:

I have had several hundred buds placed on walnut trees at different times since September 6, and am glad to report that they have been successful, as a whole. The first buds are now sending out leaves which is not just as I would like, because of the danger of frosts, but it shows that the method was right. I have had several changes made and find that the largest percentage of growth is when the slot to receive the bud is made above the cross cut and the bud forced upward instead of downward, as is usually done, then all the cut surfaces are waxed with soft wax well pressed in with a knife, or piece of shingle, leaving only the growing part of the bud exposed.

It seems immaterial as to whether the buds are cut with some wood in the eye, or whether all the wood is removed. However, but very little wood should remain at any time, the buds cut from well-matured wood and the tying begun at the lower end of the slot.

I have had some budding done on three-year-old wood, but so recently that I cannot tell the result.

### APPLES ON QUINCE ROOTS.

We are indebted to Mr. J. A. Sanford of Stockton for the following statement by Tribble Bros. of Elk Grove concerning their success in grafting on the quince root: "One of our apple trees on quince root bore an apple this season that is as near perfect as we have even seen. We think it is the Fall Pippin. The north wind of last week blew it off the tree, but it is ripe and is as fine color as any Oregon or Washington apple you ever saw, and we have it on the mantle and it perfumes the whole house. There isn't a blemish on it.

"We have quite a number of the Bismarck apples on quince root and a few on apple. We have budded the loquat on quince root this season and all grew as well as did 75 per cent of our grafts of the loquat grafted to the quince."

The green fruit shipments this season are breaking all previous records. Already over 9,000 cars have been sent from California, as against about 5,400 cars this time last year, the increase so far amounting to over 78,000,000 pounds. It is estimated that the total cars for the season will reach the 12,000 mark and the value will be upwards of \$15,000,000. These figures do not take into consideration the 28,000 cars of citrus fruit sent East, nor the dried fruit or canned products. California farmers are perhaps the most prosperous class in the United States today. While some fruits sent out have not made the growers money, and while some localities have not had as large crops as others, yet the season, taking the State as a whole, has been a record breaker.

## Citrus Fruits.

### AN ADVANCE WORTH NOTING.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

An important conclusion has been reached by the Horticultural Department of the Missouri Agricultural Station. Like the California orange growers, they have battled with the question of maintaining a proper soil. Stable manures were not fully satisfactory, and they are very expensive. In watching the results obtained from fruit orchards in their State, the station observed that cover crops and plain commercial fertilizer materials meet the case most satisfactorily, so that there is no need to resort to stable manures.

They say, in speaking of the manure from the cities, the use of which many growers have abandoned, owing to the expense of hauling and handling, "it is doubtless true that in many cases this trash and water can be secured at home from

cover crops much cheaper, and the elements of fertility added in the shape of commercial fertilizers." The point is well taken that as the "important element we call humus" is the most valuable addition to the soil acquired from the use of manure, and is merely the result of decayed vegetation, and the cover crops produce it so much cheaper, the use of stable manure is not only unnecessary but an extravagance.

There are in Missouri, as in California, farmers who will not readily give up such a time-honored institution as stable manure, and there are many orchard owners who are not themselves farmers, but who are unable, or perhaps too fearful, to direct the caretakers of their properties, and such people do not get the full advantage of the ascertained knowledge derived from up-to-date experience and research of their neighbors and experimenters. This suggests a line of thought which seems worth following. People with surplus capital to invest buy orange groves because they are reputed to be paying properties. It does not occur to them that there is a good deal of intelligence and brains behind the paying properties, and they engage a good, honest working man who has a team to "work the place." His ability to labor and his reputed honesty are his recommendation. It often takes years for them to realize that citrus culture entails a rather wide field of information, and if the ranch fails to pay what they have been led to expect it would, they generally blame the fruit exchange or company that handles their fruit to market. The next stage is to discharge the caretaker and engage another who is recommended as successful on other property, and the final sequel of their discontent is a general condemnation of the venture. The same people are often business men who would laugh to scorn a proposition to invest a similar amount of capital in any other line of production without having the management in the hands of a trained man or an expert. No business is as intricate as horticultural farming, and it takes a well stored mind and a fertile brain to meet the multiplying troubles that present themselves as time ages the tree and cultivation robs the soil of its virginity. The successful grower of a few years' experience counts for little, but the man who achieves success for two or three decades with the same soil and trees, and still has first class results, is on safe lines, and his methods are worthy of careful study.

## The Vineyard.

### THE FLAVORS OF GRAPES.

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

The named varieties of grapes derived from the wild *Vitis vinifera* are so numerous that no list at all nearly complete has ever been made. Count Rovasenda in his *Ampelografia Universale* has listed nearly 5000 names. Some of them are undoubtedly synonyms, but hundreds of varieties of Asia Minor, Persia, China and northern Africa do not appear in it at all.

It is a conservative estimate, therefore, to put the number of cultivated varieties of vinifera grapes at 5000. These varieties differ from each other so distinctly and essentially that in nearly all cases they are easily and certainly distinguished by anyone familiar with them. They differ in habit, in size, in color, shape and indument of foliage, and especially in the character of the fruit. The fruit of the various varieties differs in size, shade, color, flavor and other important characteristics.

Most of the classifications of vinifera varieties which have been attempted are based principally on the shape and color of the fruit. There is no characteristic, however, in which there is greater wealth of variation than in the flavor. A classification based on the flavors is very difficult, owing to their extreme diversity and the impossibility of describing them satisfactorily in words. There is no character, however, which is so fixed and certain, or has a greater value in the accurate determination of varieties than the flavor. There are dozens of varieties which can be named with unerring certainty from their flavor alone, by an experienced observer possessing an accurate sense of taste. The flavors of grapes differ far more

widely than those which distinguish varieties of other fruits (a Bartlett pear from a Seckel pear, for example), and resemble in degree those which distinguish different species of fruits, a peach from an apricot, for example.

In a general way all vinifera grapes may be divided into two great classes: (1) Those having an aromatic, and (2), Those having a neutral flavor.

The aromatic grapes may be further subdivided, to some extent, into smaller groups of those varieties in which the flavors resemble each other. Many of these groups will contain but one member. The so-called neutral flavored grapes, however, are by no means all alike. Many of them are almost as easily detected by their taste as the aromatic varieties. The flavors of this group, however, are less marked, and distinguishable only by a trained and sensitive palate. It may be interesting to attempt a grouping of the varieties grown in California according to this characteristic.

**Aromatic Varieties.**—Of the aromatic grapes we have about six well marked groups, each named generally after the best known member of the group.

**1. Muscat.**—This is the most marked and most easily distinguished of all the grape aromas. It is a flavor which is particularly agreeable to nearly everybody. It is attractive, moreover, to many animals. The Romans called grapes having this flavor "Apianae," because they were visited by bees more than other varieties. Our term of "Muscat" is supposed to be related to the word "Mosca," a fly, perhaps for a similar reason. A single Muscat vine will be picked out of a whole vineyard by the deer, which will often strip it of leaves while hardly touching neighboring vines of other varieties. This seems to indicate that the special flavors exist also in the foliage. Another proof of this is that decoctions of the leaves of certain aromatic varieties, such as Cabernet Sauvignon, when mixed with neutral grapes in the fermenting vat, communicate some of the character of the aromatic variety to the resulting wine. The manufacture and sale of decoctions of the leaves of fine varieties has been attempted on a commercial scale.

The principal varieties having a Muscat taste cultivated in California are the White Muscat of Alexandria, the white and red Frontignan or Muskatellar, the black Moscatello fino, and Muscat Hambro. Other valuable varieties are the Red Muscat of Alexandria, and the finest of all the black Muscats—Madresfield Court. The most intensely aromatic grape of this group is the Muscat Bergamotte, whose flavor, however, differs somewhat from that of other Muscats.

The Muscat flavor is particularly desirable in table grapes, but is also an essential component of the quality of the best raisins, and of the sweet names of Lumel of Constantia in Cape Colony and of certain parts of Italy and Spain.

**2. Malvoisie.**—The flavor of the grapes of this group resemble to some extent that of the Muscats, but there is more variation in this respect between the various members.

Of this group we cultivate Muscadelle de Bordeaux, Gewürz Traminer and Malmsey. Perhaps the Sauvignon blanc and the Colombar should be placed here also. The wines of Sauterne, Moselle and Madeira owe much of their high quality to this flavor. It is also appreciated in table grapes. The so-called "California Black Malvoisie" has none of the distinctive aroma of this group, and is wrongly named.

**3. Cabernet.**—The high quality of the red wines of Medoc is due in great part to the peculiar flavor of grapes of this group. This flavor, unlike the two just discussed, is undesirable in table grapes. The principal varieties possessing this flavor are Cabernet Sauvignon, Cabernet franc, Merlot and Robin noir (Pfeffer's Cabernet).

**4. Raspberry.**—Certain varieties of wine grapes possess a peculiar flavor, which some writers compare to that of the raspberry, and some to that of the strawberry. It requires a stretch of the imagination to perceive either resemblance. This flavor is agreeable neither in the fruit nor the wine. The Zinfandel, Mataro and Freisa are grouped here.

**5. Riesling.**—The wines of the Rhine, and also the dry wines of Madeira, owe much of their high quality to grapes exhibiting this flavor. These



grapes are White Riesling (Johannisberger), Franken Riesling (Sylvaner), and Sercial.

**6. Miscellaneous.**—There are certain varieties having very distinct flavors which properly belong to the great group of aromatic grapes, but whose flavors are unique and cannot well be grouped with those of any other varieties.

The principal grapes of this class cultivated in California are Semillon and Colombar (Sauvignon vert).

**Neutral Varieties.**—All the other vinifera varieties cultivated to any extent in California must be placed in this group. This does not mean that none of them exhibit distinctive flavors. Some of them, such as Flame Tokay, Chasselas, Palomino, Aramon, are almost as easily distinguishable by their flavors as members of the first group, but the flavors are not so strong. It is probable that nearly every variety has a distinct flavor of its own, for, the more widely cultivated a variety, the more frequently we find people claiming to be able to distinguish its special flavor. These flavors, however, are delicate, and an experienced palate is necessary to distinguish them apart.

Many varieties which are quite neutral to taste when fresh develop special aromas in their wine. An experienced wine taster can easily distinguish the wines of Petite Sirah, Carignane, Pinot, Burger, by their flavor alone, but it is doubtful if he could distinguish the grapes by the same means.

Whatever the special flavor or lack of flavor of any of the vinifera varieties, they can always be readily distinguished by taste alone from varieties derived from any other species.

The foxy flavors of the Concord, Isabella, Catawba and others derived from the Northern Fox Grape, Vitis Labrusca, of the East, the various flavors of the large number of varieties derived from Vitis Aestivalis, V. Linccumii, V. Doaniana, and other American wild vines, and even of hybrids between these and Vitis vinifera, constitute other series which are totally different from any of the diverse flavors of European grapes.

El Gavilan Vineyard, Hollister, Cal.

## Cereal Crops.

### DRY FRAMING POLICIES AND METHODS.

[From an address by Arthur R. Briggs, President of the California State Board of Trade, at the State Farmers' Institute, University Farm, at Davis.]

If by "dry farming" is meant the kind of farming a goodly number of grain growers throughout the State experienced this year, I ought to be able to deal with the question somewhat practically and intelligently. If the condition of moisture, or lack of it, which I have contended with, and the failure to get any crop worth harvesting, is evidence of being a dry farmer, I am surely a worthy subject of the Dry Farming Congress, and entitled to a life membership therein.

From 480 acres of land in Fresno county seeded to barley in the fall of 1907, to be harvested this year, which land is not under irrigation, and where the rainfall was only seven inches for the season, which was handled in the way usual among grain growers in that county (I might say in California generally), and from which a return of \$6000 was expected, I realized the magnificent sum of \$575, and this for sheep feed. In another county, which I will not mention for fear of the consequences that might follow, I was not much more successful. From 640 acres in wheat the returns aggregated \$1400, whereas I should with ordinary conditions have received \$8000 or \$9000 from this field.

These examples are given to demonstrate my fitness to belong to the dry farming community, and to assure my hearers, if they likewise have any of them been taking lessons this year in growing grain on dry land without artificial irrigation, with similar results, of my full sympathy with them.

**What Is Dry Farming?**—Dry farming, as it is called, or as it is known principally in Colorado, Wyoming and Utah, has been given publicity through the experiments and the practical work of Mr. H. W. Campbell, and the farming method generally spoken of as the Campbell system.

To the uninitiated the Campbell system is supposed to be some intricate and more or less scientific method of farming discovered or invented by Mr. Campbell, whereas it consists of an intensely practical and most reasonable method of handling land to conserve moisture and produce the chemical changes in the elements that go to make plant food which secures returns for labor bestowed on the land. The significance of the term "dry farming" is likely to be misunderstood. That is, many who have not given special thought to the subject and therefore are not informed in respect to it, seem to think that the Campbell system implies the possibility of producing profitable crops even where the annual precipitation is very light and irregular. In other words, that through some peculiar process of cultivation or scientific juggling with the soil, crops are grown by that system of farming that could not be produced by any other method of cultivation. At the experiment station in Wyoming, at Cheyenne, under the able direction of J. H. Gordon, quite startling results have been attained. Likewise in Colorado, at Fort Collins, under the management of Dean Carlsyle, similar results have been had, but in both these districts the annual rainfall is given at 10 inches and upward. In the October, 1906, number of the Century Magazine, Mr. John L. Cowen described the Campbell system as follows:

"Campbell system of dry farming" consists simply in the exercise of intelligence, care, patience, and tireless industry. It differs in details from the "good farming" methods practiced and taught at the various agricultural experiment stations; but the underlying principles are the same.

"The principles are two in number. First, to keep the surface of the land under cultivation loose and finely pulverized. This forms a soil mulch that permits the rain and melting snows to percolate readily through to the compacted soil beneath, and which at the same time prevents the moisture stored in the ground from being brought to the surface by capillary attraction, to be absorbed by the hot, dry air. The second is to keep the subsoil finely pulverized and firmly compacted, increasing its water holding capacity and its capillary attraction and placing it in the best possible physical condition for the germination of seed and the development of plant roots. The 'dry farmer' thus stores water, not in dams and artificial reservoirs, but right where it can be reached by the roots of growing crops."

In other words, dry farming methods under any system, so far as known, do not supply moisture, but conserve it. If the precipitation is too slight to produce crops, no amount of cultivation will take the place of it.

One report of the experiments made at Fort Collins, Colorado, says the average annual rainfall for a period of five years covering the observations made, viz: 1902 to 1907, where from 30 to 40 bushels of wheat per acre was raised, was 14 inches. In the latter year the snowfall increased the precipitation by 5 inches for the season.

The same authority, Mr. Strawbridge, Surveyor General of South Australia, states that an inspection in the neighborhood of Cheyenne, Wyoming, demonstrated that the annual average precipitation at Cheyenne for a period of 36 years has been 13.58 inches.

At the Dry Farming Congress held in Denver, Colorado, in the year 1906, much testimony was elicited from farmers residing in the States and Territories mentioned, to the effect that in the semi-arid districts where dry farming had been pursued most successfully, the rainfall averaged from 13 to 20 inches annually. It therefore appears that farming under the Campbell system in the semi-arid districts without artificial irrigation, to be successful, must be done where there is sufficient precipitation, when properly conserved, to produce crops; that dry farming involves methods of conserving the moisture, not providing a substitute for it, as well as proper and timely cultivation. As one writer expresses it:

"The essence and burden of the Campbell system is that a small normal rainfall shall be conserved in the ground, by harrowing after every rain, for a whole year before the crop is planted. This is not summer fallowing at all. It is not letting the land lay idle every other year to recuperate its feeble fertility. It is the storing of a meagre rainfall throughout one year, supple-

mented by whatever rain may fall the second or crop year.

"The system concentrates the limited rainfall of two seasons on one crop by storing most of the moisture in the ground. How this is done is difficult to explain and not easy to understand. The greatest drawback to its rapid adoption is that it means lots of work, more than twice as much as the ordinary farming, which takes the chances of enough rain all at the right time."

**Conditions in California.**—Scientific dry farming loses much of its interest to the average California farmer when he learns that it is successful only in districts where the average rainfall is from 10 to 20 inches. Careful farming, in a thorough manner, under methods that have been followed in this State almost since grain growing began here, has given fair, if not always satisfactory returns. Land in the great valleys in seasons when the rainfall has exceeded 10 inches, has produced crops that would average 8 sacks, an equivalent of 20 bushels, of wheat to the acre, and this too at the minimum of cost. What the returns might have been under a rotation of crops or more careful plowing and harrowing, one can easily imagine.

A large part of the San Joaquin valley is known to give a fair yield in grain with 10 inches of rainfall for the season, and when the precipitation reaches 15 inches the yield is large. Much depends on the time or times the rain falls. Timely rains have given good grain crops in that valley when the aggregate precipitation for the season did not exceed eight inches. If, therefore, the precipitation in the great grain growing districts of California equalled that shown by the records in the semi-arid districts of Colorado, Wyoming and Utah, where dry farming has been introduced and practiced with the best results, this State would seemingly have small need for the Campbell system of farming for growing grain.

Different descriptions of soil require different treatment. A treatment that gives satisfactory results in Colorado might not answer at all in the loamy soil of the San Joaquin valley and in the extreme southern portions of the State. Different descriptions of soil in the same district throughout the State require peculiar farm treatment. Here we have heavy red lands carrying considerable clay in one part of a district, black adobe in another, sediment land in a third, and various qualities of sandy loam in others, each of which must be treated with intelligence founded on practical experience in farming these lands respectively. In view of this fact, no arbitrary rule for farming can be laid down with the expectation of reaching equally good results for all descriptions of land under these varied conditions. General principles respecting farm work may be useful, and, if followed with intelligence and care, would doubtless be beneficial. To illustrate: The quantity of seed, either wheat or barley, that should be sown depends largely on the character of the land in its natural condition, the rainfall for the season, and the time of sowing. That is, if sown early in the fall, grain stools prolifically, but the stools are less and less when sown as the season for planting advances, until late sowing on light soils stools very little.

In the matter of plowing, whether deep, medium or shallow, experience must largely be the guide also. While the experience and observation of many who are engaged in farming is of little value, mainly because they farm by the rule of guess, or by precedent, there are men in every community who farm intelligently and well. The latter are quick to observe results from the introduction of new methods and improved farm implements, and are always ready to take advantage of anything that gives good results.

Mr. H. W. Campbell, in the September number of Scientific Farmer, says: "The notion is prevalent that practically all cultivation is to be done in springtime." He claims that while this is largely true in humid districts, the theory must be laid aside if one would engage in agriculture profitably in semi-arid countries.

"If cultivation of the soil is merely an incident to farming," he says, "the old plan of plowing only in the spring will work out very well, but where cultivation is the main thing, to put the soil in proper physical condition and make it fertile and useful, there must be tillage at the other seasons of the year." He adds: "The importance of



tillage in the heart of summer has been demonstrated. The farmer must aid nature when nature is engaged most actively in her great laboratory. The importance of this has never been half appreciated. It is in July and August, when the sun's rays beat heavily on the earth, that chemical action in the soil is most abundant, and that the mysterious processes by which the elementary substances are made available as plant food are carried on with most vigor."

It has been the custom for generations to permit the soil to lie fallow in the fall. When plowing was done in the fall season it was on the theory that it was a substitute for spring work. Experience has shown that in farming on dry land much efficient work may be done in the fall months. It should be constantly kept in mind that in the semi-arid regions, especially, the primary purpose of all cultivation is to put the soil in condition, which best promotes fertility. Plowing is not just to kill the weeds, or cultivating to keep the ground loose, but mainly to preserve the moisture.

Under the Campbell system of farming, conservation of moisture is always a principal feature. Whenever the land is permitted to lie until it becomes baked and hard on the surface, the moisture quickly disappears, and considerable rainfall is necessary before it can be worked to advantage.

**Immigration Into Semi-Arid West.**—In recent years there has been an active immigration to the States and Territories in the semi-arid districts of the United States east of the Rocky Mountains, and many farmers have been attracted thither by the alluring reports of what may be accomplished by scientific farming without artificial irrigation. Lands that have long been regarded as suitable only for grazing have been taken for farming. It is but reasonable to suppose that many of those who have settled on the semi-arid lands in the West, even where dry farming methods have been most tested, will come short of realizing the expectations held out to them, if in fact they do not become disheartened before any thorough test of the merits has been made. As one writer expresses it, what is needed is greater knowledge of farm conditions and farm methods. He says:

"Many who have settled upon new lands in the West are under the impression that a slight adaptation of farm methods will enable them to make a success of farming all the time, thus ignoring the plain fact that there are important differences of climate and soil which must be considered. Still others labor under the delusion that all the farmer has to do is to practice good farming under the accepted and standard system in vogue in States where little or no consideration need be given to the water problem. Both of these classes are in need of light. Unless they discover their error before the coming of the inevitable period of extreme dryness, so that they may guard against the drouth dangers, they are sure to meet with losses that will not only be of vast harm to them personally but of incalculable damage to the whole western semi-arid country."

Others who have given thought to the matter of dry farming on semi-arid lands take a still more gloomy view of the situation than is expressed in the opinion just quoted. Even Mr. Campbell insists that unless new farmers on dry land receive the right instruction, failure will be their lot.

**Story of the Farm in Dakota.**—In my study of the subject of dry-land farming it is strongly impressed on me that a rotation of crops and fertilization are an essential part of the system. That is, whenever the land by careful plowing at the proper times and by repeated harrowing has been put in condition for growing crops, a different grain should be sown each successive year. If wheat is sown the first year, that crop is followed by barley, and that by oats, or other grain. After the land has produced three crops of grain, the rule, or perhaps more properly the practice, is the fourth year to sow field peas or some rapidly growing crop, and when in proper condition for fertilization, to plow that crop under as a fertilizer. Some farmers, I learn, instead of plowing the peas under, allow them to mature, and then harvest the crop with hogs. In other words, the field is fenced and hogs are put in to feed on the crop. This, it is claimed, serves a double purpose, viz: It gives the farmer a means of fattening his

hogs and at the same time fertilizes the land. This latter course permits the land to become dry, and much moisture that has been stored is lost, and the process of conservation must again begin as at first. For the year immediately following the crop of peas no seed is planted.

It must be apparent that in dry farming the range of products is quite limited, viz: Confined to such crops as can be cultivated during the growing season and close up to the time of harvesting. At the Congress held in Denver in 1906, one farmer, living and farming in Utah, who claimed to have been able to raise fair crops almost continuously for some years, described his method of growing alfalfa. He planted by use of a drill, in rows far enough apart to enable him to cultivate, the same as he did corn, and thus after each cutting he was able to work the land, so as to keep a mulch on the top and conserve the moisture. It will therefore be seen that the statement that dry farming involves "lots of work" is well founded.

**Large Areas Having Similar Conditions.**—A feature of some significance in considering this system of farming, so far as my observation goes, is that the character of the land in Colorado and Wyoming, and to some extent in Utah, is quite different from the lands in California; that in the States and Territories mentioned large areas are adapted to precisely the same treatment. In California, as I have already stated, there is a great variety of soil, and a general rule of treatment will hardly apply. It may, however, be admitted that better plowing and more frequent harrowing than farmers in this State are in the habit of doing would seem to be desirable.

But the difference in conditions in California from those in the States where dry farming is now practiced, should not be lost sight of. In this State intensive farming is growing in importance each succeeding year. Grain growing is gradually giving way to other branches of agriculture, and the new conditions are generally favorable to dry farming. On the contrary, means for irrigation are extending the area of fruits, vegetables and alfalfa year by year throughout the State. The certainty of profitable returns from farming by irrigation, as against the uncertainty under a system of dry farming, makes the former in every way desirable.

Then, too, it would not be practicable to produce many of the fruits and other products grown in this State, if only the natural precipitation was to be had, no matter how carefully and scientifically it was conserved.

Many fruit growers in this State, without claiming to follow any scientific system, do in practice adopt the Campbell system pretty closely in some respects without knowing it. In other words, experience has shown them that the minimum of water and the maximum of cultivation give the best results. Instead of applying all the water to their orchards and vineyards that the land will take, as was done some years ago, the tendency now is to use only sufficient water to keep the land in good productive condition by faithful and continuous cultivation through as long a period in the year as practicable.

**Irrigation the Important Feature in This State.**—It does not seem to me that in this State the question of how crops may be grown profitably under the Campbell system has much importance. The greater interest seems to lie in the direction of continued effort to develop water for irrigation, and until the limit of development of water, at a cost which permits its profitable use for farming purposes has been reached, the science of dry farming for its further development may properly be left to the semi-arid districts east of the Rocky Mountain range.

In California, perhaps as conspicuously as in any part of the United States, soils of all descriptions respond readily to good treatment, and the lesson of careful cultivation may therefore be taken to heart and put to practical use. It is not a secret that cultivation at proper times conserves moisture. The knowledge of this has not, however, caused much improvement in grain farming, nor is it likely to do so while farmers are able to secure large areas and to get in the aggregate from poor farming, fair returns for their labor at the minimum of cost.

Mr. Briggs closed his address with an eloquent review of the agencies by which progressive agriculture is now being aided and promoted.

## HOW TO MAKE MONEY GROWING FRUIT

Is a question that confronts every orchardist in one form or another every season. A sure way is to follow the practical advice and suggestions, based on thirty-five years close observation and investigation as to climates and soils, methods and work, given in the new

## CALIFORNIA FRUITS AND HOW TO GROW THEM

FOURTH EDITION

REVISED AND EXTENDED

*A Manual of Methods which have yielded Greatest Success; with Lists of Varieties best Adapted to the different Sections of the State.*

By Edward J. Wickson, A. M.

Dean and Professor of Agriculture in the College of Agriculture of the University of California; Director and Horticulturist of the University Agricultural Experiment Station; Author of "California Vegetables in Garden and Field"; Editor PACIFIC RURAL PRESS; member National Council Horticulture, etc.

### CONTENTS BY CHAPTER HEADINGS:

- |  |  |
|--|--|
| 1 The Climate of California and its Local Modifications. | 29 The Nectarine.  |
| 2 Why the California Climate Specially Favors Fruits.    | 31 The Pear.   |
| 3 The Fruit Soils of California.                         | 32 Plums and Prunes  |
| 4 The Wild Fruits of California.                         | 33 The Quince.   |
| 5 California Mission Fruits.                             | 34 Vine Propagating and Planting.                            |
| 6 Introduction of Improved Fruit Varieties.              | 35 Pruning and Care of the Vine.                             |
| 7 Clearing Land for Fruit.                               | 36 Grape Varieties in California.                            |
| 8 The Nursery.   | 37 The Date.   |
| 9 Budding and Grafting.                                  | 38 The Fig.  |
| 10 Preparation for Planting.                             | 39 The Olive.  |
| 11 Planting Trees and Vines.                             | 40 The Orange.   |
| 12 Pruning Orchard Trees and Thinning Fruit.             | 41 The Lemon, Lime, etc. Persimmon, Pineapple, Avocado, etc. |
| 13 Cultivation.  | 42 The Banana, Loquat.                                       |
| 14 Fertilizers for Fruit Trees and Vines.                | 43 Berries and Currants.                                     |
| 15 Irrigation for Fruit Trees and Vines.                 | 44 Almond, Walnut, Chestnut, Peanut, etc.                    |
| 16 The Apple.  | 45 Fruit Canning, Crystallizing and Drying.                  |
| 17 The Apricot.  | 46 Injurious Insects.  |
| 18 The Cherry.   | 47 Diseases of Trees and Vines.                              |
| 19 The Peach.  | 48 Injurious Animals and Birds.                              |
|  | 49 Protection from Winds and Frosts.                         |
|  | 50 Utilization of Fruit Wastes.                              |

California Fruits and How to Grow Them has been out of print since the destruction of the plates and illustrations in the San Francisco fire of two years ago; hence the best endeavor of both author and publisher has been put forth in making the fourth edition a complete work, describing the best methods and appliances in use by the foremost and most extensive fruit growing industry in the world.

Size of page, 7½×10½, 500 pages, bound in cloth and fully illustrated.

Price, Carriage Prepaid, \$2.50 the Copy. Orders Now Booked for November Delivery.

**The Pacific Rural Press**  
PUBLISHER  
667 Howard St., San Francisco, Cal.



## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock; grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

LEONARD COATES NURSERY CO., Inc.

ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

**\$30,000,000**

Is the estimated value of the coming crop of citrus fruits in California. This unprecedented volume has greatly increased the demand for good orange and lemon trees. Hence if you are contemplating planting, we advise that you get your order in early for your trees. Our book on "The Citrus Fruits" tells about the citrus question; from the seed bed to marketing the crop and getting your check. Sumptuously illustrated, and about 20,000 words of text. A copy is yours for 25 cents.

San Dimas Citrus Nursery  
SAN DIMAS, CAL.  
R. M. TEAGUE,  
PROPRIETOR.

### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

### IMPROVED BERRY PLANTS BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalog tells the rest.

G. H. HOPKINS & SON  
BURBANK, CAL.

### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520—Main 949.

### Crimson Winter Rhubarb

\$1.50 per Doz. \$6 per 100. \$40 per 1000

Now is good time to plant. Pedigreed Stock. 500 Valencia, one year, extra fine, \$80 per 100. J. B. WAGNER, the Rhubarb Specialist, Pasadena, Cal.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

The Pomona Times states that the outlook for a big orange crop in that vicinity is better than for some seasons past.

The Butte County Citrus Association expects to ship oranges before November 1. The crop is above the average in quantity.

The last of the peach crop in the Rogue River valley, Oregon, was shipped to San Francisco this week. The last shipments consisted of two cars of Salways.

A number of business men of Tulare have organized a company to plant 160 acres of the Kern county mesa land to oranges the coming season.

An almond grove near Lodi which was irrigated the past season netted \$1200 for six acres, which was double that produced on the six acres adjoining, owned by the same party.

The expense of the horticulture commission of San Bernardino county for the month of September amounted to \$13,378. The full force was in the field the whole time, fumigating the citrus trees.

Raisin growers of El Cajon valley last week formed an organization to market their raisins, which will be the heaviest and best for many seasons. The association will control an output of 600 tons.

The California Farm Production Co. of Nebraska, which recently purchased a large tract in Glenn county, near Biggs, and has since sold 1,000 acres in small tracts, is now preparing to plant nearly the entire acreage to Smyrna figs.

Orange shipments will be made from the Coachella valley about November 10 this year, which will lead all other sections in the southern end of the State. It is stated that 30,000 orange trees will be planted there the coming season.

The supervisors of Tehama county have contracted to use a quantity of fertilizer from the Mountain Copper Co. on the orange grove at the County Poor Farm, as an experiment, as much for the benefit of private growers as to the farm.

W. G. Correll, who owns a 12-acre bearing walnut grove near Riverside, will harvest 200 sacks of nuts from the place this season, which are worth \$7 per sack. At this rate, walnut land in that locality is worth as much as if located nearer the coast.

At the annual meeting of the Riverside Fruit Exchange, which was held last week, the reports showed 1578 cars of oranges and lemons had been shipped by the various associations of the Exchange during the past year. The organization is in splendid financial condition.

The Government has sent a third man into the Lodi district to assist the two already there in experimenting with shipping and packing grapes. The losses through poor picking, packing and shipping have been so heavy that every effort will be made to cut down the percentage of decay.

For the first time in the history of the valley, fumigators are at work applying cyanide to the citrus trees at Visalia to kill the yellow and red scale. A few trees in the town are reported infected, and it is hoped by prompt action to save the pest from spreading to orange groves surrounding.

J. A. Yoakum, who recently bought a stock ranch near Gridley, last week purchased another place of 410 acres near there, on the banks of the Feather river. There are about 60 acres of high land on the place, which the new owner will plant to peaches, making of the balance a stock ranch.

A meeting of the raisin men of Yolo county was held last Saturday, to discuss the Armsby offer to handle the crop of raisins of the county on a 7½ per cent commission basis. After discussion 80 per cent of the raisin growers signed the contract.

Imported French vines are advertised in this issue of the PACIFIC RURAL PRESS by Mr. G. de Latour, who states that he will positively guarantee the vines to be perfect and true to name. While in France last spring he selected the stock and secured one of his friends to inspect every package before shipment. One of the best planted vineyards in the State was set out by Mr. de Latour last season between Rutherford and Oakville, from imported vines. As the time for ordering is growing short, it will pay intending purchasers to write Mr. de Latour at once.

The horticultural commission of Tulare county reports that no insects or diseases had developed the past year, that they had good success in the use of the regular Bordeaux mixture or the Rex lime and sulphur in preventing blight; that they have controlled mildew on grape vines with the lime and sulphur spray, and have held the codlin moth insect in check by using three pounds of arsenate of lead to 50 gallons of water. They close their report with the statement that the orange and lemon crop is normal this year, the peach crop was good but ran to small sizes, and the prune crop very light.

Orchardists at Gilroy will largely increase their acreage next season. Among the largest planters are: George Wolfe, who will plant 2000 French prune trees and 500 cherry trees of the Bing and Royal Anne varieties; Alexander Milne, 1500 French prune; Alex Easton, 500 French prunes and Bartlett pears; Willie Fitzgerald, 700 French prunes; Chris Madsen, 750 French prune, besides other trees; E. D. Crawford, 10 acres of mixed orchard; Henry Hecker, 1500 French prunes; Joseph Knepper, 600 French prunes. Many thousands of other French prune trees would be planted if they could be secured.

The Anaheim Gazette states that the output of walnuts in that vicinity will be about 40 cars this season. The nuts are being bleached by the new electric process recently perfected by Professor Stabler, which is said to work perfectly. All the walnut associations in southern California propose to use the new method of bleaching. Association growers are receiving 12½ cents a pound for first-class soft-shells. The total crop in southern California will amount to about 800 cars, of which 200 are now controlled by the association. The growers are kicking on the excessive brokerage of 7½%, which on an output of 800 carloads will make a commission of about \$120,000.

### AGRICULTURE.

The bean crop between Los Angeles and Santa Monica has been all cleaned up, with little loss from the late rains.

Alfalfa growers in the Klamath country recently reduced the price of their alfalfa to \$7 a ton and have sold large quantities to cattle feeders, who will bring their stock there from other points to feed this winter.

Woman ranchers in the Mojave desert have made final proof before the land office at Los Angeles on land they filed on five years ago. They have proved by experience that they can raise crops by the dry farming method in one of the most hopeless deserts in America.

The potato crop of Colorado will sell for \$6,000,000 this season. Last year the crop sold for \$4,500,000. The Greeley district alone will ship about 12,000 cars.

The Johnson & Musser seed farm at Al-

# TREES

SEASON 1908-9.

ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$ 200,000.00

**FANCHER CREEK NURSERIES**

INC.

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## THE Superlative Raspberry

Orders booked now for 2-year-old plants for December delivery. Send in your name and address for my 1909 Catalogue.

A. MITTING, SANTA CRUZ, CALIFORNIA.

## Winegrowers, Take Notice

I am now receiving orders for

GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

**CHICO NURSERY COMPANY**  
FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

**CHICO NURSERY COMPANY**  
Office: Cor. Third and Walnut Sts. Phone: Red 1241.



paugh, in the upper San Joaquin, of 10 acres, turned out so well the past season that the firm will enlarge its plantings next season.

The wheat crop in Modoc county this season made 65,000 bushels. The price at Alturas is quoted as being \$1.60 per cental.

The sugar beets raised around Woodland this season have carried the highest percentage of sugar of any sent to the Sacramento Valley refinery.

The oat crop near Bridgeport, in Mendocino county, is reported turning out a heavy yield. One farmer is getting 90 bushels per acre, and another thrashed 6700 bushels from 120 acres.

Thousands of acres recently sold by land companies around Willows are under contract to be planted to alfalfa this winter. It is stated that the cost of labor in preparing the ground will be \$80,000, and the cost for seed \$21,000.

New settlers are going into the irrigated districts of Merced county very rapidly these days. During last month it is stated that 111 twenty-acre tracts were sold in the section between Merced and Atwater, besides over 4000 acres in large tracts.

Bradstreet's latest report says that the farmers of the Northwest are selling winter wheat at an unprecedented rate and securing good prices; corn will be a little under the 1907 production, but the quality is much better and the prices higher. Potatoes are generally a lighter crop through the Central States, but Maine and the West have good crops. Winter wheat seeding through the Central States has been retarded owing to drought.

#### LIVE STOCK.

The wool men around Red Bluff have recently sold quite heavily at advance prices of from 5 to 7 cents.

Twenty-five carloads of cattle were shipped from Anderson last week to market, the prices paid being from 4½ to 6½ cents.

The Winters Express says that the creamery located there is growing very rapidly. At present 800 pounds of butter are made daily.

The stock men of the upper Sacramento valley are selling off part of their cattle, owing to the shortage of pasturage. Good rains to start grass are badly needed.

It is stated that the demand for dairy products is greater in Kings county than can be produced. Los Angeles buyers are in the field for every pound of butter they can get.

Robert C. Shepard, one of the Government inspectors for the northern counties, was given an assistant by Lake county last week to help in the dipping of the

10,000 head of sheep there the coming season.

Owing to lack of rain last spring, the stock ranges in Colorado are nearly barren, and the stock men have been notified to either ship their stock out of the State or ship in feed.

The Western Meat Co., of Sacramento, was found guilty last week, under the Cartwright anti-trust law, of charging more for meats furnished to customers who were not members of the Butchers' Protective Association.

#### MISCELLANEOUS.

Tehama county last week paid \$573.50 as bounties on coyote and other scalps.

A big rabbit drive was held at Delano, Kern county, last week. A large number of rabbits were killed.

The Huntley fruit dryer, near Sebastopol, was recently burned, together with a lot of dried fruit, causing a loss of \$5000.

Large plantings of eucalyptus will be made near Anaheim this season. Already one party has ordered 150,000 trees to set out.

The Libby, McNeil & Libby cannery at Sunnyvale will be kept busy for some time to come putting up tomatoes, catsup and mince meat.

Experiments made in growing rice near Stockton this year have been successful, and it is stated that a considerable acreage will be planted next season.

P. C. Rossi, the head of the Italian-Swiss colony, states that the wine grape crop this year in California will be from 30 to 40 per cent short, owing to the dry season.

There was a noticeable improvement in shipments of dry wines out of California during September over previous months, being heavier than for the same period last year.

Several farmers around Gilroy are using grape pulp from the wineries to kill morning glory. The pulp is scattered over the infested portion of the field, and is said to be effective.

The preliminary engineering work was begun last week on the inverted siphon which will tunnel the Colorado river at Yuma and carry the 1400 feet per second to irrigate 70,000 acres in Yuma valley.

Hunters around the sloughs of Stockton have secured a lot of grape seed and scattered it on the duck feeding grounds. By this means they claim to have attracted myriads of ducks to their preserves.

An Oakland firm is planning the erection of a \$60,000 cannery at Auburn. The people back of the project do not ask a bonus, but want the growers in that vicinity to co-operate with them in furnishing plenty of vegetables and fruit.

The Agricultural Experiment Station at Berkeley has just issued a new bulletin on "Eucalyptus in California," written by Norman D. Ingham. This bulletin is one of the best we have seen on eucalyptus growing, and everyone interested should send for a copy.

The Gregory Fruit Co. claims to have packed at Colton this season 1,675,000 cans of peaches, pears, apricots and plums, which required 1600 tons of fruit. Besides this, the company has handled large amounts of dried fruit. Sixty-seven carloads of canned goods have been shipped to date.

What threatened to be a serious car famine at Watsonville last week has been obviated by the arrival of a lot of cars on both the S. P. and Santa Fe. Over 150 cars of fruit had been packed and were awaiting shipment in the store-houses, and some of the packers were laid off. Now that cars have arrived the apple business is rushing again.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT CO.**  
Newcastle, Cal.

SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S  
BEST  
SEEDS**



Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

**THE CHAS. H. LILLY CO., SEATTLE AND PORTLAND**

**Plants SEEDS BULBS Trees**

**WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS**

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Quotations will be given prospective planters of **Alfalfa, Clovers, or Grasses.**

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

44 Jackson St. Also Market St. San Francisco, Cal.



**EUCALYPTUS**

Growers of commercial and ornamental Eucalypti.  
**EKSTEIN & EKSTEIN,**  
Modesto Euc. Nursery  
Modesto, Cal.  
**EKSTEIN BROS.,**  
Vignolo Euc. Co.,  
Anaheim, Cal.

**MAN, OH MAN!!**

Why do you neglect your orchards when Warnocks Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**  
Loomis, Cal.

AGENTS WANTED.

**SEED GRAIN BLACK and RED OATS,**  
WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St., San Francisco, Cal.

Buyers of Grain and Beans.

Members Merchants Exchange. Established in 1856. Correspondence invited

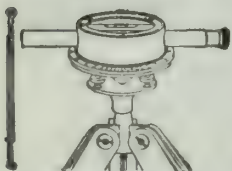
**PATENTS**

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.**

1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

**BOSTROM'S IMPROVED FARM LEVEL**



**Cheapest and Best Level yet Invented for Farm Use.**

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.

Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

**Palace Hardware Co.,**

581 Market St., San Francisco

Coast Agents. Send for Circular.

**10-Acre Fruit and Poultry Ranch**—Apples, pears, prunes, 8 acres vineyard, completely equipped poultry plant, house, water piped over place—\$2500. H. F. BLUHER, Novato, Cal.

**Stickney Gasoline Engines**  
**ARE THE BEST**

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the

**SEND FOR FREE CATALOG best engine Stationery and Portable 1½ to 16 h.p.** We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

**Blake, Moffitt & Towne**

Dealers in **1400 FOURTH ST., SAN FRANCISCO**  
**PAPER** Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## Live Stock and Dairy.

### CENTRAL CALIFORNIA FAIRS.

Written for the PACIFIC RURAL PRESS  
By SAM'L E. WATSON.

Weekly county fairs at Tulare, Fresno and Hanford have been well attended and interesting. The Bakersfield fair this week ends the series, October 17.

In the pavilion at Hanford the exhibits of farm products are really wonderful. Corn stalks 15 feet high, with 12-inch ears almost out of reach; sunflower heads 15 inches across, at top of 20-foot stalks; sweet potatoes, 30 pounds to the hill; Egyptian corn stalks, 14 from one grain, with one-pound heads at top of each; squashes and pumpkins four feet long and almost too heavy to lift, are among the noticeable exhibits. Ten thousand persons in attendance stand ready to verify these statements, among them Odd Fellows and Rebekahs from all parts of the State at the Hanford encampment during the fair.

Nearly every vegetable is in proportion, and the Muscat raisins, Alberta and Muir peaches (dried, canned and fresh), apples, quinces and pomegranates reach the limit in size, though often deficient in flavor. Drying is generally practiced in this region, and the commercial advantage in cutting for the tray (the saving of labor) more than offsets this deficiency. The tendency is to increase raisin and peach acreage, and dairying is being pushed to the lower lands around Tulare lake. These pavilion samples are a true index of Kings county crops, north of the lake, especially. One can see tall, rank vegetation and a carpet of green on every hand, regardless of dry conditions elsewhere or the time of year. The surface may be without water, but below, within reach of roots, there is plenty of it always.

Unhappily, at this fair dairy products were not well represented, the factories of the county pleading overwork as an excuse. The Maple Grove Creamery, J. N. Bowhay manager, also president of the fair association, arranged a striking display of wrapped, cube and the tinned butter put up for the U. S. Navy on a 100,000-pound contract. This and two cheese from Frosco factory constituted the dairy display.

The preceding week's fair at Fresno attracted dairy exhibits from the entire valley, offering inducements in liberal cash awards for butter and cheese. Winners, scores and cash are as follows: Kern County Creamery, 93, \$25; N. J. Beck, Laton, 91, \$20; Danish Creamery, 90, \$15; Good Luck Creamery, Tulare, 87, \$10; Geo. A. Smith, Corcoran, 86, \$5. Ed Mitchell, Wheatville, Big Four ranch, the only cheese exhibitor, \$10. Professor Hopper, of Davis, judge, scored lower than usual.

At Fresno and Hanford the U. S. separator, the Tubular, Empire and De Laval were exhibited, Tubular winning on display and De Laval on sharply contested points, the U. S. not entering for awards. The Champion and Bluebell also showed at Fresno.

At Hanford the Geo. A. Smith Jersey herd and the Strader Dutch Belted were the sole dairy representative cattle. These have made the fair circuit and attracted special attention. At Fresno other breeds, reported previously, were exhibited. At Hanford Professor Rubel of the Polytechnic College served as judge of dairy stock, hogs, jacks, and horses. At Fresno, Professor Major scored these.

**FRESNO FEATURES.**—Fruit and farm products at Fresno were rather meagre, failing to do justice to the county. The California Canneries Association made good exhibits at Hanford and Fresno, a

20-acre farm showed a remarkable variety at the latter fair, and that is about all that can be said for it.

J. T. Dunn, Fresno county bee inspector, secured a notable honey and bee exhibit from that county, and his mounted specimens of honey plants were very interesting to the student of that industry. In value, alfalfa led among local plants, several clovers, wild sunflower, "blue curl," "yellow sticker," "turkey mullein" and 25 others being noted. A half dozen bee varieties were shown, including Carniolans, Italians, Caucasians, common black and hybrids.

The Tulare experiment sub-station, J. T. Bearss, foreman, made a fine display, consisting of 120 grape varieties, 50 cereals, 6 alfalfas, 5 cover plants for green manuring, and 3 adapted for alkali regions, including Australian salt-bush (three feet high, spreading six) on land without irrigation and six months from seed. Three specimens of Turkestan alfalfa, one each of French, Arabian, German, Chilean, and Ecuadorian, indicated marked differences under same conditions. The latter lead in height and spread, with medium size of stem and leaf. One of the Turkestan gave coarse, woody stems and large leafage, two others fine stems and medium leafage. Hereafter this sub-station will work mostly on cereals.

The county fairs are popular, and the tendency in these central counties is to strengthen them, and the result of 1908 has been encouraging for better displays next year. The concentration of California stock and products where they may be shown as an object lesson is a good thing. Our State legislature and county government can well afford to aid them, so that once a year at least one great event will bring the people of communities together. Contact with experts sent out to represent live stock, machinery, fertilizers, etc., in itself is a great educational influence on practical lines. Our State University ought to be supplied with a special fund to send its best men to advise with farmers on the problems that meet them in their work, and at these fairs, with their collections of products and assembling of producers, the scientific and practical may be demonstrated to the mutual advantage of all concerned.

### TULARE DAIRY COW CONTEST.

In the milking contest held in connection with the Tulare county fair, giving a seven days' test, the Holsteins won out with a big lead. There were 13 entries, and the highest three were Holsteins.

**Warranted to Give Satisfaction.**

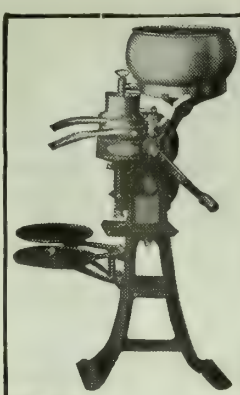
## Gombault's Caustic Balsam



**Has Imitators But No Competitors.**

A Safe, Speedy and Positive Cure for  
Curb, Splint, Sweeney, Capped Hock,  
Strained Tendons, Founder, Wind  
Puffs, and all lameness from Spavin,  
Ringbone and other bony tumors.  
Cures all skin diseases or Parasites,  
Thrush, Diphtheria. Removes all  
Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism,  
Sprains, Sore Throat, etc., it is invaluable.  
Every bottle of Caustic Balsam sold is  
warranted to give satisfaction. Price \$1.50  
per bottle. Sold by druggists, or sent by ex-  
press, charges paid, with full directions for  
its use. Send for descriptive circulars,  
testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.



"No Trusts"  
"No Catalogue Houses"

## DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest  
FOR THIRTY YEARS

## The World's Standard

As much better than other separators  
as other separators are better than  
gravity creamers.

Send for catalogue of 1908 Latest Improved Machines.

### DE LAVAL DAIRY SUPPLY CO.

108 SO. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

PACIFIC OIL & LEAD WORKS, - - SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, - - PORTLAND, ORE.

The records of the four in the lead are given as follows:

First, Cantate Domino, owned by R. F. Guerrin, Holstein, eight years of age; net profits for the week, \$2,781.

Second, Lily Korndyke Pauline, owned by Minor & Thornton, Holstein, six years of age; net, \$2,547.

Third, Leo Roxey Mechthilde, Holstein, seven years of age; net, \$2,102.

Fourth, May B. Belle, owned by Geo. A. Smith, Jersey, eight years of age; net, \$2,024.

These are the official figures given out by L. W. Symmes, in charge of the contest and testing.

The Tulare Register says: Hundred of men engaged in the dairy business were greatly interested in this testing contest, and visitors to the building in which the cows were kept and fed and milked were numerous. All the feed consumed was carefully weighed out to her and a record kept, the cost of the feed being figured against her yield of butter-fat, so that the profit shown above is net after all charges have been deducted.

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS

Famous Blackow, Roberts, Glide  
French Merino Sheep.

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

RAMS FOR SALE AT ALL TIMES

P. O. Box  
297 Sacramento, Cal.

Home Telephone  
Dixon, Cal.

### WHAT THE DAIRY INSPECTOR WILL UNDERTAKE.

Mr. C. L. Mitchell, who has received the appointment as expert for the U. S. Dairy Division for California, has arrived in San Francisco and is ready to assume the work planned for him. He makes the following statement about his work:

The representative of the Dairy Division in California is to do whatever he

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Shorthorns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 521, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCallin. R. D. Box 24, Sacramento, Cal.



can for the general improvement of dairying in this great State, but most of his time will be devoted to the cause of better butter. The creamery operators of California and the merchants of San Francisco asked for assistance of this nature in the form of market inspection. In the New York and Chicago markets inspection is proving to be an unqualified success. Similar work will be undertaken in San Francisco. The representatives of the Dairy Division will examine any lot of butter upon request of the merchant or creamery. He will criticize it with a view to improvement in the subsequent make, and will send his criticisms to the butter-maker or creamery. When asked to do so by either the merchant or creamery, he will place a score upon the butter.

In case of any disagreement over butter weights, he is ready to weigh shipments of butter upon request of either merchant or creamery.

Oftentimes a butter-maker wishes to check his moisture testing in the factory with samples taken when the butter arrives on the market. He need have no fear when he asks the market inspector to make a moisture test. The Dairy Division is separate from the revenue department, but will report cases of high moisture when it is convinced that the creamery is endeavoring to incorporate an excessive amount, thus attempting to defraud the public.

It is probable that the representative of the Dairy Division will not be occupied in San Francisco more than a certain portion of each week. As creameries over the State feel the need of assistance they can communicate with the Division at Washington or with its representative in California. Personal help will then be given the creameries free of charge as early as it is practical for the representative to arrive.

## Apiculture.

### A NEW AND MUCH DREADED PEST OF THE APIARY.

Written for the PACIFIC RURAL PRESS  
By RALPH BENTON.

We do not wish to unnecessarily alarm our beekeeping readers in thus calling attention to the Argentine ant as a pest of the apiary, but we do wish to have them forewarned, and hence in a measure forearmed against what might, we have reason to believe, prove itself a great enemy to California apiculture. As is a well known fact, ants are near relatives to bees, having quite a similar social organization, with a great predisposition to feed upon sweets of all kinds, particularly in the case of ants is it true that they are fond of feeding upon the extrafloral secretions of plants known as honey-dew honey, or simply honey-dew. This they also seek to secure quite commonly by colonizing and caring for scale insects and plant lice, which are known yielders of honey-dew, thus greatly jeopardizing the returns not infrequently from orchards and other crops. This has been the case in Louisiana and Mississippi, where the Argentine ant has gained a foothold as an orchard and crop pest to the extent of threatening the citrus and sugar-cane industries of that region. This stage has not yet been reached in California, the Argentine ant as yet only having made its appearance as a household pest. But if the experience of Louisiana is to be repeated, it will not long remain simply as such, but will move inevitably into the orchards and rural districts generally. When this becomes true our apiaries become endangered, for it is a well known fact that ants are enemies of bees.

For the past several weeks we have had two small apiaries within the infested areas of East Oakland under our observation. In our experience in the past with ants troubling bees, the great injury that they do is to keep the bees so cross that manipulation in the apiary is seriously handicapped. In one instance at least we have seen ants become troublesome enough to actually kill and carry off numbers of bees about the entrance. In the case of the Argentine ant neither of these seems to be their chief means of becoming troublesome, since the bees do not seem unduly cross, and the ants are all too small to make much headway against the bees in any ordinary invasion. They do boldly catch hold of the bees, but are usually easily shaken off, although the bee so attacked may have to take to her wings for protection. The ants, however, come in such numbers, patrolling every crevice and entrance to the hive so completely that they attract considerable attention among the bees, causing them no end of irritation. This requires an extra force of bees to protect the colony, and it is questionable whether a colony so disturbed and irritated works as efficiently as it otherwise would. In the case of weak colonies they may be overcome by the ants or forced to vacate.

In any event, it will be readily appreciated that so persistent a pest as the Argentine ant has proved itself to be, would be of almost inestimable annoyance to the beekeeper, not only in his apiary in the interference with the work of his bees, but also about his honey house and shop. This would be particularly true in the case of canning honey or, more especially, in the handling of honey-comb. We have been in apiaries in this State where the legs of solar wax extractors had to be placed in cans of oil to prevent the invasion of the ordinary native ants, and under a similar condition the Argentine ant would be a double nuisance, in view of its persistence and large numbers. The fact that these ants have a very loose system of nesting, and are migratory, moving their nests wherever food is in abundance, makes it very hard to combat them with a view to eradication, and the apiarist, in common with the orchardist, will watch with interest movements looking toward the control of this menace to our local industries.

## Patrons of Husbandry.

### GOOD ROADS AT THE TULARE GRANGE.

To the Editor: Tulare Grange convened in its hall on Saturday, the 3rd inst.

After reading and approval of the minutes, the committee on Grange exhibit at the county fair, held last week, reported. The exhibit was a good collection of the products of the county. The Grange exhibit and the exhibit of the branch experiment station at this place being exceptionally good.

Sister Howe, Worthy Lecturer of Maple Grove Grange, 1255, Michigan, was a visitor, and on invitation of the Worthy Master addressed the Grange. The sister told of Grange work in Michigan. She thinks we should have more young people in our Grange, or a juvenile grange, to get in more young people, getting them conversant with the work and the aims of the order.

The subject of the day being "Good Roads," and there being a petition to the board of supervisors in circulation, to authorize the issuing of \$200,000 in bonds for road building purposes, the following resolution was introduced and passed:

Resolved, Tulare Grange, P. of H., for 15 years has been working in the interest of good roads, to be constructed on approved engineering plans, and systematic efforts are now being made for National and State aid in their construction and

QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$1.00 each. FRANK BENTON, Box 17, Washington, D. C.

maintenance. Therefore, we deem any county issue of \$200,000 in bonds for road construction uncalled for and inadvisable at the present time, and not until congress and the legislature has acted on bills now before them, or to be brought before them, providing for good roads, how they shall be constructed and maintained.

Resolved, The voting of bonds for large amounts by other counties for road purposes does not justify a like issue of bonds in Tulare county. This county is now taxed to the limit allowed by law for road purposes. It will be better to wait until we see the results in the construction of good roads in other counties.

Resolved, If the taxpayers of any supervisorial district in this county wish to be authorized to issue bonds for the construction of good roads in their district, let the bond issue be confined to that district. Districts which deem it very inadvisable, at the present time, to issue bonds, to pay which will strain their taxable ability, should not be compelled to do so.

Resolved, That we submit these views to the good sense of the taxpayers and to the impartial consideration of the board of supervisors of this county.

The subject brought out a warm discussion. Those favoring a bond issue, claiming as other counties had voted to issue bonds for construction of roads, Tulare county should also, and that they were willing to leave it to a vote of the people. The majority should rule. Those favoring the resolutions that this county is not in any way bound to go heavily in debt to build roads, or for any purpose, because some other county does, nor is any other county prohibited from going heavily in debt to make roads, or for any other purpose, because this, or any other county does. It was claimed, too, that if it is left to a vote of the electors, the non-taxpayer's vote counts as much as the man's vote who pays \$2500 in taxes. It is not a case of extreme necessity. The State will, next winter, revise the road laws and will incur \$18,000,000 of indebtedness to build roads. Better wait until we see what the State does and what sort of roads other counties that are incurring indebtedness for roads get for their money.

J. T.



# KENDALL'S SPAVIN CURE

**For Spavin, Curb, Splint, Ringbone, All Lameness**

**THE REMEDY USED ALL OVER THE WORLD**

Cures where any thing will.  
Leaves no mark or scar.  
Get it and be ready for emergencies.

**Not Safe Without It**

Wiggins, Sask., Dec. 26, 1907.  
Dr. B. J. Kendall Co.,  
Enosburg Falls, Vt.  
Gentlemen: I have used a great many bottles of your Spavin Cure. Out here on the prairie, where we are so far from a doctor, we do not consider ourselves safe without it. Kindly send me one of your "Treatise on the Horse."  
J. McMillan.

A liniment for man and beast. Sold by all druggists. \$1 a Bottle; 6 for \$5. The great book, "Treatise on the Horse," free at drug stores or write to

**DR. B. J. KENDALL COMPANY**  
Enosburg Falls, Vt.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## Don't Get a Notion



that you can run your dairy any old way—with the idea, that later on you will make up for the short comings.

Begin now—to exercise care in the selection of your stock and separator, in other words, use good cows and the best make of separator.

## The TUBULAR

because it gets all the cream, is economical, a labor saver and a money maker.

Those who use Tubulars are the cream producers and butter-makers of reputation, plainly speaking—the most successful dairymen.

Join the ranks of the successful dairymen and profit makers—Free Catalog 131 tells how. Write for it.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

# Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico. That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,  
President John Crouch Land Company



## The Poultry Yard.

### THE FARMER AND THE HEN.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

"The summer is ended and the harvest is done," and in too many cases the farmer or orchardist does not feel particularly jubilant. Low prices and a dull market have ruled for much of his product. Still if the cackle of laying hens is the dominant note on his ranch these days, he is not entirely cast down; on the contrary, the outlook is bright and he feels that farm life is worth living. As he drives into town each week with a case of fresh laid eggs, which will net him from \$8 to \$15, in his express wagon, he knows that he can pull through and meet the world with an independent front. The dull season in other farm products is the golden harvest time for hen fruit.

This is the farmer who is wise in his calling; who conducts the poultry end of his farming in an intelligent and systematic manner. On the other hand, the farmer who pays little or no attention to his fowls will find them but an expense and a nuisance at this season, and will get no eggs until the bottom has dropped out of the market. This is an excellent time to call such farmers' attention to the fact that they are neglecting one of their most reliable sources of profit. We don't mean that they should neglect the other branches of their business to take up hen farming—far from it. The writer of this has been for 15 years among California poultry folk and in the thick of California poultry raising; not as a mere looker-on or a dilettante in the business, but as a laborer in the field meeting the difficulties which only those who are up against them can understand. Naturally, I feel pretty well acquainted with the Hen and her possibilities. As a by-product she puts everything else in the shade; but as a sole dependence—well, that is a wise old saw, "Don't put all your eggs into one basket," and I would still further emphasize it by adding, Don't put eggs in all your baskets. Specializing may be the order of the times, but it requires more capital to be a specialist than most farmers have about them. There should be a reciprocity between the products of the farm in order that wastes may be utilized and the highest profit netted from each. Here is where the hen fits in admirably. The wastes from field, orchard and dairy she can change into a high-priced spot cash article, and in her turn can enrich the fields and keep down the insect pest. In poultry raising the general farmer has a decided advantage over the poultry farmer; for with proper management he should be able to grow his poultry products at half what it costs the poultryman who must buy everything his fowls eat, and who is also limited in space. But seldom is this advantage made use of, and as a whole, farm poultry are notorious as a disreputable lot of ill-cared-for, ill-paying fowls. True, there is a question of time on the ranch. The hatching season comes in the rush of spring work, where with the orchardist there are stretches when there are neither evenings nor Sundays for any member of the family. In such cases, it would be better to buy from a reliable poultry breeder, pullet chicks just beginning to roost, which will be no more trouble than grown fowls—much better and more profitable than to depend on the straggling lot that comes hit-or-miss as the hens hatch them. But lack of time is not the principal cause of the lack in farm poultry. Rather it is lack with the farming class. The season is now at hand when the farmer has the time to read up on this subject, to reno-

vate his poultry quarters and his poultry, and to put this neglected branch of his business upon a sound and gainful basis. He will find it the best move he has ever made on the ranch. Next week we will give some hints to help him in this work.

From Detroit, Mich., comes this startling news: Seven and one-half tons of eggs, every one of which is alleged by the United States pure food inspector to be absolutely bad, have been held at a local cold-storage warehouse since July 26, pending an investigation as to what use it was intended to make of them. It is claimed that the eggs were gathered in an already spoiled condition, in the vicinity of Cincinnati, and that they were shipped to Detroit to be used in the of system. The old idea that the hen can rustle for herself dies hard, especially manufacture of fancy cookies and crackers. The seizure was made under the Pure Food and Drug Act, which prohibits the shipment from one State to another of "foodstuffs which consist in whole or in part of a filthy, decomposed or putrid animal substance."

Pass the "fancy" crackers and cookies on!

In the census of 1900, Illinois was the banner poultry State, with Iowa a close second. Illinois marched to the jingle of over twenty million dollars from her poultry products. When the writer started out in life some thirty years ago as a country school teacher in that section, chickens were way beneath the farmer's notice. The wife and children gave them a little attention and threw the chicks a bit of wet corn meal when the hen rounded them up at the door; and the farmer allowed, under protest, a few fowls to winter about his straw-stacks and cornercribs. Now behold! In the past half century of wonderful achievements, few things have outstripped the hen.

#### Questions and Answers.

**LIGHT-COLORED YOLKS.**—Mrs. J. D., of Berkeley, asks: "What is the cause of pale yolks in eggs? My hens are laying watery. I feed them well and a good deal of meat. I sell my surplus to the neighbors, and have had considerable complaint on this account."

Feed your fowls less meat and more cracked corn and fresh green feed, such as alfalfa, clover, beet leaves, chard and grass, all of which give the eggs a rich color and fine flavor. Meat forces egg-production, but does not produce fine flavored eggs or flesh. Corn is one of the

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$ .60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons.....	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons....	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons....	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

**E. F. Adams**

364 Main St. Petaluma, Cal.



## Turn the Wick

as high as you can—there's no danger—as low as you please—there's no smell. That's because the smokeless device prevents smoke or smell—that means a steady flow of glowing heat for every ounce of fuel burned in a

## PERFECTION Oil Heater

(Equipped with Smokeless Device)

You can carry it about and care for it just as easily as a lamp. Brass oil font holds 4 quarts burning 9 hours. Handsomely finished in japan and nickel. Every heater warranted.

The **Rayo Lamp** adds cheeriness to the long winter evenings. Steady, brilliant light to read, sew or knit by. Made of brass, nickel plated, latest improved central draft burner. Every lamp warranted. If your dealer cannot supply Perfection Oil Heater or Rayo Lamp write our nearest agency for descriptive circular.

**STANDARD OIL COMPANY**  
(Incorporated)



## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

**COULSON POULTRY AND STOCK FOOD CO.**

PETALUMA, CAL.

## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

**L. W. CLARK, 615 Main St., Petaluma, Cal.**

best feeds for this purpose and for poultry generally. The wise ones have tried to discourage its use, asserting that it is too fattening and heating; and an experiment was carried on to prove that point, but it resulted the other way. Give your fowls all the cracked corn and fresh green feed they will eat at night, with wheat and green feed in the morning, and a crumbly mash containing but a small quantity of meat at noon. Feed all well and seem healthy, but the yolks of their eggs are very pale and the whites grain in deep clean litter. Your fowls need more exercise.

The Petaluma Hatchery, owned and operated by L. W. Clark, will start up October 19 for the fall season, and will have a hatch off every week. Mr. Clark has eight machines, with a combined capacity of 16,800 aggs, and finds that is about all one can attend to well. He shipped the past season as far north as Seattle, to eastern Nevada, and into Arizona, chicks

arriving in good condition. He has one order for March, 1909, of 5000 chicks to go to Fresno, and numerous small orders of 1000 to 1500 to go to other places next spring. Mr. Clark has made a careful study of shipping chicks and has built up a good business in that line.

#### POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

#### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal to **GEORGE H. CROLEY**, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

#### OAKLAND POULTRY YARDS

Established 36 Years  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Sept. 31, 320 McAlister St., S. F.



## The Home Circle.

### How to Be Popular.

When people ask you how you are,  
Oh, prithee, don't suppose  
That anybody wants to hear  
Your wall about your woes!

They question you of your affairs  
In sympathetic tone,  
And yet they'd rather, ten to one,  
Be talking of their own.

"How do you do?" The same old form;  
They say it o'er and o'er;  
But if you try to answer it,  
They brand you as a bore.

It makes them tired to hear you talk;  
But when they talk, my dear,  
Oh, then they'd have you give a big  
And undivided ear.

They're all alike! The rule will work  
With gamins and with Guelphs;  
The subject that's most dear to man  
Has always been—himself.

Or glad or sad, or sick or well,  
Whatever ways you walk,  
O, friend, would you be loved, just let  
The other fellow talk.

### The Curse of the Cardigans.

It was a low brown house, almost a ruin, though one could see that sometime far back in the past it might have been a pleasant cottage. On the right, a clump of dead and dying poplars shaking down maledictions from their skeleton limbs; on the left, a tumble-down stable and broken fence, with patches of corn and potatoes beyond striving in vain to lift their feeble heads above the weeds, and a ravenous herd of swine rooting in the front yard, where there were still traces of what had once been a flower garden. Across the road at the foot of the hills a river coursed restlessly onward. Over all was the hush of a June twilight.

On a mossy log of the broken fence Robert Cardigan sat whittling. If you had asked the boy what work he had done in the world he might truthfully have said that he had whittled his way through, for that was the favorite employment of his race. He was the eldest of four children and was now in his sixteenth year; Johnny and Jimmy, the twins, were a couple of years younger, and Nora, the youngest, was nearly 12. They were naturally bright, agreeable children; but as they grew older there stole over their faces the gloom haunting those who dwell continually in the shadow of a curse!

The Cardigan curse! The neighbors called it by another name. Its weight had rested on the family for years. No other inheritance had Dennis Cardigan received from his father, and little else would he have to bequeath to his sons, for the farm was mortgaged and the burden of debt grew heavier every day. And yet there had been a time when he had hoped for better things. When Katie Perry became his wife and the little farm that had been her father's fell into his hands, he had resolved to shake off the memory of the curse which had blighted his life—the prophecy that nothing which a Cardigan attempted should prosper—and carve out a way for himself. But trouble after trouble had come upon him: the grain withered in the fierce drouth; the cattle sickened and died of a new disease, and Dennis, by nature a poor manager, became discouraged, and after a few years of toil fell back upon the words which

had been the bane of his race, "It's no use trying," and left the farm and stock to look after themselves while he sought the society of men as idle as himself. The shaded piazza of the village tavern held out greater attractions than the sunny fields, and mingling in a jovial company, the foaming cup in his hand, he forgot the cares which beset him. Indolence and sin walk hand in hand, and the curse of the Cardigans lay in the little brown jug which was Dennis' constant companion.

Tonight as Robert sat on the mossy log there was an unwonted vigor in his whittling; for the first time in his life he was really thinking. The preceding day he had been with his father to a circus in a neighboring village. It was a singular fact that, though there was never money in the family purse to buy books and papers; though their food was of the plainest and their clothing of the poorest, there was always a little fund to spare for the "shows" which traveled through the country. But today Robert, with his eyes wide open for the first time, had seen something more wonderful than the man who danced on stilts, the clown in his parti-colored costume, or even the thrilling feats of the equestrians. He had seen neatly dressed men and women who had passed his father and himself by without a glance, as something unworthy of notice; he had seen beautiful girls who gave him mingled looks of pity and disdain; and boys no older than himself who had the bearing of gentlemen, and who talked glibly with each other on subjects he was totally unable to comprehend; and suddenly waking from the sleep of years, Robert Cardigan realized that he was ignorant and ill-bred: that his hands and face were black with the dust and heat of the day; that his hair was uncombed and his clothes in tatters, and, stealing away from the throng, his cheeks tingling with their first blush of shame, he sat down in the shadow of the tent and fell to thinking, and the subject had haunted him ever since. Very dimly the truth was dawning on his mind. Their neighbors, with no larger farms, no better opportunities, were working themselves into situations of independence and comparative ease, while year by year his father was growing poorer and sinking deeper in debt. "Oh, but the curse!" he said with a sigh, as the memory of the family heritage rose before him. "If neither blessed priest nor holy water can take it away, what can a poor boy do!"

Just then two neighbors passed slowly by, and the low tones of their conversation reached his ears. "The Cardigan curse! indeed, the Cardigan shiftlessness would be a better name. See that broken fence, the cattle in the corn, the pigs in the potatoes! Dennis Cardigan might be as well off as any man in the county if he only chose; there never was a curse so powerful that strong hands and a brave heart could not remove it."

As the men passed on, Robert shut the knife with a sudden clink, and rose from his seat with an air of resolution. "I've the strong hands," he said, "and hereafter I will have the brave heart, if I can only make it a bit easier for mother and Nora."

As a preliminary step he drove the pigs out of the garden and the cattle out of the cornfield, and mended the broken fence, and then with un-

wonted interest went about his evening chores.

Probably Robert's good resolutions, like those of many another, would have ended in smoke but for a circumstance of terrible import that stamped them indelibly upon his mind. That night when Dennis Cardigan was crossing the bridge which lay between the village and his home, blinded by drink, he walked off into the river and was drowned. In the early dawn Robert awoke to the awful sight of his father's lifeless body lying on the bank, where it had just been drawn from the water by the neighbors.

Desolate beyond description was the week that followed. With all his faults, Dennis had been a kind father and the children mourned him bitterly. The new sense of responsibility as the head of the family at last aroused Robert from his lethargy of grief.

One evening he gathered up his courage and walked over to see Mr. Wilmot, the neighbor who held the mortgage on the farm, and whose words the evening previous to his father's death had inspired his brave resolutions.

It was surprising what a change one week had wrought in the boy's appearance; his curly black hair was combed smooth back; the brown hands were as clean as soap and water could make them, and the old clothes, which he had persuaded his mother to wash and mend, were quite presentable. As he entered Mr. Wilmot's sitting room he was a comely, smart looking lad, and such was the thought that passed the farmer's brain as he greeted him kindly.

"I've called to see you about the mortgage, Mr. Wilmot," Robert said. "It has three years to run, I believe, and we shall try hard to meet it when it falls due—and I hope you'll not be hard on us. We've always been under a cloud, you know; but I heard you say the other night that there's no curse so powerful that strong hands and an iron heart could not remove it—and I'm going to put up a fight against the one which has kept us in poverty and ignorance all our days."

"That's the right spirit, boy," said the farmer warmly, holding out his hand as he would have done to a man of his own age. "Never worry about the mortgage, Robert, but persevere, and if you want help, come to me."

Thus encouraged, Robert went back to his work, and he managed to infuse some of his spirit into his brother's heart. The weeds disappeared from between the rows of corn and potatoes, the broken fences were repaired, and the crop which had promised so poorly came out finely. After paying the expenses and the interest on the mortgage he had left a small sum to pay over to Mr. Wilmot. When the fall plowing was done and everything was in readiness for winter, he began to look about him for work. He insisted on one thing, that the boys and Nora should be regular in their attendance at the village school; for himself, it was out of the question; but never had the old brown schoolhouse seemed so precious in his eyes. Now that it was out of his power to take his place at the well-whittled desk, he thought with regret of the hours he had wasted within its walls.

When one is in earnest, work is sure to find him, and Robert got the privilege of cutting cordwood on Mr.

Wilmot's lot three miles away. True, the pay was small, but it was better than doing nothing; he had a good team and he could not afford to lie idle till spring.

Rising early, working hard, faring poorly, one must have an unbounded stock of energy to draw upon to long endure; at last Robert became discouraged. One winter's night he came home completely tired out and disheartened; the keen wind chilled him through and through, the sharp sleet pricked his face like needles; he failed to see as he entered how bright and clean was the little kitchen, for her son's ambition had had its influence upon Mrs. Cardigan, and she was doing her best to keep pace with him, and there was a marvelous change from the dirt and disorder of the past. He sat down by the fire and held his numbed fingers to the blaze, while the old, half-forgotten words which had ruined his father's life, "It's no use trying," went wandering up and down in the darkened chamber of his brain. Just then Nora came to him, book in hand, that he might hear her lesson, but he pushed her away. "Not tonight, Nora; I'm too tired," he said.

"But it's so pretty, Robert," the child persisted; then, as he turned his face toward her, she read in a low voice Mrs. Osgood's hymn to "Labor," with the ending:

"Work for some good, be it ever so slowly;  
Cherish some flower, be it ever so lowly;  
Labor, all labor, is noble and holy."

When Nora had finished and was putting the tea things on the table the gloom had passed from Robert's face. Something trembled on his lashes, it might have been a tear; a whisper rose from his lips, it might have been a prayer, and over and over he kept repeating to himself:

"Work for some good, be it ever so slowly."

It was a poem in a school reader, read by hundreds of children every day, carelessly and thoughtlessly, but it came to the youth in his time of need and rescued him from the slough of despond. Henceforth, though the days were cold and the labor wearisome, he pressed steadily ahead. When the springtime came he counted over his small earnings and felt fully repaid; and encouraged, he went to the plowing and sowing with renewed energy.

True, he was burdened with the cares of manhood, and much of the buoyancy of youth had died out of his heart; but better so than that his years should be wasted in idleness and folly; better that brain and body should wear out in the service of God and man, than rust out in the chains of sloth and sin. In his heart had grown a thirst for knowledge, and his spare moments were spent with books and papers. One hour of such study and reading was worth days of the listless drawling over his books in which he had indulged in his school days. What he read he remembered. The principles he learned he applied to his work and every-day life, and the result was soon noticeable. People to whom he had been "Cardigan's Bob" all his lifetime began to speak of him as "that fine young fellow, Robert Cardigan," and his judgment was referred to and his advice asked on questions of importance. Five years from his father's death, the farm was



freed from all incumbrance, the little cottage was fairly transformed by a tasteful portico and a coat of paint, and Robert was a rising man in the community.

Within the Cardigan home there is a shrine erected to Labor, to which each member bows willingly and offers the best of his store. Robert, reliable, intelligent and manly, will yet take his place among the leaders of the land. If you mention the curse which so long hung like an incubus upon the fortunes of his family, he will answer you in the words of his old-time benefactor: "There is no curse so powerful but that strong hands and a brave heart may remove it."—Sarah D. Hobart.

## OUR HOUSEHOLD.

Conducted by MRS. M. R. JAMES.

(TO OUR READERS: Helps and Hints in all matters relating to the Home are here given and asked. Send all communications to "Our Household," PACIFIC RURAL PRESS, 667 Howard St., San Francisco.)

### THE HOME CIRCLE CHAT.

#### In the Garden.

Those who have the wherewithal, otherwise plenty of time and money, for a garden, are not much dependent on the family paper for hints on gardening—but there are others. And often these others are the ones who most love growing things about their door. In our country homes too frequently the good housewife has neither the opportunity nor the time to cultivate a patch of greenness or some beds of glowing flowers upon which to rest her eyes as she glances out of her hot kitchen. The "gude mon" is careless about fencing off a garden spot around the house; chickens, calves and dogs overrun and befoul the walks and steps, and there is no beauty spot upon which the eyes and thoughts may linger. Wire fencing is cheap and even the busy farmer may find the little time required to separate the dooryard from the ranch acres, and to plow or spade it for cultivation; then the wife is encouraged to have her flower beds; her strip of green lawn; her crisp vegetables.

In such gardening it is better to depend upon the more hardy and easily grown plants and flowers, the geranium in its varieties gives best returns for least care, and it is little affected by insects and gophers. In truth, the geranium might fittingly be called the peoples' flower. It is the exemplification of energy and hopefulness—just a bit of sod; a touch of moisture; a glass of sunshine, and it will struggle through all discouragements and throw blossoms broadcast. Many pass it by as common because of its lavish growth on our Coast. But the most striking effects may be produced with the finer varieties when artistically banked.

The mistake made in most home flower gardens is in arrangement. Women have a way of sticking in a seed or slip here, there and everywhere. Even with the most choice and well-cared-for flowers, such a garden resembles a crazy quilt. The indiscriminate mixing of all kinds and colors destroys the beauty of many and detracts from all—the indescribable charm of harmony and blending is lost. Thus with geraniums, we see them growing, all kinds and shades of color together—a sort of color hash which grates on the nerves of a person with a well-developed color-bump. On the other hand, take only one kind (of large, perfect blossom and free-blooming nature), bank it against a dark background, or plant for hedge effect. Have the soil deep-spaded and well-manured, for though the geranium will grow under any and all conditions it requires proper cultivation to get the large, velvety blooms. Set the slips two foot apart; keep the ground moist and mel-

low, always stirring after the water has dried off the surface; trim them to symmetrical growth, and in a short time you will have a bank or hedge of never-failing beauty. One of the most admired garden effects among the beautiful gardens of Berkeley is a hedge of scarlet geraniums on the border of a velvety lawn. The masses of brilliant blooms throw halo of color all about them.

#### Italian Tomato Paste.

"Household Dept., PACIFIC RURAL PRESS: Would you kindly publish a receipt for making tomato paste as the Italians make it? They gather ripe tomatoes and save them in a barrel and dry them down somehow, but how dry to make it and how to remove the water, I don't know. We have a surplus of ripe tomatoes. The paste is used in soups, stews, etc. By doing so you would greatly oblige. Yours truly, Lewis G. D. Stocker.

Sea View, Cal., Oct. 5, 1908.

RECIPE.—Stew ripe tomatoes to a soft pulp; run through a colander; make pretty hot with red or black pepper; boil briskly and stir constantly until the juice is evaporated and the mass as thick as can be dipped with a spoon. Pour into stone jars and cover, set in a cool place and it will keep any length of time. A spoonful is sufficient for a kettle of soup or a pot of beans. For a dry paste, spread on tins and dry out in a warm oven. If there is a more simple method we will try and ascertain.

We have just learned a new and simple method of keeping tomatoes where they are plentiful. At least it was new to us though our German friend, whom we discovered using it, said it was common in the old country: Make a brine in the proportion of 1 pint of salt to 7 of water; boil and skim. Take ripe, but not overly ripe tomatoes, and only smooth, firm ones with no break in the skin; pack them carefully in a clean, sweet barrel. When the brine is cold, pour it over them, taking care that the tomatoes are always covered with it. Keep in a cool place and use as needed. The German who kindly explained this method, assured us that the tomatoes would remain fresh and sweet a year.

We are glad that our Sea View correspondent has brought up the subject of pastes, as it is not too late in the season to make some of the fruit pastes which are so attractive with the dessert. Next week we will give recipes for making them.

#### Rising Above Trouble.

When the birds are flying over and the fowler lies in wait for them, if they fly low, at every discharge of the fowler's gun some fall; some are wounded and some swerving sideways plunge into the thicket and hide themselves. But you will find immediately after the first discharge of the gun that the flock rise and fly higher; and not many times has the plunging shot thinned their number before they take so high a level it is in vain that the fowler aims at them; they are beyond the reach of his shot. When troubles come upon you, fly higher; and if they still strike you, fly still higher. And-by-and-by you will rise so high in the spiritual life that your affections will still be set on things so entirely above that these troubles shall not be able to touch you. So long as the shot strikes you, so long hear the word of God saying to you, "Rise higher."—Henry Ward Beecher.



#### Happiness.

Compass happiness since happiness alone is victory. On the fragments of your shattered plans and hopes and loves—on the heaped up ruins of your past rear a stately palace whose beauty shall gladden the eyes of beholders, whose doors shall stand wide open to receive the wayworn and weary. Life is a burden but it is improved by God. What you make of it it will be to you, whether a millstone about your neck or a diadem about your brow. Take it up bravely; bear it on joyfully; lay it down triumphantly. — Gail Hamilton.

It is man's duty to have books. A library is not a luxury but one of the necessities of life. No man has a right to bring up his children without surrounding them with books. A library is like a spiritual tree which yields its precious fruit from year to year and from age to age.

Men plant the grain and timber of every day life with their strong hands which God made for that purpose. Women fill in the hollows and crevices and swelling banks with flowers, ferns and delicate shade trees and make the vigorous work of the strong hand beautiful.

It is so in politics, business and every thing else in life. The man whom you boost up the tree not only forgets to toss you down some of the fruit but is as likely as not to pelt you with the chawings.

## The Hamlin School

2230 Pacific Avenue, also  
2117-2119 Broadway Street

### SAN FRANCISCO, CALIFORNIA

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school is also offered.

School reopens August 10th.

For further particulars address

MISS SARAH D. HAMLIN,

2230 Pacific Avenue,  
San Francisco, California.

#### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.  
You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.

POSITIONS SECURED.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.

## TALKS ON TEETH

BY

## The Rex Dental Co.

(INCORPORATED)

### WE WANT TO GIVE YOU OUR BOOK—

Our book, "Alveolar Dentistry," is free for the asking.

Never before have you been offered so much for nothing in the shape of a book. No book has ever before given so thorough a diagnosis of the diseases of the teeth and their cure as this one we want to give you free.

The Alveolar Method of restoring missing teeth without having to resort to the use of plates or ordinary bridge work is the one great and marvelous achievement of the century. Its discovery has made the Rex Dental Co., Inc., the greatest dental concern in the world. Patients from all over the Pacific Coast unite in a universal hymn of praise for the Alveolar teeth, which have freed them from the annoyance and misery of a "mouthful" of rubber or metal plates, or a torturesome piece of bridge work.

All these things are set forth in this book, which we want to send you with our compliments. Is it any wonder that the book has run through several editions?

Now, if you are skeptical and inclined to doubt our ability to restore your teeth by the Alveolar Method and give you a beautiful, sound, serviceable set of teeth that will rival nature's teeth, we ask you to do one of two things, neither of which will cost you anything worth speaking of.

First. Will you call at one of our offices and ask for a book, and while there let us look at your teeth?

This won't obligate you in any way. There is no string tied to the proposition. We can't prescribe for you at long range, that's all. The examination will be so thorough, but it will be for you to say whether or not you want to spend a dollar with us after our examiner goes over your teeth. Isn't that a fair proposition?

Second. If you are not near enough to one of our offices to call at once, then send for the book and read it.

You will find a coupon at the bottom of this ad. Fill it out and mail to us.

The book is written in simple language (with the technical terms left out) and will go to you at once. You will say it is the best book on the teeth you ever read.

One thing is certain—if your teeth need attention or if some are loose or missing they won't get better without attention, and you may as well have expert attention when it is possible.

FILL OUT THIS COUPON AND MAIL TO

THE REX DENTAL CO.,  
228 Pacific Bldg., San Francisco.

Send, postage paid, your book, "Alveolar Dentistry," to my address.

NAME .....

P. O. Address .....

City ..... State .....

If you live outside city, give R. F. D. number.

## REX DENTAL CO.

#### DENTISTS

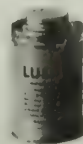
SAN FRANCISCO:  
228 Pacific Building  
Fourth and Market Streets.

OAKLAND:  
82 Bacon Building  
Twelfth and Washington Streets.

LOS ANGELES:  
201 Severance Building.

Hours—8:30 to 5:30; Sundays, 10 to 12

### LADIES, USE LUSTRO



It will remove scratches and will polish your piano, furniture and all finished wood work. The best made. Try it. Full size 8 oz. can, express prepaid, 60c.

AGENTS WANTED.

Lustro Specialty Co.,  
Oakland, Cal.



## THE MARKETS.

San Francisco, Oct. 14, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

There has been an unsettled feeling in Eastern markets for several days, on account of the possibility of war in Europe, but the Coast markets show little change. The demand for shipment to the United Kingdom is a little quiet at present, but is expected to revive in the near future. There is no speculative business here at five, the call for the choicer grades betaking only small quantities, neglecting inferior grades, of which considerable is offered.

California White Australian..	\$1.75 @1.80
California Club.....	1.67 @1.70
California Milling.....	1.70 @1.72½
California lower grades.....	1.45 @1.60
Northern Club.....	1.67½ @1.70
Northern Bluestem.....	1.75 @1.80
Northern Red.....	1.65
Turkey Red.....	1.75 @1.80

### BARLEY.

The demand for shipping grain continues good, and the price stands a little higher than last week. Arrivals of feed grades have been rather light for the last week, though supplies are quite ample for the spot demand. There has been a good deal of speculative buying, however, causing an advance in prices, which has reacted upon the cash market. Sales have been made as high as \$1.40, and most holders are still asking that figure, although the prevailing figure is a little lower.

Brewing.....	\$1.40 @1.42½
Shipping.....	1.40 @1.42½
Chevalier.....	1.55 @1.60
Good to Choice Feed, per ctl..	1.37½ @1.38½
Common feed.....	1.30 @1.35

### OATS.

The demand for seed oats has fallen off considerably, but is expected to revive as soon as there is a little rain, and prices are well maintained. The Northern market is very firm, but stocks locally are too large for any material advance under the present quiet conditions. Choice black for seed are a little higher, while the feed grade is fairly easy.

Choice white, per ctl.....	\$1.70 @1.75
No. 1, white.....	1.65 @1.67½
Gray.....	1.55 @1.65
Red, seed.....	1.75 @2.00
Feed.....	1.47½ @1.70
Black, seed.....	2.45 @2.65
Feed.....	1.47½ @1.60

### CORN.

A car of Western corn has arrived, but the quotations are practically nominal, as there is scarcely any demand at present prices. Holders are asking the figures formerly quoted, and buyers generally are holding off from the market.

California Small Round Yellow, per ctl.....	Nominal
Large Yellow.....	\$1.90
White.....	Nominal
Western State Yellow.....	1.90
White, in bulk.....	1.83
Mixed, in bulk.....	1.81

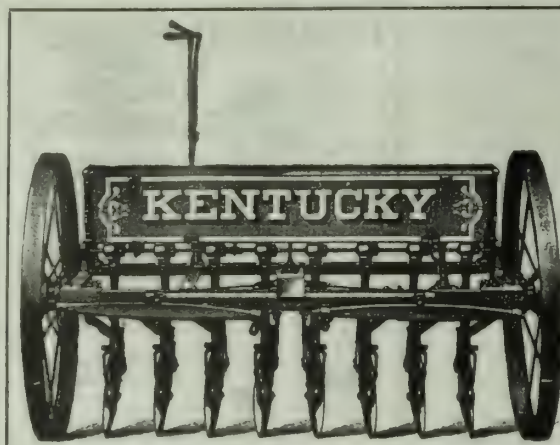
### RYE.

This grain is almost entirely nominal, as sales are few and of little consequence. Offerings are held as before, at the following figures:

California.....	\$1.40 @1.45
-----------------	--------------

### BEANS.

The bean market is now quite active, and a good shipping movement has set in. Arrivals from the interior are getting larger, and the harvest is now in full blast. Pink beans are coming in larger quantities, and all other colored varieties continue in plentiful supply. White beans show most strength. The firm markets East and the demand from sections that are generally supplied from Michigan at this time of year have caused firm prices here, and an advance has taken place in both Lady Washington and small white means. The crop of the latter variety is turning out better than was at first estimated, but prices have advanced in the interior, and despite the fact that a good portion of the crop was damaged, some buyers make little distinction between the inferior and choice beans. Limas are still easy and have declined. Pinks and bayos are unchanged, and cranberry beans are steady. Garvanzos are firmly held, except the small size, which is neglected.



## Pacific Implement Company

135 KANSAS ST., SAN FRANCISCO.

## Kentucky Disc Drills

meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete KENTUCKY LINE.

Bayos, per ctl.....	\$2.50 @2.65
Blackeyes.....	3.10 @3.20
Cranberry Beans.....	2.50
Garvanzos.....	1.75 @2.90
Horse Beans.....	1.75
Small White.....	4.25 @4.60
Large White.....	3.15 @3.25
Limas.....	4.25 @4.50
Pea.....	4.50
Pink.....	2.50 @2.65
Red.....	3.00 @3.50
Red Kidneys.....	3.25

### SEEDS.

Prices are unchanged, and the market still remains comparatively quiet, though a liberal movement is looked for as soon as the rains begin.

Alfalfa, per lb.....	14½ @18c
Broomcorn Seed, per ton.....	\$20.00 @25.00
Brown Mustard, per lb.....	3½ @ 8½c
Canary.....	4½c
Flaxseed.....	8c
Hemp.....	4½ @ 4½c
Millet.....	2½ @ 3½c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

### FLOUR.

The local flour market remains rather quiet, with little demand outside of the regular local jobbing movement. Prices here show no change, but an advance is reported in Portland.

California Family Extra, per bbl.....	\$5.40 @6.00
Bakers' extras.....	5.40 @5.65
Superfine.....	4.20 @4.50
Oregon and Washington, Family.....	4.90 @5.40

### HAY.

The local demand for hay is fairly ac-present, and buyers of the spot grain are ing especially good. Prices are quoted at the same figures as a week ago, but, for the better grades at least, there is certainly a little more firmness. The car shortage is still an important factor in keeping up figures, though there has been a little more movement into the market this week than last. The total arrivals for the week were 2780, compared with 2570 last week. A good deal of interest is taken in the Government contract for Manila shipment. When this is let it may have a material effect on the local market, though it is not believed that the entire contract will be awarded in this city. The prospect of early rains is causing some buyers to hold off as long as possible, with the thought that a rain would bring down prices.

Choice Wheat, per ton.....	\$18.00 @20.00
Other Grades Wheat.....	12.00 @17.50
Wheat and Oat.....	12.00 @17.00
Tame Oat.....	11.50 @17.00
Wild Oat.....	11.00 @16.00
Alfalfa.....	9.50 @13.50
Stock.....	9.50 @10.50
Straw, per bale.....	45 @ 70c

### MILLSTUFFS.

The scarcity of the leading lines of millstuffs is as marked as ever, and very firm prices prevail. Arrivals from the North are small, as supplies there are not greatly in excess of the local consumption. There has been a particular scarcity of shorts for the last week, and the price stands a little higher than before.

Alfalfa Meal (carload lots) per ton.....	\$22.00
Jobbing.....	23.00
Bran, ton—	
White.....	\$30.00 @31.50
Red.....	29.50 @31.00
Broom Corn Feed, per ctl.....	1.25 @ 1.50
Cocoanut Cake or Meal at Mills (in 10-ton lots).....	25.00

Jobbing.....	26.00
Corn Meal.....	37.00 @38.00
Cracked Corn.....	38.00 @39.00
Mealalfa.....	22.00
Jobbing.....	23.00
Middlings.....	33.50 @35.50
Mixed Feeds.....	23.00 @28.00
Oil Cake Meal, per ton.....	37.00 @38.50
Rollod Barley.....	29.00 @30.00
Shorts.....	33.00 @33.50

### VEGETABLES.

The shipping demand for onions is again a feature of the market, and the local supply has been reduced considerably, bringing an advance. Garlic is also higher. Arrivals of several vegetables show a decline, and the market in general is firmer than for some time. Tomatoes are about the only weak article, as large lots have been coming in. Green corn is practically out of the market. An advance is noted in both beans and peas, as well as green peppers, summer squash, cucumbers, egg plant and okra.

Garlic, per lb.....	8 @ 10c
Green Peas, lb.....	5 @ 6c
String beans, lb.....	4 @ 6c
Cabbage, per ctl.....	60 @ 75c
Onions.....	65c
Summer Squash, large box.....	65 @ 75c
Marrowfat Squash, ton.....	\$10.00 @15.00
Tomatoes, box.....	25 @ 50c
Turnips, sack.....	75c
Green Peppers, box.....	50 @ 85c
Cucumbers, box.....	85 @ 1.00
Egg Plant, box.....	65 @ 75c
Cauliflower, doz.....	50 @ 60c
Okra, box.....	50 @ 65c

### POULTRY.

The total arrivals of Eastern poultry for this week will be five cars, several having already appeared. This has been about the average of receipts from the East for several weeks, and there is consequently a weak feeling among receivers, which is increased by liberal arrivals from California points. Prices, however, show little reduction, except on small hens, and large hens and young roosters are in good demand at full prices. Large turkeys are easily moved at top quotations, and though small birds are neglected, prices are higher for the general run of stock.

Broilers.....	\$3.50 @ 4.00
Small Broilers.....	3.00 @ 3.50
Fryers.....	4.00 @ 5.00
Hens, extra.....	7.00 @ 9.00
Hens, per doz.....	4.50 @ 5.50
Small Hens.....	3.50 @ 4.00
Old Roosters.....	3.50 @ 4.50
Young Roosters.....	5.00 @ 6.00
Young Roosters, full grown.....	6.50 @ 7.50
Pigeons.....	1.00 @ 1.25
Squabs.....	2.00 @ 2.50
Ducks.....	4.00 @ 7.00
Geese.....	2.00 @ 2.50
Gobbler, Turkey, lb.....	23 @ 25c
Sprocklers, live.....	23 @ 25c
Hen Turkeys, live.....	23 @ 25c

### BUTTER.

Butter has been comparatively plentiful all week, with trading very quiet on most grades, and most dealers carrying some surplus. There has been no change in prices except on fresh thirds, which are a little lower. All fresh local stock is steady, while Eastern extras and packing stock are firm, and storage extras are weak, owing to liberal withdrawals from the ice houses.

Cal. (extras) per lb.....	30½c
Firsts.....	26 c
Seconds.....	22½c
Thirds.....	20 c
Eastern extras.....	27 c
Fresh Packing Stock, No. 1.....	23 c

Fresh Packing Stock, No. 2.....	20 c
Cal. Storage Extras.....	26½c

### EGGS.

Extra eggs are still scarcer than last week, and a slight increase in business for the last few days has brought an advance on the top grades. Business is not heavy, however, as at the present range of prices the buying is limited. Supplies of the lower grades are sufficient to meet all requirements, and storage stock, both local and Eastern, is plentiful, causing a feeling of weakness.

California (extra) per doz.....	48 c
Firsts.....	41 c
Seconds.....	26½c
Thirds.....	23 c
Eastern Selected.....	25½c
Eastern firsts.....	23½c
Storage, Cal., extras.....	30 c
Storage Eastern, extra.....	25 c

### CHEESE.

Considerably more interest is taken in cheese than formerly, and trading is fairly active in the leading lines. The advance of last week brought out a large increase of supplies, and notwithstanding a fair demand, most dealers are carrying a surplus. Fancy local flats are lower, but firsts and fancy Young Americas are both ½ cent higher than last week.

Fancy California Flats, per lb.....	12½c
Firsts.....	12 c
New Young Americas, fancy.....	13½c
Oregon Flats.....	13 c
Oregon Y. A.....	14½c
Storage, Cal. Flats.....	13 c
N. Y. Cheddars.....	16½c

### POTATOES.

Prices on choice Salinas and Oregon stock are still held up, but river stock is somewhat lower, and the whole market has a tendency to sag. Stocks are quite heavy, and the demand is only moderate. Sweet potatoes are in good demand and firm at an advance.

River Whites, fancy, ctl.....	65 @ 85c
Common.....	45 @ 55c
Salinas Burbank, ctl.....	\$1.25 @1.60
Oregon Burbanks.....	1.25 @1.35
Sweet Potatoes, ctl.....	1.50 @1.60

### FRESH FRUITS.

There is increasing activity in the fruit market this week, and prices on several descriptions are firmer, though others are lower on increased supplies. Grapes are now very plentiful, and only the choicest lots are moving at full quotations. Peaches are also lower, but Bartlett pears, including some storage stock, are firmly held. Quinces, plums and figs also bring good prices, with choice stock well taken. Receipts of melons are falling off, bringing an advance for everything in this line. Pomegranates and persimmons are more plentiful and easier.

Apples, fancy.....	90c @ \$1.25
Apples, common.....	40 @ 75c
Strawberries—	
Chest.....	\$4.00 @ 6.00
Raspberries.....	5.00 @ 8.00
Huckleberries, lb.....	13 @ 15c
Cranberries—	
Cape Cod, bbl.....	10.00 @10.50
Coos Bay, box.....	40 @ 4.00
Plums, crate.....	50 @ 1.25
Peaches, box.....	40 @ 65c
Figs, box.....	75 @ 1.00
Nutmeg Melons, box.....	25 @ 50c
Cantaloupes, crate.....	75 @ 1.00
Watermelons, doz.....	1.75 @ 2.50
Grapes, crate, Seedless.....	75 @ 90c
Muscats.....	50 @ 65c
Cornichon.....	65 @ 85c
Tokays.....	40 @ 60c



Pears, Bartlett, box	1.00 @ 1.50
Other Varieties	40 @ 75c
Quinces, box	50 @ 75c
Pomegranates, box	65 @ 75c
Persimmons, box	50 @ 1.00

CITRUS FRUITS.

Business in oranges is increasing somewhat, and prices are higher. Fancy lemons have also been advanced, but there is little buying at the new figures, as liberal supplies were taken on before the raise. Limes are steady, and grapefruit nominal, with very little of the new crop arriving.

Choice Lemons	\$1.75 @ 2.25
Fancy Lemons	3.00 @ 3.50
Standard	1.00 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	3.50 @ 3.75
Grape Fruit	Nominal

DRIED FRUITS.

The Eastern demand has not yet increased to any appreciable extent, business in all quarters being done almost entirely in a small jobbing way, though a more active market is looked for with the coming of cold weather and the approach of the Thanksgiving season, as stocks are light. The prune crop of the entire Coast is practically all ready for the market. In spite of the fact that it is far below the normal, the trade is not taking hold, and prices are inclined to sag. It is confidently predicted, however, in some quarters, that prunes will be considerably higher before the next crop is gathered. Other fruits are quiet, with an easy feeling on apples, pears, and peaches. In general, growers who have not yet sold are inclined to hold for better prices than are now being offered. Raisins are weaker and the movement is small. While many growers are still holding for 4 cents or better, and believe there is a fair prospect of an advance by the end of the month, a good many have been selling for 3½ cents. Local packers quote the following prices.

Evaporated Apples	5 @ 6 c
Figs, black	2½ @ 3 c
Figs, white	3½ @ 4 c
Apricots, new crop	7 @ 10½ c
Peaches, new crop	4 @ 5½ c
Prunes, 4-size basis	3½ @ 3½ c
Pears, new crop	5 @ 7 c

RAISINS.

2 Crown	4 c
3 Crown	4½ c
4 Crown	5 c
Seeded, per lb.	7 c
Seedless Sultanias	4½ c

NEW CROP.

Loose Muscatels, 4 crown	5½ c
3 Crown	4½ c
2 Crown	4½ c
Thompson seedless	4½ c
Seedless	4½ c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

NUTS.

Almonds are appearing on the market in considerable quantities, and meet with a good demand, both here and in the East, numerous shipments having al-



## This Roofing is Proof Against Rain, Sun, Snows, Winds, Storms and Fires

"The fire started on the roof."  
So most newspaper reports show.  
Most roofing materials, like tar, shingles, etc., catch fire like kindling wood. Often, just a spark from a chimney sets them ablaze.  
But you can put a red-hot coal on Rex Flintkote Roofing, and it won't ignite it.  
That's pretty positive proof that Rex Flintkote Roofing won't catch fire.  
The sun soon warps shingles and softens tar-roofing.  
Rains and snows soon rot those same shingles and soon soak through the tar-roofing.  
Winds and storms play havoc with both these kinds of roofing, and with tin-roofing, too.  
But nothing of the sort can happen to Rex Flintkote Roofing.

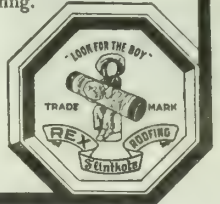
# REX

FLINTKOTE  
ROOFING

In the heaviest downpour, not a bit of moisture will penetrate it. You can test its water-proof qualities by putting the sample which we'll send you under the faucet or pump-spout and let the water run as long as you like.  
The sun won't soften it or cause it to run, as tar does. It won't crack in cold weather nor curl in warm weather.  
It lays absolutely flat and tight, hence winds and storms can't blow it loose.  
Because water, weather and wear-proof, it will outlast any other known roofing material.  
And it's easiest to put on—goes down like a carpet—any man with a hammer can lay it. It saves much of the expense of laying other roofing.  
If you'll write us we'll send you free samples to test. Also an interesting book about roofing.

"Be sure to 'Look for the Boy.'"

It is absolutely water and weather-proof under all conditions.  
J. A. & W. Bird & Co. 91 India St. Boston, Mass.  
Pacific Coast Agents, W. P. Fuller & Co.  
San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.



ready gone forward. The walnut crop is now being gathered, and the first lots will be in this market in a few days. The new crop has been very well received at the prices fixed. It has been said that the crop will turn out shorter than was expected, but this is not believed by local packers.

Almonds, Nonpareils	11½ @ 12c
I X L	10½ @ 11c
Ne Plus Ultra	10 c
Drakes	9½ c
Languedoc	9 c
Hardshell	— c
Walnuts, Softshell No. 1	13 c
Softshell, No. 2	10 c

NEW CROP.

Softshell, No. 1	12½ c
Softshell, No. 2	8½ c
Hardshells	less ½ c
California Chestnuts	20 c

HONEY.

Prices quoted by the packers here are steady to firm as formerly given. Small lots are still coming forward from the growers, and the demand is fair, with considerable of the better grades moving East.

Water White, Comb lb.	16 @ 17c
White	15c
Water-white, extracted	8 @ 8½ c
Light Amber	7 @ 7½ c
Dark Amber	5½ @ 5½ c
Candied	5½ @ 5½ c

HOPS.

Heavy sales of hops are reported in Oregon, the movement last Saturday amounting to about 4000 bales, and stocks in growers' hands have been well cleaned up. The California market has not yet developed much activity, though some fairly large lots were sold some time ago. The quotations given below are offered for the stock now held, but most of the growers are holding for better figures.

Hops, per lb.	7 @ 9 c
---------------	---------

WOOL.

There is a little more movement in this market, and several rather large lots have been disposed of during the last week or two. The prices, however, remain low, and the buying interest is by no means active.

Humboldt, year's staple	15 @ 18 c
San Joaquin	7 @ 9 c
Northern, Mountain, free	6 @ 8 c
Southern Coast	6 @ 8 c
Nevada	9 @ 12 c
Oregon	8 @ 16½ c

MEAT.

Both beef and mutton are in ample supply, and the market is quiet, with a weaker feeling on these lines. Dressed steers are lower. Small veal and lamb are also weak. Hogs are plentiful, but the prices are steady, and some pork is being packed by the local houses.

Beef: Steers, per lb.	6½ @ 6½ c
Cows	5 @ 6 c
Heifers	5 @ 6 c
Veal: Large	6 @ 7½ c
Small	8 @ 9 c
Mutton: Wethers	7 @ 8 c
Ewes	6½ @ 7 c
Lambs	8½ @ 9½ c
Hogs, dressed	8 @ 9½ c

LIVESTOCK

Steers, No. 1	3½ @ 4 c
No. 2	3½ c
No. 3	2 @ 3 c
Cows and Heifers, No. 1	3 @ 3½ c
No. 2	2½ c
Bulls and Stags	1½ @ 1½ c
Calves, Light	4½ @ 4½ c
Medium	4 c
Heavy	3½ c
Sheep, Wethers	3½ c
Ewes	3½ c
Lambs, lb.	4 @ 4½ c
Hogs, 100 to 150 lbs	6 c
150 to 250 lbs	6½ c
250 to 325 lb.	5½ @ 5½ c
Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.	

The government crop report for October 1 shows that the oat crop for the country will be 789,161,000 bushels, as compared with 754,443,000 for 1907. The barley crop will be 167,242,000 bushels, as compared with 153,557,000 last year. Corn is estimated at 78.8 per cent in condition, as compared with 78 per cent a year ago. The total production of spring and winter wheat is about 659,030,000 bushels, compared with 634,087,000 bushels for 1907. The quality of all wheat is 89.4, compared with 89.9 last year.

### SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Oct. 13, 1908.—The fellow who predicted a better citrus market for October certainly made a hit all right. Both oranges and lemons are on the rise and the best prices since June are being realized. This is particularly true of lemons. At the New York auction on Monday of this week, the fancy brands from the Limoniera groves at Santa Paula brought over \$6 a box and in Philadelphia on the same day some Santa Barbara lemons shipped by the Crocker-Sperry Co. sold for between \$4 and \$5. For Eastern auction market and for this time of the year, these prices were very high and will probably cause a rush for those markets and thus bring Western prices up on par with those of the East. The fact that the Sicily stock is now about done and that what is left is of very poor quality is the reason for this rise.

Oranges are getting scarce and prices are going up. The auction offerings are light and closely cleaned up after every sale. This is always a good sign, as a light demand always sends large quantities of fruit to auction points. An Eastern man wiring to his representatives out here says that a good grade of extra choice fruit of desirable sizes should bring \$5 a box if delivered at once.

There are probably 50 cars of fruit still left in California and not over 100 rolling unsold. It will only be a matter of a very few days now when all of this stock will have left the State. The Exchange reports 25 cars and that they will all go out this week. C. C. Chapman of Fullerton has 17 cars, Benchley Fruit Co. of the same place 6 cars and E. E. Wilson of Tustin 5 cars. There may be a few scattering cars outside of this estimate, but they will be very few.

There has been shipped to date, 24,442 cars of oranges and 4,709 cars of lemons. To same date last year, 23,970 cars of oranges and 3,393 cars of lemons had gone forward.

E. J. Thompson, recently of Washington, is trying to organize a company to erect a milk condensing plant at Fresno.

## PIPE

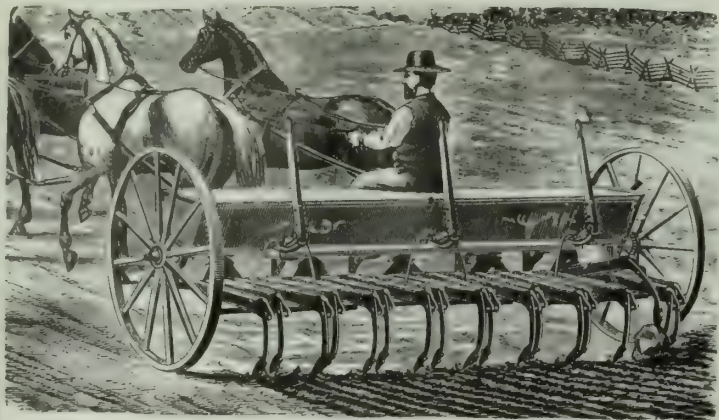
PRICE LIST.

Second Hand Pipe—Merchantable Lengths. Standard Threads and New Standard Couplings. Dipped in a solution of hot Asphaltum, maintained at a Temperature of over 300 Degrees. Closely Inspected and fully Guaranteed. All prices F.O.B., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1 inch	.84 lb.	\$2.50
1½ "	1.12 "	3.85
2 "	1.67 "	4.50
2½ "	2.24 "	6.25
3 "	2.68 "	7.25
4 "	3.61 "	10.00
5 "	5.74 "	16.00
6 "	7.54 "	19.75
8 "	10.66 "	30.00
10 "	14.50 "	42.50
12 "	18.76 "	50.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.





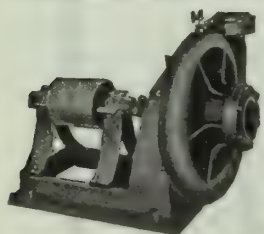
THE GENUINE GORHAM SEEDER AND CULTIVATOR

## Something New? No

USED WITH UNQUALIFIED SUCCESS HERE  
FOR 30 YEARS

There is nothing like it for hilly lands, summer fallowed lands, for seeding in the winds. The seed is evenly distributed in the quantity you measure and you get RESULTS. Prices are lower than ever. Write

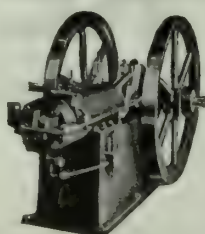
**THE H. C. SHAW CO., Stockton, Cal.**



**Gould's Centrifugal Pump**  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust.



**Stover Gasoline Engines**  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

**PUMPS FOR EVERY SERVICE AND USE.**

### WOODIN & LITTLE PUMP HOUSE

70-72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines. Wind Mills. Tanks. Pipe. Pipe Fittings. Send for Catalogue.

TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

### SOME RATES:

Sioux City	-	-	\$31.95	New Orleans	-	-	\$35.50
Council Bluffs	-	-	30.00	Peoria	-	-	36.75
Omaha	-	-	30.00	Pittsburg	-	-	47.00
St. Joseph	-	-	30.00	Memphis	-	-	36.70
Kansas City	-	-	30.00	Bloomington	-	-	36.75
Leavenworth	-	-	30.00	St. Paul	-	-	36.75
Denver	-	-	30.00	Minneapolis	-	-	36.75
Houston	-	-	30.00	Chicago	-	-	38.00
St. Louis	-	-	35.50	New York	-	-	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes: Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

# Southern Pacific

## REX Lime and Sulphur Solution For Fruit Spray and Stock Dip.

This solution is guaranteed, when diluted according to directions for the dipping of Sheep and Cattle, to contain not to exceed one per cent of Lime (CaO), and not less than two per cent of Sulphur, combined in the form of Calcium Sulphides, and made according to Government formula.

The Department of Agriculture at Washington, D. C., has authorized the use of REX for Sheep Scab and Cattle Mange in the proportions of 1 gallon of REX to 15 gallons of water, making 800 gallons of Spray out of every barrel. Full directions for its use on every barrel. Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

Prepared by THE REX COMPANY, Omaha, Neb.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

### Mococo Superphosphate

Land FERTILIZED with Mococo Superphosphate yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO



WINE TANK.

### Tanks

WINDELER'S PLANING MILL  
AND COOPERAGE  
GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

144-154 Berry St.

### Tanks



WATER TANK.

## WOOD PIPE

Made from California Redwood  
or Selected Washington Douglas  
Yellow Fir.

### National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.

T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO CALIFORNIA.

"THE OLD RELIABLE"

### DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds  
for New York.  
937 Pacific Bldg., Fourth and Market Sts  
San Francisco.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 17.

SAN FRANCISCO, SATURDAY, OCTOBER 24, 1908.

Thirty-eighth Year.

## The Orange Grower's Troubles.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

During the past few years there has developed a condition among the older orange groves that calls for comment, as it is worrying the owners. The trouble referred to is the lessened crops on most of the more mature trees which has been

nation to attribute a light crop to the last mild winter of 1907-08 and the even weather of the spring and early summer, which seemed just suited to the steadying of the tree to give it a chance to firmly set its fruit. The theories and speculations put forward are as numerous as the theorists, and yet most of them have some basis of fact, except those that are merely the conjecturing of fertile brains. So puzzled are many of our most thoughtful growers that they feel even 20 years' experience has left them groping in the dark. Twenty years of experience in most trades

tilizing and pruning. These all refer to full grown and mature trees, and comprise the practical work of production on irrigated lands. They might perhaps be called a conglomerate art, so intimately are they connected. A careful study of these four or five operations among the citrus growers of southern California shows that there is no settled method applying to them. There have been periods during which deep cultivation was the prevailing method, followed by periods of shallow cultivation. During a period we find plowing a common practice, and again plowing

no longer in favor. A study of the soils submitted to these varying processes shows such a diversity in makeup that it is quite clear that there can be no hard and fast rule applicable to all of them. A study of the growers who direct or carry on the work discloses the fact that almost as a unit they recognize this, and the desire for information is freely expressed. They know many things of great importance gained by experience which has taught them some surface facts, but they are generally quite innocent of the information necessary to the application of the proved theories of science. The same reasoning applies to the irrigation, which is, in fact, so bound up with the cultivation that neither of these operations can be discussed without reference to the other.

### The Key to the Situation.—

The key to the situation is in the physical makeup of the soil. How can a man consider himself an irrigator, who does not know the amount of water his soil can hold, and the amount it should hold to permit of the free admixture of

air; or who does not know the power of his soil to handle water? How can a man satisfy himself as to his method of cultivation who does not know the actual depth of his loam? What does any man know about the needs of fertilization who has not carefully obtained the requisites of the soil as gauged by the soil conditions as shown for irrigation and cultivation, and who to this does not as well bring a knowledge of the soil ferments, the chemistry of plant food, and the life processes of the plant in acquiring food? The school of experience is a grand natural institution, but to avail ourselves of its valuable lessons we must plod through the primary studies of chemistry, soil physics, and plant physiology, as

(Continued on Page 262.)



A WASHINGTON NAVAL GROVE WITH A RECORD.

This grove comprises 10 acres, was planted in 1890, in a rich, decomposed granite soil, to second-size trees, and by reason of good care has proved a pronounced success. In 1892 the crop sold for \$80; in 1893 for \$635; in 1894 for \$2780; in 1895 for \$2840; in 1896 for \$4000; in 1897 for \$5300; in 1898 for \$4100 (this was the season of heavy wind storms, when the trees lost much of their fruit; in 1899 for \$5830; in 1900 for \$6000; in 1901 for \$6250; in 1902 for \$6100; in the years following exact data is not available, but in the rough the returns averaged from \$6000 to \$7000 annually.

noticeable in seedling and sweets orchards for the past six year and even longer, but has only been strikingly noticed in the navel orchards for about three years. As is usual in such cases, it was first set down to alleged changing climatic conditions and to more or less inclement weather supposed to prevail at critical seasons. The quantity and kind of fertilizer has been the subject of many labored explanations, which have proved unsatisfactory when the theories were tested by facts in practice. Old age has been urged by some as the probable solution of the puzzle, though rather strongly contradicted by the history of the orange tree. The cover crop has come in for its share of abuse, perhaps because it is a comparatively recent innovation. It requires a pretty vivid imagi-

or lines of business is sufficient to make an intelligent man feel like a master of his calling, but the orange grower seems but finding out the lines for his study when he has spent an ordinary business life at his work. But, after all, there is no reason to despair.

**Several Arts Involved.**—It is true that the study of orange growing embraces the theory and practice of many arts and sciences. None of the arts are perfect, and as science only admits perfected theory and practice, and refuses to endorse anything upon which doubt rests, the fund of reliable information is limited. Passing by the art of the nurseryman and budder, we find the four or five important arts in citrus culture in California are irrigation, cultivation, loaming, fer-



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor

FRANK HONEYWELL - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., October 20, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	4.17	4.88	2.94
Red Bluff.....	.07	.07	1.74
Sacramento.....	.18	.23	.98
Mt. Tamalpais.....	.79	1.51	1.21
San Francisco.....	.48	.69	1.01
San Jose .....	.14	.23	1.00
Fresno .....	.02	.18	.68
Independence.....	.04	1.60	.64
San Luis Obispo.....	.60	1.44	2.76
Los Angeles.....	.25	1.55	.44
San Diego.....	.15	.99	.36

## The Week.

Getting a rain out of the teeth of a north wind is a phenomenon which those who delight in prophecy on the basis of the unusual should not overlook. It may serve as a ruling factor in contracts with Hatfield, and is probably of such substance as weather-dreams are made of. One can easily turn it into prognostications of parching drouth or drowning wet, as his taste or interest inclines: it is, in fact, richly Delphian in its possibilities. As we understand it, the rain which covered the upper coast, the bay district, with interior extensions through Carquinez straits to the central region of the State, was due to the fact that a little, lively low came upon the northwest coast, and was waltzed around again Willie by the norther until it became high enough to lose itself in the general pressure prevailing—just as a stunning city girl may blow into a country dance, cause a few tears from neglected rural belles, and then cease to attract attention, as the superior durability and goodness of rural beauty reasserts itself. Some have thought that the little low was drawn into the crushing embrace of the norther by the tremendous uprise of hot air due to presidential campaign oratory in the Mississippi Valley, but we dismiss this theory as we do do not find any reference to it in the official weather reports. We are forced to the conclusion that the short-lived storm does not really mean anything except a little water—not enough to do either good or ill, agriculturally speaking, but still perhaps rather good than ill, because it may help some with a start at fall gardening, and possibly some field work on land which had been summer worked and was therefore ready to take deeply whatever moisture fell upon it, and possibly gave a start at plowing to open the surface for better reception of later rains. The re-assertion of dry northerly winds quickly took from the soil most of the surprise which the unusual experience brought to it.

The short courses of instruction at the University Farm are advancing successfully. The dairy

school, the longest of the set, naturally forms a background of continued activity, which sustains the shorter, special subjects which cover from one to three weeks. Last week the poultry husbandry course was to the fore, and 24 young and old literally lived with the hens for eight days. There were instructors on poultry breeding and judging, feeding and housing, incubating and brooding, etc. Two pupils who had taken poultry courses in Eastern States declared the California instruction more interesting and practical. It was, in fact, the actual doing of things, under supervision, and pupils will take home enough to keep them busy a year in improving their methods. Not only the marketing but the culinary aspect of birds was gone into, and it was natural that the pupils should follow their work into social lines and enjoy the fowls which they had boned and otherwise prepared, at a feasting reception in the Superintendent's cottage. When it comes to teaching pupils to eat their own products, it is bringing instruction down or up to a thoroughly practical basis. Let it be understood that University Farm instruction is not merely to talk about things, but to eat about them. The course in veterinary science and practice and in the animal industries generally, begins next week, and others will follow.

Although popular education in agriculture is rolling along pretty fast nowadays, the Southern Pacific Company proposes to accelerate it by free use of car wheels. After consultation with the officers of our two great universities, and with the State Horticultural Commissioner, the railway company has decided to put on the roads a special lecture and exhibition train to tour the State, as an object lesson for the farmers and land owners in general, to show what is being accomplished by modern scientific agriculture and all its kindred industries. The train will probably consist of an audience car, two cars of material for demonstration, and a living car for the lecturers, of whom there will probably be four from the agricultural department of the University of California and two from the State Horticultural Commission. It is expected that the train will be ready to start northward along the west side of the Sacramento valley on November 9 and return along the east side, including side runs to Oroville and to Colfax before finishing its nine days run. Then the train talkers will rest a few days, and the train will start upon another itinerary. It is expected to continue the work until all parts of the State are reached. This sort of car-wheels college has been very popular in other States, and has carried many suggestions and demonstrations of better work to many parts of the East and South.

All those who have doffed the coffee habit and donned dissipation in coffee substitutes may perhaps share part of the blame for the troubles the South American coffee growers now find themselves in. The way of it is very entertaining and instructive. Six years ago an enormous Brazilian coffee crop sent prices down below the cost of production, and Sao Paulo imposed a prohibitive tax to prevent the planting of new trees, but bumper crops followed one another, and in 1905 the harvest returned 20,000,000 bags, a surplus over the entire world's requirements of 3,000,000 bags. The Government of Sao Paulo attempted to continue its bluff by buying from its planters to corner the world's coffee supply, and now has on hand eight million bags of coffee, and is attempting to float a popular loan of \$75,000,000 to take care of its present accumulation. Experts say that this coffee corner is one of the most interesting and fool-

hardy financial experiments ever attempted. As viewed from this distance it looks comfortable. All the candidates for President have promised a full dinner pail, and Brazilian foolishness promises a full coffee cup at low rates for some time to come.

Pacific Coast cotton is still in the air. The Arizona Experiment Station is ginning experimental lots of cotton from different parts of the Territory, and the government experts declare the tests were a great success, both as regarding the quality of the Egyptian cotton grown there. California demonstrated the same thing for our cotton thirty years ago. It now remains for Arizona to show how cotton can be picked at a profit with the Western labor supply. That point is harder than the other.

Speaking of labor supplies reminds us of the Hindus, who have not altogether made themselves appreciated on the Pacific Coast. Perhaps they have done the best they can, but too many centuries of short rations have bred physical weakness and sharpened a point of view of life which does not require nerve. It will perhaps be a good thing all around if they move south to milder climes, where strength and nerve are not so highly esteemed as attributes of manhood. The Government of British Columbia has decided to move its whole Hindu contingent of 2000 persons to British Honduras, being authorized to foster the movement by the British Government. The report is that the Hindus are anxious to move, and the Imperial Government will assist in the cost of transporting them to their new home. Scores are not only out of work, but actually starving. Much suffering will result this winter if they are not moved. The present plan is to charter two ships to carry them to Panama and send them across the isthmus, thence to their destination.

The parcels post had a hard course at the Trans-Mississippi Congress in this city recently, although our old friend Edward Berwick of Monterey fought for it valiantly as usual. It strikes us that Mr. J. F. Callbreath, Jr., was right when he said, in a recent interview: "I believe that the coming of the parcels post is inevitable. No faction or force can prevent its one day being inaugurated in this country. If, as is claimed, it will in any way hurt some interests, then those interests should prepare to mitigate any injury it may perform. But they should realize that it must eventually come. For the time being I think it was best to let the matter go over until it is more clearly understood by the people of the country." That seems to be about the size of it, and that is the way with all things which are really progressive and in the public interest. They finally arrive.

That it does not matter to much in California what the time of the year is, if there is only moisture available, is shown again by the experience of Martin Lund, who is farming reclaimed land on Union island, near Stockton, and who harvested, the second week of October, from 10 acres, put in June 23 last, 183 sacks of first-class barley, going 115 pounds to the sack. Barley sown for feed from the last of July to the 6th of August gave two tons to the acre in hay. We can readily believe these reports, for the writer, upon some land in his charge on the same island in 1894, harvested a good yield of flaxseed in October from volunteer sowing from the first crop, which was harvested in June. The autumn is a good growing season, when the moisture is in the land.



## Queries and Replies.

### How Big Is a Piece of Chalk?

To the Editor: I am desirous of learning how much land can be irrigated, approximately, with one artesian well. I hope to drill for one, to make the land, which is fine wheat land, more profitable to handle. Do you know if hogs can be profitably raised in the eastern part of San Luis Obispo county?—Owner, San Francisco.

The amount of land which you can irrigate from an artesian well depends entirely upon the amount of water which it will supply. Whether you are likely to secure an effective well would be determined by what others have done near by; otherwise the undertaking would be purely experimental on your part. You may not be able to get an artesian well at all in that district. Pumping from ordinary deep or shallow wells is quite practicable in irrigation, providing you can get wells which will yield water enough. The whole matter, you will see, reduces itself simply to a question as to whether you can get water, and that is a matter which has to be determined locally. Hogs can certainly be profitably grown in the district you mention, providing one understands the business and how to provide food for them cheaply. This also requires local inquiry. It is impossible to determine such a proposition as you advance without the local information, which can be best obtained by inquiry in the neighborhood, comparing your land and your knowledge and willingness to work with the same possessions of those whom you find successful. These things do not do themselves, and we have little confidence in our ability to answer such questions about them.

### To Prevent Green Scum on Stored Water.

To the Editor: Have you information bearing upon the prevention of the green scum or algae in water tanks or water troughs for horses? If you have a publication, kindly mail one to me, and if not, can you advise how the trouble may be prevented.—Stockman, Haywards.

Some very interesting researches published by the Bureau of Plant Industry of the United States Department of Agriculture indicate that bluestone can be used in reservoirs of drinking water, which will prevent the growth of green scum without rendering the water injurious to those who use it. Of course, one has to be very careful that blue-stone is not used in excess, for such excess would render the water dangerous. So little as one pound bluestone to one million gallons of water has been found sufficient to clear the water of scum, and such an amount is altogether safe, and its presence not detected in the use of the water. You can get detailed publications of this subject without expense by writing to Mr. B. T. Galloway, Chief of the Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C.

### Replanting Vineyard.

To the Editor: Can one plant out a young vineyard with success right after pulling out old vines, without any other crop in the meantime?—Reader, Woodland.

With reference to the immediate planting of young vines on the ground from which old vines were removed, it is true that resistant vineyards have been successfully started that way when old vines failed through the attacks of the phylloxera. If you have no phylloxera, there is no objection to immediate replanting with non-resistants, if the ground is in good heart and if special deep cultivation be done and old roots removed to the uttermost. Still, it would be a better proposition to

have other cultures intervene, especially something like alfalfa, which has a restorative action upon the soil.

### Experience with Speltz.

To the Editor: Please tell me what you think of speltz as grain feed for horses, and its full worth for hay. I sowed one pound the 6th of last March, which you see is very late for any kind of grain in this place, in a dry year like this. I like the looks of speltz. As for hay, if it has any nutritious qualities, it will be fine. I find it to be the greatest stooler of any grain: as high as 40 stems from one kernel, and all of the leaves stayed on till perfectly ripe. The stalk is fine and soft, and it looks as though it would make fine hay. It was rust-proof, for Sonora wheat, white and black oats rusted so they did not fill at all—they had good heads but no kernels—when growing in the same plot.—Dry Farmer, Riverside County.

We are glad to hear this about speltz. It is a member of the wheat family which keeps the chaff on the kernel and looks like barley. It is chiefly grown in the north of Europe and in the north tier of the United States, where something hardy against cold is required. Your experience shows that it is also hardy against drouth and rust. You should certainly sow all the seed you can save, and get a larger area of it, both for hay and for grain feeding. It is probably about as nutritious as barley for both purposes.

### Probably Thrips.

To the Editor: Can you give me any information in regard to the cause and control of brown scab on prunes. This trouble has become so bad with some of us as to cause serious difficulty in the sale of our prunes. Is it caused by thrips or can it be remedied by spraying?—Grower, Santa Clara.

You do not send specimens, and we can have no knowledge from sight. We believe, however, that it is pretty well settled that such disfigurement of the prunes as you describe is caused by the thrip. What to do with this pest has not yet been determined. Investigation is proceeding by the U. S. Department of Agriculture, under the direction of Mr. Dudley C. Moulton, who has an office in San Jose, and it would be well to consult him. As shown by his report to the State Board of Trade, as published in the PACIFIC RURAL PRESS of June 27, thrips are easily killed by spraying with tobacco sheep dip, properly diluted, about the time the fruit is setting.

### Paspalum Not Good for a Lawn.

To the Editor: You recently advised me to sow orchard grass for a rough lawn under old shade trees around a ranch home. Will paspalum do any good—as good as orchard grass? Where can I get the seed of paspalum to try it?—Farmer, Woodland.

Paspalum will not answer at all the same purpose as orchard grass. Even if it should grow well, it is a coarse, hummocky thing which would distress you every time you looked upon it. It seems to be, however, capable of yielding a large amount of green food in very hot places, if they are moist enough, and will endure alkali, but it makes a mass of coarse rubbish and dead stems which one would not think of tolerating except in a rough pasture. You can get the seed from our San Francisco seed advertisers.

### Wants the Red Muscat.

To the Editor: Can you inform me through your paper where I can get rooted vines of the Red Muscat variety of grapes, and what can you say as to its qualities as a shipping grape?—Regular Reader, Winters.

This grape was commended by Mr. Bioletti in his article on table grapes in the PACIFIC RURAL

PRESS of September 12. We do not know more of it than he has said. Our subscriber should look for its mention in the announcements which nurserymen are making in our advertising columns, and if not found, write to such advertisers for information about it. This is an answer to all similar questions.

### Dry Land Forage Plants.

To the Editor: Will you please send me the names of seeds of the best forage plants to be sown on dry hills with an altitude of from 600 to 1000 feet? Also the names of seeds that might be sown in a valley where the soil is more moist? I milk 20 cows, raise cattle, grain and corn, and would be very grateful for any helpful information along these lines.—Farmer, San Diego County.

We are not able to suggest to you any plant for the dry hills of which you speak, except perhaps winter growing plants, like burr clover, alfalfa, wild oats, rye, speltz, etc., which will make a growth during the rainy season and arrange for their own succession by seed, if they are given a chance to make seed in the latter part of the season. Over-stocking is usually the ruination of these lands. On the moist lands you speak of it is probable that Australian rye grass and orchard grass might retain their life during the dry season and give you good fall and winter growth. This depends entirely upon how dry the land becomes. On these moister lands you could undoubtedly get a good growth of beets, sown during the early part of the rainy season, and of sorghum, field squashes and pie melons, sown as soon as the danger of frost is over.

### Scalded Alfalfa.

To the Editor: I send a sample of alfalfa in order to learn the cause and remedy of its trouble. It appeared all right the last cutting, four weeks ago, and soon after it began to dry up, and became as this sample. It is in a streak about one hundred feet long and about twenty-five feet wide, while all around it seems all right.—Farmer, San Joaquin County.

The plant is simply dead, and apparently its death was due to sun heat upon the water, which was standing too long in that particular place after irrigation. You do not describe the conditions, so this may not be right, but the plant looks like what is called "sun scald," resulting in that way. If you find that there were no such conditions, and this was not a place where water stood after irrigation, then the soil should be examined for the occurrence of alkali. If you desire such a test, please take samples in accordance with the circular which you can get from the Experiment Station, and the station will make the alkali test for you.

### Probably Too Salt.

To the Editor: Will you be so kind as to tell me where I can find out what vegetation, large and small, will grow in an estero overflowed by ocean water when wind and tide combine, and by winter rains, but practically dry about four months each year.—Reader, Santa Barbara.

It is doubtful whether you can raise anything on the land which you mention, except marine vegetation. The presence of salt is exceedingly destructive to all our economic plants, and the probability is that there will be such a deposit of it during the overflow that the land would be too thoroughly impregnated to grow anything when it is free from the water. You could try some beets, or perhaps put in some asparagus roots, as soon as you can after the land comes above the water. These two plants are well known to be most tolerant of salt, but they would probably find too much of it.



## Horticulture.

### RELATION OF THE UNIVERSITY FARM TO THE HORTICULTURE OF THE STATE.

By Prof. W. T. CLARK, at the State Farmers' Institute at University Farm.

The relation that the University Farm and its activities bears to the horticulture of our State is undoubtedly a matter of great importance to all of us. We all surely feel that there is a relationship that is most vital to the well-being of the horticultural interests of California between this institution and those interests, and we are, I take it, willing to admit that this relationship is no less vital to the well-being of the University Farm than it is to our general work in horticulture. A short discussion, therefore, of what seems to the writer of paramount importance in this relationship will perhaps have its value at the present time. We believe that, while discussions of the character of the present one are, to be sure, but the expression of opinion of an individual, yet in a multiplicity of such expressions will finally be found the best solution of this matter of relationships. Primarily, then, the writer wishes to point out what is included under the term horticulture in the present paper. To do this we must perhaps broaden our conception of the meaning of the word and take in for the time being branches of horticulture that we have more or less unconsciously separated in our general practice. Doing this, the writer would have included under the general head of horticulture, olericulture, dealing with vegetables; arboriculture, dealing with trees; viticulture, dealing with vines, and pomology, or the knowledge of fruits, in its systematic, practical and commercial aspect. This broad view of the meaning of the term would at first seem to unnecessarily complicate the subject, yet the writer believes that it really simplifies matters. A knowledge of what a name means at least allows of no apprehension, and places us off-hand in a position to know what we are talking about.

We have first, then, to recognize the fact that horticulture in what is now known as the State of California is as old as our written history of the region. The Mission Fathers, religious zealots though they were, brought with them the growths of the vineyards and orchards and gardens of the home land and planted the fertile acres of the Mission lands with these growths, and so began the work of horticulture in this far western country. Evidences of their efforts remain as monuments to this day, and we even name some of the fruits and grapes grown here now in memorial of their introduction through these Missions. In a horticultural history dating thus back to the first occupancy of the country and continuing, urged to higher and better efforts by the lure of material rewards or by the untiring enthusiasm of the men who were looking for something better, we could naturally expect to find a history which told much of improvements made. And this has been the story here in California. We, today, speak with pardonable pride of Luther Burbank, and when the name is mentioned we see in our mind's eye a man who is ever diligently seeking for something better. We should not forget, however, that there is a long roll of honor of those who have wrought well in the same field. Our Logans, our Hatches, our Ethers, have with many another whose name perhaps has been lost, added to and are now adding to those things which the horticulturist considers better. The world, too, has been laid tribute, in the years that are past, and is now being laid tribute to the demands of our people. Our horticultural history is a story of continued advancement, of continued improvement, of continued additions and we today find ourselves heir to the results of the mighty efforts that have been made by those who have gone before.

Yet he who would say that the goal has been reached, who would say that naught now remains to be done save to rest and enjoy the results of all this effort would show himself unworthy the heritage that has come to him. It is only through the proper use of any faculty that we can hope to retain that faculty at its best and the problem before us today is how best to use our inheritance

of effort, how best to conserve and perpetuate the good that has come through the years that are past and how best to assist in satisfying the still present and insistent demand for improvement. It is right here, in the writer's opinion, that the true relationship of this University Farm to the horticulture of our State will be found. It may perhaps clarify our ideas still more if we attempt to formulate what ideal is before those of us who have directly to do with the horticultural work here. And as the first item I would place education. I believe that the educational mission of this institution is immensely important. I believe that here the educational work of our College of Agriculture of the University of California can and logically should be most ably supplemented. And this should be, and I may say, is being done now, and is being done at both ends of the line, too. Those of us who have studied this matter of agricultural education here in California have had to acknowledge inadequacy along certain lines. Today we do not have to make this acknowledgement. The University Farm school now is prepared to meet the demands made for educational work in horticulture (and for that matter in general agriculture) of a grade perhaps lower than university; it is also prepared to put the student of university standing in the way of doing good work investigation and is also prepared to give to both of these classes the best possible chance to put in practical operation the classroom instruction. The short course work, too, that is now offered is of such a character as will prove of immense value to the State. This, I take it, is our educational ideal—the training of men and women to do and know the why of this doing. This, then, is the first bond in the relationship of the University Farm to the horticulture of our State. There are other bonds of great importance. We have spoken of the heritage of effort that is ours, the accumulation of improvements that has come to us, and here this University Farm has a mission. It is this writer's belief that here in the future will be found the great testing ground, and when a horticultural product has been proved here and found good, here too will be the preserving place for that good thing. Here, then, is another band in the relationship.

Undoubtedly, as time goes on and investigators and students have worked out problems here, we will find that this University Farm will have the honor of introducing to the horticulture of the State some of those things which are better. And so we have a three-fold bond in the relationship.

First and foremost, education, practical and real, making a better citizen of the student for our State, and making the State better for the presence of this student in it.

Second, testing and conserving the work in improvement done by others, and this too is educational.

Third, producing, developing the thing that is better, and this too is educational.

So this three-fold bond proves to be really one, and one that must in the end prove of great value to our State.

When the man who has done great things shows us how he has accomplished his achievement, we would be dull indeed could we not in some measure apply his methods to our practice, and so the mission of your University Farm to the horticulture of California is one of education—making the best practice of the successful horticulturist the common practice of those who choose to come and learn.

### THE CHEROKEE ROSE IN CALIFORNIA.

The beauty of the single Cherokee rose in parts of California which are not particularly favorable to the success of its enemy, the powdery mildew of the rose, is the delight of the growers and the admiration of the tourist. In southern California favorable conditions for the foliage-thrift of the plant are widespread, but they are not confined to that part of the State for splendid exponents of thrift and vigor are found in other regions. Therefore our readers who are interested in the advancement of ornamentals will read with eagerness an excellent account of the Cherokee with reference to what is being done in cross-breeding with it by a distinguished authority, Mr. W. F. Falconer, in a recent issue of the Rural New Yorker. The work of a southern California plant breeder

in this line which is freely commended by Mr. Falconer gives his account much local interest:

**The Cherokee Rose.**—A very interesting rose species is *Rosa laevigata*, native to eastern China and the adjoining islands of Formosa and southern Japan. While unfortunately not hardy in the North, it has long run wild in our Southern States and certain of the Bahama Islands, where it is universally admired under the name of Cherokee rose. It is a vigorous growing and high climbing shrub, with shining evergreen foliage and slender branches, armed with probably the most viciously hooked pricklers of the genus. The flowers do not come in clusters, but are borne singly in the greatest profusion early in the year, and more sparingly at the end of summer. The color is pure white, rarely rose tinted, with conspicuous clustered yellow stamens. They range from three to four inches in diameter, and are justly ranked among the most attractive of wild rose blooms. The fruits or hips that follow are large and covered with bristles. The Cherokee rose is occasionally planted for defensive hedges in the South, as its cruel thorns are very effective in repelling intruders. In the North it is sometimes grown under glass, where it flourishes and blooms with great freedom. But it is in California—the land of horticultural surprises—that it appears to best advantage. Mr. Sidney Hockridge, Redlands, Cal., writes:

"Our soil is a red calcareous drift with perfect drainage, just suitable for strong-growing roses, while our hot summers ripen the tender wood of the Cherokee so that nowhere else in this country is there to be seen such profusion of bloom, and travelers tell me that the Cherokee rose plants noticed in the Japan Archipelago did not approach in capacity for bloom those we have in our vicinity."

Distinct and desirable as the species is, it has been little used for the production of new varieties. There is in commerce a fine variety known as Anemone, with very large, bright pink, single flowers more profusely borne over a longer period than those of the type. It first appeared in southern Europe, and is generally supposed to be a hybrid with a Tea rose. It is without doubt a lovely plant, much liked abroad for conservatory decoration and for outdoor culture where the climate permits. Mr. Hockridge says it blooms over a period of seven weeks in spring and again less freely in fall in his locality, the blooms coming in clusters, and not solitary as in the type. He regards it as a variety of great beauty, unfortunately still scarce in this country. Another reputed hybrid with the slender-growing and almost thornless *Rosa Banksiae* of China, is listed as *R. Fortuneana*. It has climbing prickly stems and large double yellow-white blooms, but it is so difficult to cultivate that it is seldom seen of late years.

**Authentic Cherokee Hybrids.**—Notwithstanding the vigorous growth of the Cherokee rose under favorable conditions, it appears difficult to produce artificial hybrids of sufficient vitality to grow to flowering size. We have made many crossings on the Rural grounds, using a typical plant for the seed parent, and fertilizing with pollen from many desirable garden roses and rose species. There is little difficulty in growing the resulting hybrid seedlings for a season or two, but even with the most careful glass-house treatment they decline and die before the blooming age is reached. We have propagated some of the most promising by cuttings, and have even budded them on the parent Cherokee, but without success, all perishing without bloom, though canes six feet long have been produced. The only exceptions are two plants of Cherokee x Frau Karl Druschki, a white hybrid perpetual, that are now entering their third year with some promise of continued growth. A very striking common feature of the hundred or more Cherokee hybrids we have grown is the entire disappearance of the characteristics of the mother plant. In no instance were the hooked prickles and narrow glossy foliage of Cherokee produced. The general type, even when pollen from the most diverse sorts was used, is dwarf and bushy, with slender straight thorns or spines and foliage of the character of the pollen parent. One exception was produced by pollen of Marshal Niel, the well known climbing yellow rose of northern greenhouses. This hybrid had hooked spines and intermediate foliage. Several



propagations of it were made, and buds inserted in various stocks, some growing strongly for a season or two, but all died without producing a flower, though one of the best plants was sent to a careful California grower for trial.

**The Silver Moon Rose.**—One marked success was gained, however, by pollinating *Rosa Wichuraiana* with Cherokee, resulting in a fine hardy garden rose. There is little of Cherokee evident in plant or foliage, but the great semi-double blooms, nearly four inches across, strongly indicate the pollen parent. The buds are cream yellow in color, but the flowers open pure white, displaying at midday the bright yellow stamens. The petals are of much substance, lasting well when the blooms are cut. The foliage is large and shining, and the strong prickles straight instead of hooked. The plant looks more like the average *Wichuraiana-multiflora* cross than one would expect, but there can be no doubt of the infusion of Cherokee blood. It has proved hardy in seven years' test without winter protection; is a strong grower, making canes five to eight feet in a season, and appears absolutely healthy. The variety will be introduced to commerce in a season or two by a prominent firm of rose dealers, under the name of Silver Moon. It was awarded a medal at the last exhibition of the National Rose Society.

**Mr. Hockridge's Hybrid.**—Mr. Hockridge has obtained under the favoring skies of California an authentic blend of Cherokee with *Gloire des Rosomanes*, a tall-growing red Remontant, introduced as far back as 1825. He describes the bloom as small, yellowish white, and disappointing, but with the possibility of paving the way for something better. He wonders where the yellow comes from when pollen of a red rose is used on the white Cherokee. As yellow also predominates in the immature blooms of Silver Moon, which came from using Cherokee pollen on a white-flowered species, as well as in *Rosa Fortuneana*, the presumed hybrid with the white Banksian rose, it would appear quite dominant in the immediate offspring of Cherokee. The yellow coloring of the stamens is intense in the type, and may spread to the corolla in the hybrid seedlings.

**Rosa Gigantea.**—Another species of much interest, but heretofore of limited horticultural value, is *Rosa gigantea* of upper Burma, in Asia. It is allied to the Tea rose, but forms an immense trailing or high climbing plant, producing sparingly when mature the largest wild roses known. They are single, white, rather flimsy in texture, and range from five to six inches in diameter. The species has occasionally bloomed in European greenhouses, but is so shy and needs so much space that it is not considered worth growing out of botanic gardens. There are plants in this country, but we have no account of their flowering. They would probably grow well in the Gulf region and southern California, as the species is known to be able to endure slight frosts. It has been established in the warmer portions of southern Europe, and is said to thrive especially well in Portugal.

## The Vineyard.

### BOTTLING GRAPE JUICE.

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

Unfermented grape juice put up in bottles has been produced in ever-increasing quantities for many years. Most that was produced formerly was unwholesome because of the use of antiseptics for its preservation; much that is produced now is defective in flavor and appearance, on account of an imperfect knowledge of the proper methods of preparation or an attempt to produce too cheaply.

**Principles.**—A short discussion of the principles involved and some hints for household use may be interesting. The principles are identical, whether the juice is put up on a small or on a large scale, the only difference being in the mechanical means of handling large or small quantities.

The problem has two main parts: (1) Sterilization to preserve the juice from fermentation, mould or other injurious influences, with as little change of its flavor as possible; and (2), clarification,

to make the juice perfectly and permanently clear.

**Sterilization.**—If the fresh juice is put in bottles or preserving jars and heated to the boiling point for half an hour, as is done in preserving fruit, it will keep. Its flavor, however, will be completely spoiled. If a suitable quantity of benzoic acid or similar antiseptic is put in the juice, it will keep perfectly and retain its flavor. Preserved in this way, however, it is unwholesome, and contrary to the pure-food laws.

The only legitimate way is by the proper use of heat. If the heat is too great, as above, the flavor is spoiled; if too low, fermentation will occur. It has been found that heating in a closed bottle to 175 degrees Fahrenheit for five minutes will in most cases kill all mould and yeast spores, and therefore preserve the juice, so long as the bottle is not opened. If this heating is repeated one or two days later, keeping is assured.

The more acid the juice, the lower the temperature that will preserve it. A fairly acid juice is also more palatable. Grapes of full acidity are therefore most suitable for this purpose.

The flavor is very slightly injured at this temperature of 175 degrees Fahrenheit, but if much exceeded the juice acquires a caramel or jam taste. Much depends on the care in heating. It is quite possible to injure the flavor by heating some parts of the juice to too high a temperature, though the whole amount may not rise above 175 degrees. On the other hand, with proper care and precautions, it is quite possible to preserve the juice at 160 degrees, or even lower, with a corresponding improvement in flavor.

The main points to be kept in mind in this respect are: (1) Slow, gradual and uniform heating. (2) Elimination of all spores, germs and impurities possible before heating. (3) As little exposure to the air as possible during the process.

If the heating is slow, the germs are exposed to its effects for a longer time, and a lower temperature is effective. If the heating is uniform, no part of the juice is heated too high, and the danger of caramelization is minimized.

The fewer germs there are present the more certain we can be of killing all of them. The presence of impurities, dust, particles of skins, pulp, stems, etc., during the heating injures the flavor. The presence of air dissolved in the juice during heating not only makes the sterilization less sure, but tends to give a disagreeable "rancio" or sherry taste.

**Clarification.**—The problem of clarification is more difficult than that of sterilization. It is impracticable to filter the fresh juice, on account of its viscid nature. It can be easily cleared with gelatine or eggs after heating, but this involves heating the cloudy juice, which, as shown, injures the flavor.

The only practical and suitable method for the first clearing is by settling and "racking," or decantation.

**Separation of Juice.**—Use sound, clean, moderately ripe, acid grapes, containing about 20 per cent of sugar by the Balling test, and about 1 per cent of total acidity. This is a little less ripe than they are used for wine-making. Crush the grapes and press out the juice. This should go directly into a vat, cask or other vessel for settling.

**Settling or Defecation.**—The rapidity and completeness with which the impurities sink to the bottom varies very much in different cases. With some varieties of grapes, especially when they are very thoroughly crushed, so as to extract a little tannin out of the skins, the settling will be complete in 24 hours. Generally it takes longer, and some precautions must be taken to prevent fermentation before the settling is complete. The lower the temperature and the cleaner the grapes and utensils; the more slowly fermentation sets in. The grapes therefore should, if possible, be gathered and crushed when cold, and everything with which they or the juice come in contact should be thoroughly cleaned with hot water. These means alone will usually delay fermentation for three or four days.

In practice it is very difficult, however, to apply these means perfectly, and some way of hastening the settling or delaying the fermentation, or both, is necessary. The fermentation may be delayed by the use of sulphur. This may be

applied by burning a piece of "sulphur tape," such as is used in wineries, in the settling vessel before filling with juice. As much sulphur should be used as the air in the vessel will cause to burn. This is applicable only to closed vessels. A better method, which can be used for open vessels also, is to use a salt of sulphurous acid known as potassium meta bi-sulphite. This can be purchased in a pure form from reputable dealers in wine-makers' supplies. It adds nothing to the juice but a little sulphurous acid, and in the amounts recommended is absolutely harmless and imperceptible to the taste.

The amount of this salt to use is about  $\frac{1}{4}$  oz. to every 10 gallons of juice, a little more for very sweet juice in hot weather, a little less for acid juice in cool weather. In no case should more than  $\frac{1}{2}$  oz. be added, and much less than  $\frac{1}{4}$  oz. would do no good.

The juice of some grapes, even with all these precautions, will not clear rapidly enough. These may be helped by the addition of a little pure tannin. Only the very best tannin, free from impurities or odors of ether, should be employed. About  $\frac{1}{4}$  oz. for 10 gallons will be found usually sufficient.

The sulphite should be dissolved in the juice first, by placing it in the tub from which the juice is pumped to the settling vessel. The tannin can then be added after the vessel is full. The tannin may be dissolved a short while before using, in a little warm water. Both sulphide and tannin must be well mixed equally throughout all the juice to obtain the best results.

**First Heating.**—After the juice has settled for from one to three days, it should be perfectly clear, or, at most, very slightly cloudy. If it were bottled and sterilized at this stage it would in most cases become cloudy again, and in any case deposit a sediment of cream of tartar and other solid matters. For home use, however, it is perhaps best to bottle at this stage. The bottles should be well cleaned and sterilized with hot water or by soaking in a 2% solution of sulphuric acid for 24 hours, followed by rinsing in clear water. The corks also should be sterilized by steaming. As soon as the bottles are filled they should be placed in a heater or boiler filled with water, in such a way that no part of the bottle escapes a full heating. They should be raised to a temperature of 179 to 175 degrees Fahrenheit for five minutes, or to 160 to 165 degrees for 10 minutes, and then allowed to cool rapidly. This heating should be repeated two days later, or any time within a couple of weeks.

**Second Clearing.**—When made on a commercial scale the juice must be made perfectly and permanently bright. To accomplish this, a second settling for a considerable time is necessary. This settling may take place in closed bottles, carboys, jars, or barrels. The juice may be heated in the way described, or by passing through a continuous pasteurizer at 175 degrees Fahrenheit directly into the settling vessels. It will require several months for all the solid matters to be deposited, and the colder the juice can be kept, the more rapid and perfect is the settling.

**Second Heating.**—As soon as settling is complete the juice is ready for bottling. If it is not perfectly bright it must be filtered. The bottles are to be filled, corked and heated in the way already described, taking care not to exceed the temperature of the first heating. Two heatings in the bottle are necessary to insure the keeping of every bottle, but the second heating can be obviated by the following means: After the bottles have been through the first heating, stand them up in a warm room and leave them undisturbed for about one month. If at the end of that time no mould has formed on top of the juice or under the cork, the juice can be safely cased and shipped.

#### Outline of Method.

1. Pressing out the juice.
2. Clearing by settling, aided by cleanliness and cold, and, when necessary, by sulphite and tannin.
3. Heating to 170 to 175 degrees Fahrenheit.
4. Settling for two to four months in a cold place.
5. Bottling (after filtering, when necessary).
6. Heating to 165 to 170 degrees Fahrenheit.
7. Testing by standing in warm room.



## ORANGE GROWERS' TROUBLES.

(Continued from Page 257.)

without these the conclusions we draw from happenings about us are too frequently misleading. Pruning is, of course, a physiological study, as it must conform to the growing, feeding and reproducing powers of the tree and its roots. Commonly it has been asserted that pruning is not needed for orange trees, but, quite apart from the fine results obtained by intelligent pruning, the rule calling for the removal of non-bearing wood applies forcibly to such a rank growing evergreen as the orange tree, when grown for business purposes. Non-bearing wood in the orange tree is exemplified by long, up-reaching branches without bearing limbs or sprouts for several feet of their length, and which consequently bear fruit only at the ends, and which, as the tree grows old, more resemble secondary trunks than branches. Take one of these limbs averaging only four inches in diameter with a length of eight feet without branches from crotch to top, and figure the drain it must be on the nourishment of the tree. In the ordinary growing process of nature at least eight square feet of ring wood must be made on that limb each year, and with an evergreen tree this represents a startling drain upon the tree's resources. But it is not uncommon to find several such limbs in a tree, and both the diameter and length are but moderately stated. A very superficial study of the problem before us warrants a full investigation of the conditions in the leading practices of citrus fruit production, as it emphasizes the hit-or-miss theories upon which they rest. The object is to get at the truth, not to either set up or destroy any theories, but to show up bad practice and give reasons for what may be advocated. In preparing for this treatise of such a burning question a large number of orchards are now under examination to corroborate or dispose of the conclusions more or less briefly set forth.

**SOME SOIL CONDITIONS.**—It is well to adjust our minds to the fact that soils in arid and semi-arid climates lose their surface mulch very rapidly, by which is meant that the organic matter is practically burned out of the soil, leaving it mere mineral. As these soils are worked by methods familiar to men who come from humid climates, the burning out is extended to at least the extent of the working. To what extent we are suffering from the use of methods so unsuitable to our climatic conditions remains to be shown. Some types of soils suffer more than others by such methods, but all must be deteriorated by them, and if this is found to be a correct conclusion, a method of renewal as well as a permanent plan of keeping fertility must be found.

The most striking condition noticeable in the average grove is the dearth of surface loam. On very few soils under citrus culture can surface loam be dispensed with, as nearly all soils will bake, or if so cultivated as to avoid baking, they dry out so deeply that the tree roots suffer. Many growers do not seem to realize that the top soil for from three to five inches must be loamed by the addition of vegetable matter to keep it soft and friable, and so that it will act as a mulch blanket to conserve the water and food below. If the soil at the surface is of the same texture as the soil beneath during the summer months, a continuous set of capillary tubes will form, which rapidly carry the water to the surface to be evaporated by the sun and wind. It then takes a very rich loam to prevent a hardening of the soil into a sort of hardpan. The true idea of a surface mulch is that the top few inches of the soil is made so friable by the use of vegetable matter that it is easily pulverized and will not cohere and get hard; that it shall be soft, to make a protecting blanket, and that it shall be of so different a texture from the soil beneath that the capillary tubes will not readily join. This is the ideal condition which, when maintained, greatly simplifies the other cultural operations of an orchard. It is not practical to create such a soil mulch condition with the use of the plow, or with cultivator teeth that lift the soil from below to the top, but it is with tools that chop up the organic matter and pulverize the soil by stirring.

**CULTIVATION FOR MULCH.**—Before discussing the means to be used to obtain such a mulch as described, the matter of the cultivation to maintain it is worthy of most earnest consideration. Even

with the most perfectly ideal mulch it is not practical nor economical to depend upon one thorough cultivation after irrigation to maintain a mulch for from four to six weeks. A cultivator or harrow with a stirring depth of about four inches should be worked in the mulch every week or ten days, partly to prevent any cohesion of the under surface of the blanket with the moist soil below, and partly to break up any air flumes or passages which may let heat down through the mulch. Always remember that the best heat of the soil is got by combustion of organic matter in it, not by the introduction of hot air from above. There must, of course, be a mixture of air in the soil, and that is the reason why we cannot dispense with a rather deep cultivation just following an irrigation on most soils, to open them up to the penetration of air, which is pretty thoroughly driven out of them by our systems of surface irrigation, the water displacing the air as it goes in. It will be readily observed, however, that this does not need a lifting tooth, but rather a stirring tooth, for the deep cultivator as well as for the mulch maker to follow. Apart altogether from the cost of water, the necessity of it is so great to the tree and fruit that the conservation of moisture in the soil is business economy. Without the water in continuous supply, so that the tree can get all that it needs at all times, the life functions of the plant must often be retarded, and even temporarily stopped. This may result in loss of fruit as well as failure to fruit, but as well it affects the carrying quality of the fruit so that it may not market to the best advantage. When we consider that it needs the pumping of at least a good barrel of water through the tree to produce only one pound of dry matter, the overwhelming importance of water in constant supply while a tree is growing, or fruit is forming and growing, comes to us as a most forcible factor in the production of crops. As also on the supply of water hinges the whole question of fertilization, again there is shown an economical basis for the conservation of water in the soil so as to supply continuous moisture to the surface roots of the tree. If the tree is not well supplied with surface feeding roots the attempts to supply fertilizers will result in disappointment and uncertainty in any case, and the valuable material will be at least partially wasted. To get full or even positive results from fertilizers the surface soil below the mulch must be an organized loam, kept constantly moist. Some soils are quite easily worked into ideal conditions, while many require great care and attention. Some soils can be brought to the highest conditions for efficiency, while others respond to treatment slowly, and there are extreme cases where the desired condition seems impossible of accomplishment.

**CONDITIONS BENEATH THE MULCH.**—So far we have been dealing with a condition for the top few inches of the soil, and the question next in order, and to which attention is naturally drawn, is, what should be the condition directly beneath the mulch. It is not practical nor necessary to loam the soil beneath to such a degree as the surface mulch, but it must be loamed. The natural depth of the loam soil varies greatly, and is even as deep in some lands as three feet and more. This is not the average condition, and one foot of loam is a deep loam soil. This loam is destroyed in at least two ways that we can all readily understand. When free circulation of air and water are brought to the soil, and deep cultivation is practiced, the organic matter is destroyed and passes off as gases. If the soil is deeply plowed the destruction is hastened as the soil is lifted up to the air and sunshine. Thus we see that our cultural operations entail destruction of a precious ingredient of our soil, and which makes it capable of production of food plants. The other action of humus destruction is the result of plant feeding, not only directly from the organic compounds of the loam, but as well from the humates which are formed from the action of humic acids upon the soil minerals. Owing to the loam eating results of the soil culture, the loam of the soil is weakened so that even if it was strong enough in the virgin state for practical agriculture, its life as such has a limit, no matter how clever our soil methods are. It therefore becomes necessary for the grower to constantly renew his loam as deeply as possible, or rather, as practical, as the sure destruction of it decreases the fertility, but in the orange tree it is more characterized by meagre fruiting than lessened tree growth, but both are affected. In a clay soil or one

containing much silt, the wastage of organic matter from the loam is followed by a hardening of the soil, which gradually becomes more and more difficult to saturate, until a dry pan is formed, at from one to two feet below the surface. This once formed makes it more difficult to keep up the moisture content and fertility of the soil, as the orange tree roots will not continue to put forth the countless necessary feeders in a hard soil. Some classes of orange stock have more pronounced tap roots than others, and need them as the root system is characterized by the seed stock and not by the bud. If the condition of hardening extends up to the tap root and clutches it, the tree will not flourish until by some method it is relieved, and dieback and even an aggravated form of chronic gum disease, characterized by scaling of the bark, will develop in the tree. Not only does the loam soil in itself provide mineral food for the plant which it cannot get from raw earth, and some of the organic food of the plant, but a condition of loam is necessary to enable the plant to put forth sufficient feeders to attack and utilize the fertilizer materials we may put at its disposal. Without a condition of loam our applied fertilizers lay dead in the soil, and not only is our money wasted, but we are led to condemn a useful practice, and it is not uncommon in such instances to hear growers brand as frauds the choicest of fertilizer material.

**OBTAINING A MULCH AND LOAMING.**—As it may be accepted as a fully demonstrated fact that as deep a loam as practical is necessary to the production of fruit, which can be readily proved by scraping the full depth of the loam off any soil, the method of procuring it or of maintaining it is a practical question which every grower must face. The farmer who looks upon the turning plow as a necessary tool in the handling of soil instinctively turns to plowing as the natural method of carrying manure or cover crop refuse into his soil to decompose and form loam with the soil mineral earth. But the use of the plow is too severe a root pruning operation for practical orchard work, as that tool cuts all the tree roots out of the soil to its depth. If the soil has inherent loam of two feet or more, the damage to the producing power of the tree is less than if the soil is an ordinary loam of 8 to 12 inches deep. In the shallow loam the surface fine rooting system from the lateral roots is entirely cut out by leep plowing, and the feeding power of the tree practically destroyed for a time, except so far as the tap root works, which, being mostly in subsoil, gets very little nourishment beyond water. We must see then that ordinary farming methods which are applicable to grain fields and other annual crops cannot be safely applied to orchard work. This fault of the plow was recognized by thoughtful orchardists at least thirty-five years ago, to the writer's knowledge, but never seems to have taken root in the mind of the average grower, though during the past few years many more growers are condemning the use of the plow as an orchard tool.

With the general use of the cover or mulch crop, the question of mulch and loam seems solved. If a plant is used for the mulch crop that will make great numbers of down-reaching roots, like the hairy roots resulting from the vetches, the original native depth of the loam will be renewed and maintained by leaving the vetch roots in the soil to decompose and form loam. Gradually the depth of the loam can be increased, as each succeeding crop will penetrate a little deeper. The writer has demonstrated this on at least three distinct types of soil, but has seen the most forcible demonstration of it in a very heavy red clay on the high lands at Redlands, California. This rooting system of the vetches obviates the necessity of plowing, and meets the whole need of the soil for humus forming mate-

rial as perfectly as it can be done artificially with the knowledge we have today. The deep roots of the vetch do form humus, because they are beyond an excess of air which would otherwise soon assist them to rapid decay and allow them to pass off as gasses. Some soils will not stand as much organic matter as others, because they are low in lime content, and in such soils either lime should be added or the deep rooting mulch crop should be alternated with a shallow rooting crop, as the mulch for the surface few inches is of too great advantage to dispense with it. As it is not good orchard practice to allow a cover crop to grow to maturity, or to get into a condition of tough, woody stalks, it should be mulched in while still soft and succulent. This can be splendidly done with the disc cultivator, working it over a few times until it is thoroughly incorporated with the soil, when it can be harrowed to a pulverized mulch. An examination of orchards shows that the theory of the practice here described has not been understood or heeded, and as a result the trees are not responding to the generous watering and fertilizing which is being lavished upon them. Many orchards have arrived at the critical soil condition resulting from imperfect practices, which must sooner or later be the fate of all unless the work is modified to conform with natural law. These are but first principles in soil work which must receive attention, and which if neglected result in a declining soil condition. It does not sum up the whole trouble, but is presented as the root of the evil, which is widespread now to such an extent as to cause the mournful cry, "After over twenty years' experience we seem more in the dark than ever." Growers are too apt to follow a temporarily successful leader, and even change their methods without studying cause as well as effect. They suggest the story of Jack the fiddler. Jack was found by the Sage one wet day sitting in the only dry corner of his hut, fiddling gaily. "Why do you not mend your roof?" said the Sage. "Too wet," said Jack. "Why do you not mend it when the weather is fine?" said the Sage. "It does not need mending then," promptly returned Jack. And so the grower who has a good crop this season thinks his methods are all right, and makes no preparation for troubles ahead, while the grower whose crops are failing sits in despair or fiddles to keep up courage.

Further details of this subject will be presented in subsequent issues.

## THE "SOUTH BEND"



THE BEST CHILLED PLOW IN THE WORLD.

The No. 15, as illustrated above, is intended for three horses, although it is occasionally used with two heavy horses. It is especially adapted for plowing heavy soil. Its great furrow capacity—13 to 15 inches—its steady running and turning qualities, recommend it to the farmer who wishes to accomplish a large amount of work with the least wear and tear on man and team. The No. 15, like all of the South Bend Plows, is built of the best material obtainable, and by competent mechanics. For the No. 15 we can furnish either the Chilled Plain or Chilled Slip Nose Shares, and Wheels, Joints and Rolling Coulters when required. The weight of the No. 15 is 128 pounds.

Write us for Catalogue describing the complete South Bend Line of Plows.

General Agents,  
PACIFIC IMPLEMENT COMPANY,  
135 Kansas St. San Francisco.

# 1 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman, Petaluma, Cal.**



# TREES

SEASON 1908-9.

**ORDER NOW FOR FUTURE DELIVERY.**

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of **DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES** is more complete and better than ever.

We are sole propagators and disseminators of **LUTHER BURBANK'S NEW CREATIONS**. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## THE Superlative Raspberry

Orders booked now for 2-year-old plants for December delivery. Send in your name and address for my 1909 Catalogue.

**A. MITTING, SANTA CRUZ, CALIFORNIA.**

## Winegrowers, Take Notice

I am now receiving orders for

**GRAFTED VINES**

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

**CHICO NURSERY COMPANY**

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

**CHICO NURSERY COMPANY**

Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

Oranges of the new crop from Tulare county have already been started for market.

The output of the Atwater cannery for 1908 will be about 55,000 cans of fruit and vegetables.

During the past year Corona shipped 976 cars of citrus fruits—a big gain over previous years.

The citrus fair which was announced to be held at Oroville in a short time has been indefinitely postponed.

A single order calling for 75,000 apple, pear and cherry trees was recently placed with a Washington nursery from Medford, Oregon.

The wine grape growers around Lodi have been shipping to independent wineries, and are receiving \$10 per ton for their grapes.

The fruit shipments from Vacaville up to October 15, this year, will amount to 975 cars, as against 593 cars up to the same date last year.

J. T. Ritchey, who planted a half acre to Casaba melons on his ranch near Corona, is now marketing the crop, and expects to make \$500 off of it.

Florida is sending new crop oranges and grape-fruit to market, but the New York brokers claim that it is not ripe, and are putting the fruit in warming rooms to color it.

The pre-cooling plant at Newcastle is about completed. The machinery to equip it cost \$25,000. This is one of the largest plants on the Coast in the northern part of the State.

Arrangements are being made to have a special paper, on the shipping grape problem, read before the meeting of the State fruit growers, to be held in Sacramento the first week in December.

The Brawley Fruit Growers' Association held its annual meeting last week and elected officers for the following year. The association has \$9500 due it for melons from one of the commission firms it shipped to the past season.

A meeting of orange growers was held last week at Lindsay to discuss the best way of picking oranges the coming season. The almost unanimous opinion of the growers was that time work was preferable to piece work, owing to the better handling of fruit secured in this manner.

Five hundred growers, representing about 10,000 tons of raisins, met at Fresno last Saturday and agreed to put their fruit in a pool, to hold for 4 cents per pound. The price of 4 cents covers loose Thompsons, Sultanas, Malagas and Muscatels. A committee is to be appointed to have charge of the pool. Another meeting will be held October 24, at the same place, before which time it is hoped to have a large percentage of the crop signed up.

### AGRICULTURE.

Fifteen acres of rice grown in Glenn county the past season, and properly irrigated, has produced 30 sacks to the acre.

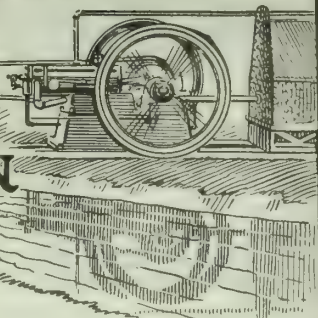
The E. C. Horst Co. shipped two carloads of hops from Wheatland last week to New York, being the first shipment from that point this year.

The Alameda Sugar Co. expects to have its plant at Alvarado in operation for several weeks yet. About 42,000 tons of beets will be run through this season.

A farmer on Union Island, near Stockton, has thrashed 183 sacks of barley, weighing 115 pounds to the sack, from 10 acres of land planted last June.

A big crop of popcorn is being harvested near Inglewood, in Los Angeles

## I. H. C. GASOLINE ENGINES AS AIDS TO IRRIGATION



Almost every farmer has a few acres of land that lie too high to be irrigated from his laterals. To flume or siphon the water to these few acres is not practicable on account of the expense. And yet to let this land lie idle means a big hole in the profits of the farm each season.

The most economical and satisfactory way to bring such waste lands under cultivation is to use the powerful I. H. C. gasoline engine to pump water upon them.

These engines pump water in large quantities.

They are operated at small expense.

They require but little attention.

The cost of running an I. H. C. engine during an irrigating season, including fuel and attendance, is a very small item compared with the value of the crop that will be produced.

Remember, the engine will be operated only a short time during the season. During the remainder of the year the engine is available for other farm work, such as running the cream separator or churn, sawing, grinding, cutting feed, etc.

And even while the engine is being run to irrigate the lands, the operator does not give it his whole time. He returns to it occasionally. He can devote practically all his time to looking after the head of water which the engine pumps.

The cost of the engine is only a fraction of the value of the reclaimed land. Its cost of operation for the season is only a fraction of the value of that season's crops.

When you buy an I. H. C. engine you have a power for pumping that is good for many years' service.

If you have land lying above the ditch, why will not an I. H. C. engine for pumping water be a wise investment for you?

Call and see the International local agent about it. He will supply you with catalogs and give you all information desired. Or, if you prefer, write direct to the nearest branch house.

WESTERN BRANCH HOUSES: Denver, Colo.; Portland, Ore.; Salt Lake City, Utah; Helena, Montana; Spokane, Wash.; San Francisco, Cal.

**INTERNATIONAL HARVESTER COMPANY OF AMERICA**

(Incorporated)

CHICAGO, U. S. A.

county. It is estimated the crop will net \$150 per acre.

The beet sugar crop of western Europe, owing to lack of rain, will be considerably short of last year. The total crop is estimated at six and a half million tons.

J. W. Humble, in his 15 acre orchard near Gridley, planted pumpkins between the rows. His crop will amount to over a hundred tons, for which he is offered \$3 per ton in the field.

O. H. Shumacher of Placentia, in Orange county, says that his sweet potatoes, as well as others in his locality, are badly affected with what is known as the black potato scale. Samples will be sent to the University for examination.

The sugar factory at Hamilton is signing contracts with farmers of the Sacramento valley for the 1909 crop, on the basis of \$5 per ton flat or \$4 per ton and 25 cents per ton in addition for each one per cent sugar above 13 per cent. Contracts with Yolo county farmers have already been made covering 700 acres.

### LIVE STOCK.

The Modesto creamery has been paying, during the last month, 3½ cents more for butter-fat than the San Francisco market price.

The Century Mercantile Co., of Berkeley, claims to have recently sold 1,000,000 pounds of wool, at prices ranging from 10 to 16 cents.

D. B. Thompson, dairyman near Turlock, claims that his milch cows paid him last year \$110 per head gross, and his net profits were \$50 per head.

The Imperial Valley Condensed Milk Co. has been organized and \$10,000 subscribed toward the erection of a plant to condense milk in that valley.

Miller & Lux are sending a lot of cattle from Modoc county to their ranches in the San Joaquin valley. The total number of cattle to be shipped is about 2400 head.

The Fountain City Creamery, located at

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

**EUCALYPTUS TREES,**

by the 1000 or 100,000; no stronger stock; grown in the open, without lath screen or shade; therefore hardened to all weather.

**GENERAL NURSERY STOCK**

**LEONARD COATES NURSERY CO., Inc.**

ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

**FOWLER NURSERY CO.,**  
Fowler, Cal.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$8 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
**J. B. WAGNER, Pasadena, Cal.**  
The Rhubarb and Berry Specialist. Dept. I.



Merced, was destroyed recently. Loss, about \$10,000; insurance, \$6000. The creamery will be rebuilt at once, and in the meantime will receive cream, which will be made into butter at the Ceres creamery.

Stock men who graze cattle and sheep in the Tahoe National Forest, numbering about 300, will hold a convention in Nevada City from November 12 and 13. At this meeting the allotment of the ranges to the men whose cattle and sheep graze on Government land will be made.

A. A. Bourke of Petaluma last week shipped 200 White Leghorn chickens to India. The fowls will be two months on the road. Special crates were prepared and feed was sent along with the chickens. This is the first time in history that chickens have been shipped such a distance.

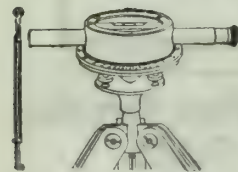
Mr. Robertson, while talking to a PACIFIC RURAL PRESS man last week, stated that the prospects for the Poultry and

#### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue

**POSITION WANTED**—By young married man, graduate agricultural college; experienced manager of dairy farm, five years' experience in dairy business. Wish to come west. Have small sum to invest in right place. E. E. Greenough, Rocky Ford, Colo.

#### BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.

Can be operated by anyone.

Price, including Telescope Tripod and Target Rod, \$15.00.

#### Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

#### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

**JOHNSON & MUSSER SEED CO.,**  
113 N. Main St., Los Angeles, Cal.

#### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

**SOUTHLAND NURSERIES—F. H. DISBROW, Prop.**  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520 Main 949.

#### SEED GRAIN BLACK and RED OATS, WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

**BRAY BROTHERS,** 220 Clay St., San Francisco, Cal.  
Buyers of Grain and Beans.

Members Merchants Exchange.  
Established in 1855. Correspondence invited

#### MAN, OH MAN!!

Why do you neglect your orchards when Warnock's Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**

Loomis, Cal.  
AGENTS WANTED.

Dog Show to be held at San Jose, from November 9 to 14, were very good for a big entry list. Geo. D. Holden of Minnesota, who judged the show last year, will again officiate in the same capacity at the coming show. The expectation is that there will be a thousand birds entered, and the new feature, of having the dog show in the same building, at the same time, will aid in attracting the attention of the public.

#### MISCELLANEOUS.

A Farmers' Institute will be held in Beaumont about December 1.

The Tulare Packing Co. is short of help and is advertising for women and girls.

A big eucalyptus association is planting 3000 acres in the northern part of Kern county, near Tulare lake.

It is stated that fully 1,500,000 eucalyptus trees will be planted in the Imperial valley the coming season.

The Gibson warehouse, near Woodland, containing over 800 tons of hay, was burned last week. Loss, about \$15,000.

Three miles of ditches are now being built, to carry water to irrigate 2000 acres of the Malarin ranch, near Fairview, in San Benito county.

The Marysville Democrat gives out the information that the woolen mills at that place, which have been closed down for some time, will be in operation January 1.

The grape-juice plant at Turlock is now running to its full capacity. The company has 75,000 gallons store-room, but will probably not use it all, owing to getting a late start.

A committee of five men from Gridley went to Lodi last Saturday, to inspect the grape-juice plant there, to learn what they could of its methods that they may use them in the erection of a plant at Gridley next year.

Monterey county furnishes the poison and the farmers must pay the freight and feed it to the squirrels. This was made compulsory by the board of supervisors, in an effort to rid that county of the squirrel pest.

The new weir of the Peoples' ditch, which will take water from Kings river, is about completed. This company has the right to 200 feet of Kings river water at this time of the year, which will take about all that the river contains.

The canning of asparagus has been about completed this season, the output this year being about 12½ per cent ahead of last year. One cannery at Sacramento put up forty cars of this vegetable, all of which was raised near that city.

The distillery at Agnew, in Santa Clara county, is making a fertilizer, called Pot-nit, from the refuse of the sugar factory. Seventy-five tons of the waste molasses will make from 16 to 17 tons of fertilizer, testing about 15 per cent potash and 4 per cent nitrogen.

The Lodi Herald states that the Japanese, who have been there in great numbers this season, have about all left, as their work is finished. It further states that, while the Japs will work cheaper than white help, yet their methods are so unsatisfactory that white grape pickers will be more largely employed the coming season.

The Fresno Republican states that over 30,000 acres of good land near there have been greatly damaged by water rising to the surface, bringing with it alkali. As the work of the Government in experimenting on draining lands and washing out the alkali there has been successful, it has been proposed to form a big drainage district to reclaim the 30,000 acres and also prevent other land from being damaged by the rise of water.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

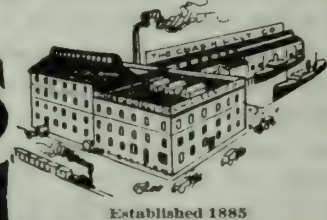
WRITE US

**SILVA & BERGTHOLDT CO.**  
Newcastle, Cal.

#### SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S BEST SEEDS**



Established 1885

Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

**THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.**

## Plants SEEDS BULBS Trees

**WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS**

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Quotations will be given prospective planters of Alfalfa, Clovers, or Grasses.

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

44 Jackson St. Also Market St. San Francisco, Cal.



## EUCALYPTUS

Growers of commercial and ornamental Eucalypti.  
**ERSTEIN & ERSTEIN,**  
Modesto Euc. Nursery  
Modesto, Cal.

Vignolo Euc. Co.,  
Anaheim, Cal.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
**T. W. JACKSON & CO.,** Temporary Address,  
42 Market St., San Francisco.

## IMPROVED BERRY PLANTS BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalog tells the rest.

**G. H. HOPKINS & SON**  
BURBANK, CAL.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

## Stickney Gasoline Engines ARE THE BEST

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine.

**SEND FOR FREE CATALOG**  
Stationery and Portable 1½ to 16 h.p.  
We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE



## Mistakes Cost Money

Hence the only way to avoid them is to be prepared. For instance when buying a separator examine it closely, especially the bowl and see if it is simple or complicated; heavy or light; suspended or supported?



All supported bowls are fed at the top, requiring complicated interiors to assist separation. They are not only top heavy, but hard to clean and handle—due to their complicated mechanism.

The three simple bowls on the right are

## TUBULARS

Their simplicity and lightness are evident at a glance—they are easy to clean and handle. The tubular bowl being suspended and bottom fed, necessitates but a simple smooth interior, because the milk passes but once through during the separation. To avoid separator mistakes, write for and read our catalog free.

**THE SHARPLES SEPARATOR CO.,**  
West Chester, Penna.  
Toronto, Can. San Francisco, Calif. Chicago, Ill.

## Live Stock and Dairy.

### TRUE TYPE OF THE HOLSTEIN.

By Mr. F. L. HOUGHTON, Secretary Holstein-Friesian Association of America.

Considerable public comment appearing in the agricultural papers upon the type of Holstein-Friesian cattle is very properly directing attention to the subject of the true type of the breed.

The breeder who for one moment, in his pursuit of higher fat percentage in the milk, forgets type, is doing incalculable damage to the future of the breed.

The true type of the breed is very accurately delineated in the scale of points. It is to be regretted that illustrations of typical specimens are not used to illustrate and emphasize this description.

Change of environment of this breed from the low lands of Holland is doubtless effecting a very slight change in the bony structure of the Holstein, tending toward a greater finish or refinement. Aside from this natural process, it is very doubtful whether any improvement can be made or should be attempted. The Holland type is the result of centuries of selection and environment, and it has distinguished these cattle in all parts of the world. With it has come the marvellous and profitable production or yield, the characteristic tendencies of powerful digestion and perfect assimilation of food. These characteristics, derived from the Holstein, have been important factors in the foundation stock of the Short-horn and Ayrshire breeds, and of many of the Continental offshoots.

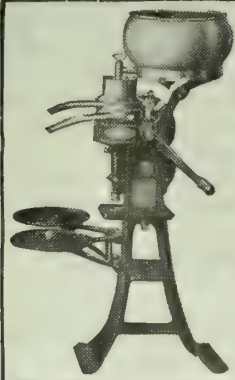
In America it was the Holland type that, by its productive power, directed the attention of agriculturists toward this breed, and it is safe to assert that an examination of the great majority of remarkable yields will show, to those having means of access to photographs or descriptions, the close adherence to the Holland type in all these wonderful animals. Large size in the Holstein is the first thing to impress the casual observer, and its importance should never be disregarded.

In defining pure bred Holstein cattle, this fact was duly set forth by the founders of the Herd-Book Association, in these words, which should never be forgotten, no matter what may be the yield in milk or its fat percentage, viz.: "Pure bred Holstein-Friesian shall be held to mean and refer to only those large, improved black and white cattle, etc." (Art. 4, Sec. 5, By-Laws of H.-F. A. of A.)

Scientific investigation in this country, particularly in Wisconsin, has confirmed the wisdom of the early breeders in thus defining the type of the breed as "large," for the large cow of any breed is uniformly more profitable.

An idea of the size of animals of this breed, at the time of Mr. Chenery's first importations, may be gained from the following quotation (Vol. 2, Holstein H.-B., folio 19):

"The bull, Van Tromp, imported in the womb of Texelaar, is now six years old, and his girth is 8 feet 5 inches; length,



## TIME TO BUY CREAM SEPARATORS NOW

There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

Likewise are the advantages of the superior DE LAVAL separators greatest over imitating separators when the milk is hard to separate and the weather cold and variable.

In every case a DE LAVAL separator, of suitable size, will surely at least save its cost between now and July 1st next, and go on returning 100% per year on the investment for twenty years to come.

The agricultural, and particularly the dairying, outlook was never brighter and more promising.

WHY NOT BUY NOW?

Send for Catalogue of 1908 Latest Improved Machines.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## U.S. CREAM SEPARATORS

Hold World's Record for clean skimming

Cavendish, Vt., Sept. 8, 1908.  
Since purchasing a U. S. separator one year ago, we have gained \$11.37 per cow over the water separator, from our herd of seven cows, though three of these are heifers and one cow had been milked two years.  
ALBERT S. EATON.

A saving of \$11.37 per cow in one year amounts with 7 cows to \$79.59 or within 41 cents of \$80, the price of a No. 6 U. S. separator.

Stop and ask yourself, "How much am I losing?" Perhaps not as much as Mr. Eaton, yet you may be losing even more.

You perhaps will say, "The calves and pigs must have something to eat. To be sure they have, but it is not policy to feed them butter fat at 32 cents a lb. when substitutes at one and two cents a pound are just as good."

You can't afford such robbery in your dairy, therefore send for Cat. No. 148 at once.

Address all letters to  
**Vermont Farm Machine Co., Bellows Falls, Vt., U. S. A.**  
Prompt Deliveries from 16 Warehouses in U. S. and Canada.

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide French Merino Sheep.  
Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
RAMS FOR SALE AT ALL TIMES  
P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.

## FOR SALE FOUR THOROUGHbred AYRSHIRE BULLS, Aged 12 to 20 Months.

If you don't want tuberculosis, breed the Ayrshires.  
**J. W. & J. D. McCORD,**  
Phone Red 123. Hanford, Cal.

## Horse Owners! Use



GOMBAULT'S  
**Caustic Balsam**

A Safe, Speedy, and Positive Cure  
The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.  
THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

**PACIFIC OIL & LEAD WORKS,** - - **SAN FRANCISCO, CAL.**  
**PORTLAND LINSEED OIL WORKS,** - - **PORTLAND, ORE.**

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short-horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

milking condition, at full age, they range in weight from 1000 to 1500 pounds."

With large size as the recognized predominant characteristic of the breed, aside from their beautiful black and white color markings, in perfectly defined patches or spots, the next general definition relates to the general conformation of the animal. There are three definite types, described as the milk and beef



form, the milk form, and the beef and milk form.

The average form of this breed, and that toward which conscientious breeders are directing their efforts to maintain and improve, is the milk and beef form.

Mr. S. Hoxie thus admirably refers to to milk and beef type of the breed: "It is especially strong in all vital particulars. The bones are fine compared with size, and the chine broad and strong compared with the high and sharp chine of the extreme milk form. The loin and hips are broad and smooth, and the rump high and level, compared with the angularity usually shown in the milk form. The twist is roomy and the thighs and hocks well apart. Passing forward, the shoulders are smoother and more compact than in the milk form, but of lighter weight than in the beef form. The brisket is not so wide and low as in the beef form, and the chest is not so deep, but the width of the beef form through at the heart is closely retained. In the milk

proper feed and care in the early life of the animal are led to the mating of animals of other than those of large size and possessing the milk and beef form. Neither the breeds of the Channel Islands nor the Ayrshire breed possesses this form, even remotely.

Brattleboro, Vt., September 20.

## Apiculture.

### AN EFFECTIVE STATE ORGANIZATION.

Written for the PACIFIC RURAL PRESS  
By MR. RALPH BENTON.

During the past several years, since coming to California, we have deplored the lack of more effective organization among the many beekeepers of the State, some three thousand in all. We have, it is true, a State Bee Keepers' Association which for many years has been holding

factors to blame for the present non-representative character of our State association. Accordingly in this attempt to present a plan for an effective State organization we are going to take advantage of this evident experience and take as our unit of organization the district association. California, apiculturally speaking, divides itself into five districts—northern, central and southern California, with the Bay counties to the west and the Owens district to the east. These five district associations should then collectively constitute the State Bee Keepers' Association, the annual meetings of which should migrate from year to year from one section of the State to the other. Again, within those districts where the beekeeping industry is more extensive, the smaller unit of the county association can be recognized, and wherever possible county associations organized, on the plan of the organization now found in Tulare county. Then, as a final working unit within the county would be the local beekeepers' in-

ing, in whose province it may be due to meet. This plan, it will be seen, virtually brings the State association to the beekeepers, and further, with the system of district associations, provides for meetings in those portions of the State remote from the place of meeting for the State association for that year.

We believe that such a comprehensive organization could be easily and profitably established in California. Indeed, we have the elements of it already. The State association would be the same one as now, only it would be made to embrace the whole State, and its meetings would successively migrate from district to district. The Northern California Bee Keepers' Association, with headquarters in Sacramento, is already organized and at work. The new plan would call for the organization of four additional district associations in affiliation with the State association, namely, the Bay Counties Bee Keepers' Association, with headquarters at Berkeley; the Central Cali-



Holstein Friesian and Dutch Belted Herds near Modesto, Stanislaus County.

form the abdomen is usually swung low, and the ribs are steep, but in the milk and beef form the ribs are wider sprung and the abdomen more trimly held up, though no less capacious. The general appearance of the bull is strongly masculine, but that of the cow is no less feminine than in the milk form."

It may be further emphasized that the milk and beef form describes a cow of the wedge form, with shoulders moderately thick, deep and broad, crops well filled, barrel well rounded, loin and hips broad and full, and quarters straight, wide and full.

To this form of these cattle is due their extraordinary constitutional vigor, or vital force, and it affects all their relations to their food, care, and productions.

The milk and beef form is not accompanied with the angularity of appearance, the light shoulders and chest, and the comparatively light quarters of cattle of the milk form.

The future of the breed will be greatly endangered by those who, from one consideration or another, form combinations of pedigrees to attain large average records or fat percentages, or by neglect of

its annual gatherings in the Chamber of Commerce at Los Angeles, but this organization is not representative of the whole State, and consequently is not as aggressive as it ought to be. We have a thriving Bee Keepers' Association in northern California, with headquarters at Sacramento, also holding annual meetings, but this is avowedly a local association. The beekeepers of Tulare county are organized, and for a short time Redlands boasted of a city association. Addresses on bee-keeping problems in conjunction with regular farmers' institutes are still another form of organized effort which we recognize. The California National Honey Producers' Association and the Imperial Valley Bee Keepers' Association are for the commercial advantages of their respective members, and hence hardly within the pale of the conception of the true beekeepers association—that of a disinterested association for purposes of education of members and the public alike.

Perhaps the size and varied conditions of California have had something to do with bringing about this condition of affairs—in fact, we believe these to be the

stitute committees, organized to work in co-operation with local Farmers' Institute committees in planning for addresses, papers and discussions of local bee-keeping problems in connection with the regular farmers' institute gatherings in the given locality.

Such an organization, it is seen, would first of all reach the beekeeper in his home town or immediate vicinity, in the annual institute gatherings of his locality. Next, it would provide, wherever feasible, for a county association, with annual meetings for the discussion of matters of local interest, such as the appointment of the county inspector of apiaries, the bee-disease situation, the study of the local honey plants, and local conditions generally, all with regard to methods of practice. Next would come the district association, with its annual meetings, the real merit of organization. Finally would come the State association, an administrative unit made up of the organic units, the several district associations, and holding its annual meetings successively in each of the principal districts—northern, central and southern California—in conjunction with the district association meet-

ing, in whose province it may be due to meet. This plan, it will be seen, virtually brings the State association to the beekeepers, and further, with the system of district associations, provides for meetings in those portions of the State remote from the place of meeting for the State association for that year.

We believe that, following along these lines we would have a State association expansive and fulfilling its mission in a way that would make it a credit in affiliation with the National Bee Keepers' Association, of which it would in turn form a part, and so comment this matter to the beekeepers of the State for serious and careful consideration.

QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$4.00 each. FRANK BENTON, Box 17, Washington, D. C.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.



## The Poultry Yard.

### THE FARMER AND THE HEN.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

Let us call up the average flock of farm fowls. Here they come—the race to the swift and the feed to the strong—anywhere from 75 to 200 of them, of all ages from the yapping stick still in down to the ancient patriarch whose venerable countenance bears the scars of many battles and much hard luck, and whose rheumatic legs are like the bark of a scale-infested tree. This veteran and his contemporaries are no longer in the van. Younger blades have stripped them of their honors and perquisites, and they must take their chances on the outer edge with the weaklings and chicks; there are hens too to keep them company—hens that are old and hens that are almost naked from the moult, harassed by a swarm of roosters and cockerels and the fowls generally—a pitiful sight. Then there are a lot of half-grown, skinny chickens that ravenously seize upon a morsel of food, and, as the farmer says, "the more the blamed critters eat the skinnier they get."

If we examine them we find a disagreeable odor and a gumminess about the nostrils. They are afflicted with a chronic form of roup or catarrh, with which chickens may live on indefinitely, and hens may even lay a few eggs during the egg season; but their diseased bodies cannot fully assimilate their food, and they are always hungry and never fat. In their roosting quarters we also perceive the ropy odor—in fact, the poultry premises are culture beds for disease and vermin. Can sound fowls and profits come out of such quarters?

"But what can I do with the derved outfit?" queries the farmer.

"Make a fresh start from the ground up," is suggested.

"Can't afford to throw so much good money to no such uncertain critters as chickens. When I was a boy in the East they roosted in trees and any old place, and rustled for themselves, and we heard none of this 'fuss and feathers' which you poultry fellers are making over them."

"True; but you had no winter eggs, nor even any poultry industry to speak of. Now this industry is getting to the head of the line and its product is second only to king corn. There's some gilt to the eggs that bring 50 cents per dozen wholesale, and the hens that lay them are worth 'fuss and feathers'."

"Yes; but when eggs is eggs, my hens won't lay; and when my hens lay, eggs ain't worth bothering with."

"Give your hens the same intelligent and systematic care that you do your other stock, and they will lay when 'eggs is eggs'."

"Perhaps so; let's hear how you would go about it."

"In the first place, get new lumber and wire, and move your poultry quarters to fresh ground; and burn up the vermin and disease germs along with this old trash. Have your house well battened with tight roof and floor and well set up from the ground, so that varments can not harbor under it, and that it may furnish a snug scratching shed beneath for the fowls. Place a strip of inch-mesh wire three or four feet wide across the entire north end, for ventilation and air; in the south end have a wide door, to sun the house in fair days, but kept closed nights and damp days. Give the inside a dressing of thinned crude petroleum as a starter, to keep the lice and mites from getting a foothold, and tack sacking along the sides to protect the fowls' feathers; whitewash the outside. Now go through

this flock; send the veterans, male and female, to the boarding house soup pot or to the boneyard along with the diseased ones. With Persian insect powder and scale salve make a thorough job of ridding the young and likely fowls of lice and scale; put them into their new quarters and feed regularly and well; keep pounded shells and charcoal and pure water always before them. Between the first of March and the last of April do your hatching, and bring off enough chicks to furnish the number of pullets that you have winter quarters for; set only eggs from pure-bred utility stock that you know to be vigorous and healthy; give them the best of care and keep them pert and growing (study the PACIFIC RURAL PRESS meantime for hints relating thereto); sell off the cockerels as squab broilers at six and eight weeks old; and the last of August make a clean sweep of all your old stock and winter only the pullets, which, if Leghorns, will begin to lay the first of September and drop in along so that by the latter part of October they will be laying the nickel egg. Give them a square deal and they will return the largest interest on the money invested in them of any farm product."

### Questions and Answers.

GEESE AND DUCKS.—A subscriber of the PACIFIC RURAL PRESS at Woodland, Cal., asks: "Can you tell me if there is any market for geese and ducks, and how are they to be raised with success?"

There is a market for geese and ducks in our larger cities, but not in small towns. The Chinese are especially fond of them, and at their New Year and holidays there is a brisk demand; also at the Jewish holidays. Geese are now quoted in the San Francisco market at from \$1 to \$1.25 each, and ducks at from 50 to 75 cents each, which represents about the prevailing prices.

Geese require free range and water. If one has a rough piece of pasture land with a creek or spring on it to turn over to them, they may be profitably raised; as they are a grazing fowl and will gather the most of their feed on range; they also require less care than other poultry. The females are good sitters and mothers, and will successfully rear their young if left to themselves; but breeders usually hatch their first two layings with hens and let the mother goose have charge of the third and last laying; by this means many more eggs are laid. Thirty days are required for incubation. When hatched by a hen the goslings should be left in the nest for 24 hours, then kept in a large coop for four or five days; when they can "paddle their own canoe," as it were, and the hen may be removed and the goslings turned out; but they must always be cooped at night, with clean, dry bedding to sit on. Their first food should be tender grass or lettuce and a little corn meal, sand and charcoal dampened and fed three times a day for two days; then equal parts by measure of bran, middlings and cooked vegetables or alfalfa. Green feed must always be their principal food. The goslings should not be allowed in water till feathered. At eight weeks they are put in the fattening pens and corn meal and beef scraps added to their rations, all they will eat up clean three times a day; at 10 weeks they should weigh from 8 to 10 pounds and be ready for market. The gray African goose is considered best for practical purposes, as it matures quickly, is very prolific and the most easily handled.

With ducks, access to swimming water is not a necessity; neither is a large range. Many of our coast breeders report their eggs more profitable than the market fowl, and as a layer the Indian Runner duck is considered best; but the Pekin is also a fine layer, and ranks first

of all breeds as a market fowl. Both of these breeds are non-sitters, and their eggs must be hatched by the incubator or the hen. The season for rearing them begins about the first of February and lasts some six months. The ducklings are very delicate the first three weeks, and must be kept warm and from chilling. If they come through this period in good shape there is little subsequent loss. At three weeks they are changed to cold brooders, and at six weeks to large growing pens, where they are pushed for market. Soft food is their natural diet, as they have no crop and the food goes direct to the gizzard. The following is the method of feeding practiced by some of the large Eastern breeders: First week, cracker or bread crumbs and wheat bran, with a small quantity of sand added, three times a day. Second to fifth week, equal parts corn meal, bran and crumbs, with a little meat meal and sand; after which, add cut clover and alfalfa. To fatten, for three weeks after the seventh week they are fed 75 per cent corn meal, 15 per cent bran, 5 per cent meat meal, 5 per cent sand. Cleanliness must be the watchword from start to finish, and no water to swim in, but plenty to drink at all times. At 10 weeks they are ready for market.

Ducks grow faster, eat more and require more room than chickens. It is estimated that it costs from 6 to 12 cents per pound to raise ducks to 10 weeks, and from \$1.75 to \$2.50 to keep a breeding duck a year.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons....	.40
Heavy 30-doz. Cases and Fillers....	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons....	.35
Heavy 18-doz. Cases and Fillers....	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons....	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case....	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

## E. F. Adams

364 Main St. Petaluma, Cal.

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.

HANDSOMELY ILLUSTRATED.

Price \$2.50 per copy, postpaid.

READY FOR NOVEMBER DELIVERY.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO

PACIFIC RURAL PRESS, Publisher,  
667 HOWARD STREET,  
San Francisco, Cal.

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal.

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our **FREE** Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

COULSON POULTRY AND STOCK FOOD CO.

PETALUMA, CAL.

## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

L. W. CLARK, 615 Main St., Petaluma, Cal.



## The Home Circle.

### Wealth.

Only a vine clad cot by the wayside,  
Low, rambling and brown and old;  
But the sunbeams sweep the rough gables  
With a shower of molten gold.

Only a field of ripened barley,  
And a reaper reaping the grain;  
But the breeze is abroad with its laughter,  
And the thrush with its golden strain.

Madaline stands at the cottage window,  
Smiling and pretty and trim,  
Whispering softly, "Ah, the dear toiler—  
How dreary the world without him!"

Roland, the reaper, beams over  
The heads of the barley-astir,  
Thinking, "Ah, the world would be dreary  
If—bless her—it wasn't for her."

Both gaze in the harvest of sunshine  
That holdeth no dream of woe,  
Royally rich, for Love's sweet kingdom  
Is all they care to know.

—MARTHA PEARSON SMITH.

### Who Earned That Money?

John Simmons began life with nothing but a pair of hands. Hiring himself out as a common laborer, he laid up gradually small sums of money. In time he was enabled to pay in part the price of a farm, the remainder being held on mortgage, the interest to be paid yearly and the principal in installments, till the whole was liquidated.

John took to wife Mary Evens, one of the prettiest girls in the parish, and they two commenced housekeeping together. Mary brought to the establishment beds and bedding, household linen, crockery and china, the fruits of her own industry or the wedding gifts of her parents. Both understood that a life of toil was before them; but both were young and hopeful, bred up to constant industry and economy, and their toil seemed light to them. John was renowned in his vicinity as the man who could do the longest and hardest day's work, and Mary soon became celebrated among housewives for her skill and prudence in household management. Her butter was known as bringing an extra price, her cheese had a remarkable flavor and fineness. She had a wonderful adroitness and skill in the cutting, shaping and making of household garments, and her husband was wont to boast that since his marriage his clothes had cost him only half what they did before. As to her own dress, such was her skill in altering and mending, such her carefulness in wearing, that her personal expenses seemed scarcely a perceptible item.

John and Mary became parents of a numerous family. Six fine boys and three blooming daughters were successively added to their household. The care of rearing all these infants was entirely borne by Mary, without a servant of any kind, without any diminishment of her household labors, except for the first fortnight after the birth of her first child, when a good woman of the neighborhood came in to look after things while Mary was getting back her strength. But after that first fortnight Mary went back to her work with the added care of an infant. As her children grew up she trained them to be her helpers. The eldest daughter early became proficient in household industries, and when only 12 years old was competent to take her place in the family, on the birth of a little brother. These

boys when they were small were likewise trained to household labor, and helped their mother until they were large enough to make their services valuable in the fields.

In time the family became a perfect little industrial association, every member of which was working toward one end—the payment of the yearly interest on the mortgage, and the gaining of a surplus wherewith to pay the principal.

But so large a family has many expenses. There were sickness and accidents to increase labors; there were bad crops, droughts, and all the other disappointments of farming life, and sometimes the domestic ark seemed to roll and plunge heavily, like a water-logged vessel, threatening every moment to go over. John was something of a hypochondriac, and at these times would talk bitterly about family expenses and accuse his wife and daughters of extravagance. He fell into a way that many of the male sex have, of regarding everything that is bought for a woman is, of course, a superfluity. The pretty Sunday bonnets of his blooming daughters, their nice, ladylike dresses, their little girlish ornaments, were remarked on with a savage severity. "I work for the money that you spend on finery," was a common saying, accepted in silence by his wife and daughters.

The fact was that John never in his own mind had considered that any work but his earned the money that paid for the farm and supplied the provisions for the family. Every cent that came into the family coffers he regarded as his by right of acquisition, and his wife and daughters as dependents upon his bounty.

Now comes our inquiry: Who did earn the money that paid for John's farm? If the wife performed for all the services for which he paid a tailor formerly, did she not earn that money as really as the tailor? If John had been obliged to hire a woman to perform the labors which Mary performed in the house and dairy, how much a week would he have been obliged to pay her? And did not Mary fairly earn this sum—as fairly as John earned his day's work in the field?

But suppose John had been obliged in addition to hire a woman not only capable of superintending his dairy, but of training his children and instructing them in morals—a woman, in short, who should be nurse, cook, housekeeper and moral guardian, in addition to being tailor, seamstress and dairy woman—how much would he have had to pay for all these things united, if he had been obliged to hire them for money instead of getting them for love? So much as he would have been obliged to pay, his wife earned every week of her life and ought to have had freely put into her hands—not as a husband's gift, but as her own lawful, proper earnings. It should have been her salary, and the choice left with her to spend it as she pleased. Then she could, and probably would, have paid her portion to raise the mortgage and secure the family homestead.

But because this salary, fairly earned, has never been paid her, her husband cherishes the idea that he alone earned the money that paid for the farm, and that he has supported his wife and daughters.

Query: Has not his wife supported him quite as much as he has supported her?—Harriet Beecher Stowe.

## OUR HOUSEHOLD.

Conducted by MRS. M. R. JAMES.

(To OUR READERS: Helps and Hints in all matters relating to the Home are here given and asked. Send all communications to "Our Household," PACIFIC RURAL PRESS, 667 Howard St., San Francisco.)

### THE HOME CIRCLE CHAT.

#### Concerning Bargains.

"Economy, my young friends," remarked the Wise Woman, "is not always found in cheap things or at the bargain counter. As an acquaintance, who had long bought through a so-called Bargain Catalogue, recently acknowledged: 'I have at last found out that a cheap price brings a cheap thing.' The woman who buys cheap shoes for the children, ill-fitting, ill-made of paper or defective leather; or who pays five cents less per pound or dozen for butter and eggs of an inferior grade, is not practicing economy."

"That reminds me," laughed the New Member of our Circle "of my first and last experience at a bargain counter."

"Tell us about it, please," we chorused; and with charming directness she complied:

"I was never a patron of the bargain counter. Indeed, I had treated this weakness in my acquaintances with but thinly veiled sarcasm. I commented on their eagerness for the morning papers as an evidence of the alertness of their minds, knowing that they cared for only the date of the bargain sales; and I sniffed at their bargains. A proud spirit, however, goeth before a fall and my tumble came just before the holidays last year.

"One morning when I was in the thick of Christmas worries—trying to get something for every one and still have a few nickles left in my pocket-book, Mrs. W., a social chum, blew in at the door along with the frosty December air.

"Oh, Mrs. J., there's a fifteen cent store just opened on Broadway," was her excited greeting. 'Such bargains! Nothing over fifteen cents—dry goods, toys, French candies—and shirt waists! Just think, a shirt waist for fifteen cents!'

"It's probably a fifteen-cent waist," I returned dryly.

"Now, Mrs. J., she said reproachfully, for no one enjoys having cold water thrown on her enthusiasm, 'you know that any kind of a waist is a bargain at fifteen cents.' Then she raced on, pointing out the cash we might save on our Christmas gifts and ended with: 'Now dearie, get on your wraps and come with me. You needn't buy anything for yourself if you have conscientious scruples, but I would like you to make some purchases for me; you see only one bargain goes to one person at one time, and I want two of those fifteen cent waists besides doubles in other things.'

"I shook my head. 'You must get some of your bargain-hunting friends to accompany you.'

"Oh—well; then I must move along." And she floated out the door, throwing me an airy kiss from the ends of her fingers; but I knew that in her heart she dubbed me a conceited, unaccommodating creature.

"After she was gone, some teasing temptation in her words took hold of me. As I sat making out a list of Christmas supplies and gifts for my large family and extensive circle of friends, each one of which just must be remembered, the proposition to get a few bargains began to look good to me. The prices of all household necessities, not to mention luxuries, had gone up like a child's balloon, and surely it was the duty of the housewife to use the household funds judiciously—then this was not a bargain counter but a store on a new plan.

"Who parleys with temptation is

**IF YOU'VE NEVER WORN**

**TOWERS**

**SLICKER**

you've yet to learn the bodily comfort it gives in the wettest weather

MADE FOR—  
HARD SERVICE  
AND  
GUARANTEED  
WATERPROOF

**\$3.00**

AT ALL GOOD STORES  
CATALOG FREE

A. J. TOWERS CO. BOSTON, U.S.A.  
TOWERS CANADIAN CO. LIMITED, TORONTO, CAN.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings. The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 600 inches of water.

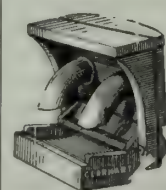
The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.

6 beautiful post-cards tinselled in gold, silver, blue, green and red. Views, scenes, flowers, birthdays, etc. Agents wanted. Art Post Card Co., 466 W. Huron St., Chicago, Ill. **10c**



lost. I concluded to look in at the fifteen cent store on my shopping round the next day.

"I set forth early in order to avoid the crowd. The clear, frosty weather of the previous day had changed to a foggy drizzle; but I rose superior to the weather, thinking it a rather good thing, as making the meeting of friends less likely if I should drop in at the fifteen cent store. In my smart water-proof skirt and cloak with my silk umbrella spread above my chic walking hat, I skimmed daintily over the mussy sidewalks and tip-toed through the muddy crossings.

"Early as was the hour Broadway was crowded and I allowed myself to drift with the current which set toward one particular spot — the fifteen cent store. Heavens! what a motley throng besieged its portals. Fashion and wealth struggled with shabbiness and poverty. While gazing curiously at the incongruous mass of humanity, I was caught in the maelstrom. Once inside the jam was painful and the atmosphere was awful, and escape seemed impossible until I should be carried out on the wave that had thrown me in. A heel as relentless as Fate crushed my tenderest toe; before I could recover from the excruciating sensation I was impaled by a fierce elbow. Gasping and helpless I was pushed and walked over and trampled on till, at last, the Cave Woman, defending her corner and her bone, was aroused in me. I braced myself and squared myself and squared my elbows; and for the first time I gloried in their sharpness. I met every crush so successfully that gradually the crowd which had treated me like the dust under their feet, began to give me respectful recognition and even breathing room. With comparative ease I reached the candy counter and started to make selections.

"Hurry up, madam!" yelled a coarse individual behind in the voice of a slave-driver. "No time to make up your mind here; must do that at home."

"My cheeks tingled but I meekly asked for four pounds of French candies."

"Only one French to a purchase; you'll have to take other kinds," he snapped. He tossed the packages to me and took my money with an air of condescension which made me feel exceedingly small as well as indignant. I made my way to the shirt waist counter. The jam was greater there and the clerk more insolent if possible; I simply had to take the first garment that came to my hand.

"Disgusted, and sick from the foul atmosphere, I hurried to reach the door; still proud of my ability to hold my own with the crowd. But my elation was short-lived. The full tide of trade had but just set in and it met me before I was half way to the door. In the lead, directly in front of me, was a woman who loomed up like a grenadier, and in her trail was a numerous progeny, equally sturdy and determined. I was swept aside like chaff and my packages were whisked from my hands. I made a grab after them and dropped my umbrella, and, at that crucial moment, my hat was knocked over my eyes; a hob-nailed boot was planted on my toes, and the sharp end of an umbrella was jabbed into my stomach. Tortured and almost fainting as I was, I still thought of my umbrella and searched frantically and called wildly for it. But in vain. My silken, gold-tipped umbrella, one of my most prized gifts, I never saw more.

"How I got out I never knew or anything further until I found myself on the sidewalk gasping for breath like a fish flung on the shore. I caught a reflection of myself in the plate glass window. It gave me a shock. I was a complete wreck. The rain was now falling sullenly and I had no protection for myself or to save the remnants of my new hat. In my hand I was grasping something tenaciously. It was a pound package of candy from which the color began to drip sickeningly. With disgust I sent it flying into the gutter.

"Just then I spied Mrs. W. in water-

proofs under a large umbrella. I tried to slink away in the crowd, but she halted me."

"Why, Mrs. J., can it be you! Have you been in the bargain store — and did you see anything cheap?"

"Yes," I returned bitterly, "I just saw myself in the window!"

### In the Garden.

A serious mistake in the home flower garden is in attempting too much; planting more than can be properly watered and cared for. Although California is considered a land of flowers there is a long dry spell to be reckoned with; and the summer garden is a more difficult proposition here than in the East where two weeks is a long time to be without the refreshing shower. In short, irrigation is necessary, and if one has to carry water from a well for this purpose, as is the case in many homes in the country and in small towns, the garden space would better not be large or far from the well. Just a handful of flowers in the pink of condition, flashing fresh, rich colors to the sunlight, is a refreshing sight, while an ill-cared-for garden where rare flowers struggle with drouth and weeds and send forth a few sickly blooms is a most discouraging spectacle. If there are time and strength for only one bed of flowers do not try to have two, but give the whole attention to the one and it will return the beauty and pleasure of the two.

One of the most satisfactory arrangements for a few flowers is in beds around the house but protected from the dripings of the eaves. The beds may extend around the house, bordered by the walks, or only in front. This is a convenient location for the housewife while the plants are partly protected from the weather. A bed four feet wide, well-manured, well cultivated and well watered, will produce a wonderful luxuriance of vines and flowers. The roughest country shack in the midst of this bloom becomes artistic and attractive. A bordering of neat walks and a slope of green sward to the gate leave little to be desired in the home picture.

### How Can I Come?

"Ven I first came to Filadelfy to serve, I was very uncivil," said Katrine, now a tidy servant in a respectable family. "I laugh moouch, and I feel ashamed to remember how I behave ven I know so little. Shon — tat vas my beau — Shon he took me to dat teater one night when I been in Filadelfy but tree weeks. We sits in te gallery and we not see goot and Shon says he get a better seat. So he puts his leg around ter post and shldes down mit ter pit, and looks up and calls out, 'Katrine, Katrine! coom down, tish a goot place here?' and I lean ofer and said I, 'How can I coom, Shon?' And he said, 'shust shlide down.' So I puts my legs around ter post and I shldes down.

"Donder, how te peoples laugh! Dey laugh so dey play no more dat night upon te stage. Everybody laugh and yell and whistle all ofer der house. I vas moouch ashamed den, tough I knew not any harm. But now I plushes red efery time I tinks mit it."

THE ROSEBUD MOUTH. — It must have the scent of the rose. Women who can afford it scent the lips with a drop of attar of roses. The attar being

slightly oily will not dry out the lips; it may keep them from chapping, and it certainly makes them pink and fragrant. Women who do not want to spend half a dollar a drop on attar can do very well with substitutes. A drop of any oily perfume will do the work nicely. Oil of rose geranium is one substitute. Of course, one must not use a heavy sweet odor. Then the personality of a woman must be taken into account. One drop of the oil of jassamine just suits one woman; others prefer spice and if not used crudely there is certain fascination about the slight odor of spice. — N. Y. Sun.

Although there is a certain area of about three and a half acres on Manhattan Island where the density of population is at the rate of 630,000 to the square mile, yet the city of Paris shows a far greater average density of population than New York, the figures for Paris being 79,300 a square mile and for New York city proper 40,000 a square mile. The average density of London's population is 37,000 a square mile and that of Berlin 67,600. — Federation Review.

"I never argy agin a success," said Artemus Ward. "When I see a rattlesnake's head sticking out of a hole, I bear off to the left and say to myself, 'that hole belongs to that snake.'"

The politician of the insect world is the flea. He is ever itching for place; creates no end of disturbance, and you never know where to find him.

A lady writer who assumes to know how boys should be trained, writes: "Oh, mothers, hunt out the soft, tender, genial side of your boy's nature." Mothers often do — with an old shoe.

No bolts or bars can secure a maiden so well as her own reserve.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country — one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

**San Francisco Business College**  
733 Fillmore St., San Francisco, Cal.

**HEALD'S BUSINESS COLLEGE**

AND  
**ENGINEERING SCHOOL**  
ESTABLISHED IN 1863

Now in its new building at 425 McAlister St., near Van Ness Ave., where it has the finest equipment on the coast for Business Training and Engineering Work. Branch schools at Oakland, Stockton, Los Angeles, Fresno, San Jose, Santa Cruz, Ocean Park, Long Beach, Riverside and Reno. Write for my new catalog; free to all. Address

**E. P. HEALD, President,**  
San Francisco, Cal.

### LEARN

**Plumbing, Electricity, Bricklaying or Plastering**

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.  
You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.  
POSITIONS SECURED. WRITE FOR FREE CATALOGUE.

**COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.**

## TALKS ON TEETH

BY

**The Rex Dental Co.**

(INCORPORATED)

### WE WANT TO GIVE YOU OUR BOOK—

Our book, "Alveolar Dentistry," is free for the asking.

Never before have you been offered so much for nothing in the shape of a book. No book has ever before given so thorough a diagnosis of the diseases of the teeth and their cure as this one we want to give you free.

The Alveolar Method of restoring missing teeth without having to resort to the use of plates or ordinary bridge work is the one great and marvelous achievement of the century. Its discovery has made the Rex Dental Co., Inc., the greatest dental concern in the world. Patients from all over the Pacific Coast unite in a universal hymn of praise for the Alveolar teeth, which have freed them from the annoyance and misery of a "mouthful" of rubber of metal plates, or a torturesome piece of bridge work.

All these things are set forth in this book, which we want to send you with our compliments. Is it any wonder that the book has run through several editions?

Now, if you are skeptical and inclined to doubt our ability to restore your teeth by the Alveolar Method and give you a beautiful, sound, serviceable set of teeth that will rival nature's teeth, we ask you to do one of two things, neither of which will cost you anything worth speaking of.

First. Will you call at one of our offices and ask for a book, and while there let us look at your teeth?

This won't obligate you in any way. There is no string tied to the proposition. We can't prescribe for you at long range, that's all. The examination will be so thorough, but it will be for you to say whether or not you want to spend a dollar with us after our examiner goes over your teeth. Isn't that a fair proposition?

Second. If you are not near enough to one of our offices to call at once, then send for the book and read it.

You will find a coupon at the bottom of this ad. Fill it out and mail to us.

The book is written in simple language (with the technical terms left out) and will go to you at once. You will say it is the best book on the teeth you ever read.

One thing is certain—if your teeth need attention or if some are loose or missing they won't get better without attention, and you may as well have expert attention when it is possible.

FILL OUT THIS COUPON AND MAIL TO

THE REX DENTAL CO.,  
228 Pacific Bldg., San Francisco.

Send, postage paid, your book, "Alveolar Dentistry," to my address.

NAME .....

P. O. Address .....

City ..... State .....

If you live outside city, give R. F. D. number.

## REX DENTAL CO.

DENTISTS

SAN FRANCISCO:

228 Pacific Building  
Fourth and Market Streets.

OAKLAND:

82 Bacon Building  
Twelfth and Washington Streets.

LOS ANGELES:

201 Severance Building.

Hours—8:30 to 5:30; Sundays, 10 to 12

### LADIES, USE LUSTRO



It will remove scratches and will polish your piano, furniture and all finished wood work. The best made. Try it. Full size 8 oz. can, express prepaid, 50c.

AGENTS WANTED.

**Lustro Specialty Co.,**  
Oakland, Cal.

10-Acre Fruit and Poultry Ranch—Apples, pears, prunes, 8 acres vineyard, completely equipped poultry plant, house, water piped over place—\$2500. H. F. BLUMER, Novato, Cal.



## THE MARKETS.

San Francisco, Oct. 21, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

The local wheat market is quiet and buyers are taking very little interest in general offerings, though there is some demand for choice grades. With considerable stock coming in from the North, the market is plentifully supplied, and prices in some lines are a little easier, though there is no important change.

California White Australian	\$1.75 @1.80
California Club	1.67½ @1.70
California Milling	1.70 @1.72½
California lower grades	1.45 @1.60
Northern Club	1.65 @1.67½
Northern Bluestem	1.75 @1.80
Northern Red	1.62½ @1.65
Turkey Red	1.75 @1.80

### BARLEY.

With receipts about up to the average, the market shows considerable firmness. There is still some interest in futures, with slightly higher quotations. Holders continue to ask \$1.40 for choice feed, and at present this is the prevailing figure, though most of the business earlier in the week was done on a lower basis. Prices on shipping and brewing grain are unchanged, but these grades are rather quiet in this market.

Brewing	\$1.40 @1.42½
Shipping	1.40 @1.42½
Chevalier	1.55 @1.60
Good to Choice Feed, per ctl.	1.37½ @1.40
Common feed	1.30 @1.35

### OATS.

So far there is no marked activity, but a larger movement is looked for. The principal feature at present is the firmness of whites, offerings of which are light. Reds are more plentiful, and choice stock is offered at a slightly lower price.

Choice white, per ctl.	\$1.70 @1.75
No. 1, white	1.65 @1.67½
Gray	1.55 @1.65
Red, seed	1.75 @1.80
Feed	1.47½ @1.70
Black, seed	2.45 @2.65
Feed	1.47½ @1.60

### CORN.

Stocks of corn are very light, both here and in the producing districts. Another lot has arrived, but the movement is very small. Quotations are a little lower.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	\$1.85 @1.90
White	Nominal
Western State Yellow	1.90
White, in bulk	1.80
Mixed, in bulk	1.78

### RYE.

Rye is in the same position as for some time past, the demand being limited, and sales accordingly small. Holders are asking the same prices as before.

Rye	\$1.40 @1.45
-----	--------------

### BEANS.

The arrivals of beans continue heavy. While the harvest has been interrupted several times by light rains, little damage has been done to the growing crop. Arrivals of large white beans have decreased considerably, however, and most of the crop of this variety has gone into dealers' hands, and a great portion of it been resold by them. In consequence the price of this variety has advanced very materially. Small whites are similarly firm, with every likelihood that the prices will be maintained. There has been no change in the price of pinks and bayos, and the arrivals of pink beans are very liberal. The demand for all varieties is good. Limas are being bought rather freely at the lower level to which the market for this variety has declined. While there may be a further drop, they seem to be safe at the ruling figures.

Bayos, per ctl.	\$2.50 @2.65
Blackeyes	3.10 @3.25
Cranberry Beans	2.50
Garvanzos	2.10 @2.15
Horse Beans	1.75
Small White	4.25 @4.50
Large White	3.40 @3.60
Limas	4.25 @4.35
Pea	4.50
Pink	2.50 @2.65
Red	3.35 @3.60
Red Kidneys	3.50

### SEEDS.

There is a little more demand for seeds, and while the fall activity has hardly begun, liberal buying is expected within the next few weeks. Alfalfa is beginning to move, and is quite firm. Broom corn seed is a little easier.

Alfalfa, per lb.	14½ @18c
Broomcorn Seed, per ton	\$20.00 @25.00
Brown Mustard, per lb.	3½ @3½c
Canary	4½c
Flaxseed	3c
Hemp	4½ @4½c
Millet	2½ @3½c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

A limited amount of flour is moving for export, but there is little activity in this line at present, either here or in the North. The local market is about as usual, and prices are unchanged.

California Family Extra, per bbl.	\$5.40 @6.00
Bakers' extras	5.40 @5.65
Superfine	4.20 @4.50
Oregon and Washington, Family	4.90 @5.40

### HAY.

Shipments of hay to the San Francisco market continue to decrease, the total for the week just ended amounting to 2670 tons. Although this decrease has been occasioned somewhat by the prevailing car scarcity, yet the tendency of owners to hold, in anticipation of higher prices, is also largely responsible. The demand throughout the interior is steadily increasing, and it is becoming more and more apparent that many districts are very short of hay. Although the market here is quiet and uninteresting, it is seen that the State's supply, as compared with the entire demand, is none too great, and that there may be a shortage before hay grows again. Arrivals by water at present exceed those by rail, and the bay and river warehouses are being heavily drawn upon. Prices show little change, but the tendency at the moment is toward higher figures.

Choice Wheat, per ton	\$18.00 @20.50
Other Grades Wheat	13.00 @17.50
Wheat and Oat	12.00 @17.50
Tame Oat	12.00 @17.00
Wild Oat	11.00 @16.00
Alfalfa	9.50 @13.50
Stock	9.50 @10.50
Straw, per bale	45 @70c

### MILLSTUFFS.

Arrivals of millstuffs are only moderate, and with a good demand firm prices still prevail, the recent advance in shorts being well maintained. Oil cake meal is higher, but aside from this prices show no change.

Alfalfa Meal (carload lots)	
per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @31.50
Red	29.50 @31.00
Broom Corn Feed, per ctl.	1.25 @1.30
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00
Jobbing	26.00
Corn Meal	37.00 @38.00
Cracked Corn	38.00 @39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50 @35.50
Mixed Feeds	23.00 @28.00
Oil Cake Meal, per ton	37.50 @39.00
Rolled Barley	29.00 @30.00
Shorts	33.00 @33.50

### VEGETABLES.

There is still a good inquiry for onions for shipment, which keeps the local market well cleaned up, and the price is quite firm as a result. Choice stock is 5 cents higher. Garlic is easier. In miscellaneous lines supplies continue to decrease, causing a further advance in prices. In addition to the firm features of last week, green peas are scarce and higher, while string beans show a decline. Tomatoes have continued to arrive freely, and while the surplus is beginning to decrease, the price so far shows no improvement.

Garlic, per lb.	7c
Green Peas, lb.	6 @8c
String beans, lb.	2 @5c
Cabbage, per ctl.	60 @75c
Onions	70c
Summer Squash, large box	85 @1.00
Marrowfat Squash, ton	\$10.00 @15.00
Tomatoes, box	20 @50c
Turnips, sack	75c
Green Peppers, box	60 @85c
Cucumbers, box	1.00 @1.25
Egg Plant, box	75 @90c

Cauliflower, doz	50 @60c
Okra, box	65 @75c

### POULTRY.

The weekly arrivals of Eastern stock continue up to the average of five cars, and California stock is also coming in about the usual quantities. Quotations are accordingly unchanged on chickens, ducks, geese, and pigeons, but strictly first-class large hens and fancy young roosters may bring an advance over appearing quotations. Arrivals of turkeys have been more liberal this week, and the price has declined somewhat. Considerable concessions have to be made to dispose of small birds at all, and some of the dealers advise reserving such stock for the holiday trade.

Broilers	\$3.5 @4.00
Small Broilers	3.00 @3.50
Fryers	4.00 @5.00
Hens, extra	7.00 @9.00
Hens, per doz	4.50 @5.50
Small Hens	3.50 @4.00
Old Roosters	3.50 @4.50
Young Roosters	5.00 @6.00
Young Roosters, full grown	6.50 @7.50
Pigeons	1.00 @1.25
Squabs	2.00 @2.50
Ducks	4.00 @7.00
Geese	2.00 @2.50
Spring Turkey, lb.	22 @24c
Gobblers, live	22 @24c
Hen Turkeys, live	22 @24c

### BUTTER.

Butter shows increasing activity this week, and while receipts continue fairly large, the market is kept well cleaned up, with an advance in prices. Although the demand has run mostly on choice stock, all three upper grades of fresh butter are higher. Eastern ladle-packed and pickled butter are now quoted on the Exchange. The following prices are given by the San Francisco Dairy Exchange:

Cal. (extras) per lb.	31 c
Firsts	28 c
Seconds	23 c
Thirds	20 c
Eastern extras	27 c
Eastern Ladles, extra	22 c
Cal. Storage, extras	26½c
Pickled Butter	23½c

### EGGS.

Another upward movement has taken place in eggs, nearly every grade being higher than last week. Fresh extras are not moving very freely, but the market is well cleaned up, as receipts are small. Lower grade and storage stock are coming into greater demand, and all offerings are easily disposed of.

California (extra) per doz	51c
Firsts	45c
Seconds	27c
Thirds	23c
Eastern Selected	26c
Eastern firsts	25c
Storage, Cal., extras	31c
Storage Eastern, extra	26c

### CHEESE.

The movement of cheese is less marked than last week, though there has been considerable inquiry, and prices on the leading lines are higher, fancy local flats being quoted at 13 cents, and Young Americas at 14½ cents. Otherwise prices are unchanged.

Fancy California Flats, per lb.	13 c
Firsts	12 c
New Young Americas, fancy	14½c
Oregon Flats	13 c
Oregon Y. A.	14½c
Storage, Cal. Flats	13 c
N. Y. Cheddars	16½c

### POTATOES.

A heavy over-supply of river stock during the week has weakened the market, and while the accumulations are diminishing, the price is still lower than last week. Little interest is shown in anything but the best lots. Sweet potatoes are firm and slightly higher.

River Whites, fancy, ctl.	65 @80c
Common	45 @55c
Salinas Burbank, ctl.	\$1.25 @1.60
Oregon Burbanks	1.25 @1.35
Sweet Potatoes, ctl.	1.50 @1.65

### FRESH FRUITS.

Receipts of several lines of fruit are decreasing, but as there is less demand, prices show comparatively little change. Peaches are a little higher, and offerings of both peaches and Bartlett pears are light. Strawberries and raspberries are lower, but huckleberries have advanced, and cranberries are strongly held. Supplies of melons are also decreasing. Apples and grapes now attract the most business, and with liberal offerings the

prices tend to decline. Some varieties of grapes, however, continue fairly firm. There is a good demand for Winter Nellis pears.

Apples, fancy	65c @1.00
Apples, common	40 @75c
Strawberries—	
Chest	\$3.50 @6.00
Raspberries	4.50 @7.00
Huckleberries, lb.	12½ @17½c
Cranberries—	
Cape Cod, bbl.	10.00 @10.50
Coos Bay, box	@4.00
Plums, crate	35 @50c
Peaches, box	40 @75c
Figs, box	50 @1.00
Nutmeg Melons, box	50 @75c
Grapes, crate, Seedless	75 @90c
Muscats	40 @65c
Cornichon	6 @75c
Tokays	40 @65c
Pears, Bartlett, box	1.00 @1.50
Winter Nellis	90 @1.25
Other Varieties	40 @75c
Quinces, box	50 @75c
Pomegranates, box	65 @75c
Persimmons, box	60 @85c

### CITRUS FRUITS.

The first lot of new crop navel oranges arrived from Tulare county this week, but they are green and unsalable. Valencias are moving at former prices, but little more business in this variety is expected. Grape-fruit is still out of the market. Lemons are firm, with higher prices on the choice and standard grades.

Choice Lemons	\$2.00 @2.50
Fancy Lemons	3.00 @3.50
Standard	1.25 @1.50
Limes	4.00 @5.00
Oranges—	
Valencias	3.50 @3.75
Grape Fruit	Nominal

### DRIED FRUITS.

There is little change since last report, either in fruits or raisins, prices showing no change whatever. The feeling, however, is a little better in most lines, local dealers reporting some demand for assorted carloads for immediate delivery. There is no large demand, and little business is done for future delivery. Apricots are about the strongest feature in the East, and there is a little more interest in spot prunes in both Eastern and local markets. Peaches are dull and inclined to weakness. Raisins are still quiet, and while a good many growers are reported to be selling for about 3 cents, there is a disposition to look for considerably better values before another crop is available. Local packers quote the following prices:

Evaporated Apples	5 @6 c
Figs, black	2½ @3 c
Figs, white	3 @4 c
Apricots, new crop	7 @10½c
Peaches, new crop	4 @5½c
Prunes, 4-size basis	3½ @3½c
Pears, new crop	5 @7 c

### RAISINS.

2 Crown	4 c
3 Crown	4½c
4 Crown	5 c
Seeded, per lb.	7 c
Seedless Sultanias	4½c

### NEW CROP.

Loose Muscatels, 4 crown	5½c
3 Crown	4½c
2 Crown	4½c
Thompson seedless	4½c
Seedless	4½c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @1.35

### NUTS.

New walnuts are now beginning to appear on the market, and meet with a ready demand. Shipments from the growing centers are going forward rapidly, and the crop is expected to clean up earlier than usual. The movement of almonds continues active, a large proportion of the crop having moved out of first hands, though a few scattered lots are still held in the country. California chestnuts are considerably lower.

Almonds, Nonpareils	11½ @12c
I X L	10½ @11c
Ne Plus Ultra	10 c
Drakes	9½c
Languedoc	9 c

### WALNUTS.

Softshell, No. 1	12½c
Softshell, No. 2	8½c
Hardshells	less ½c
California Chestnuts	12½ @17½c

### HONEY.

Considerable honey is still arriving in the market, and the demand is fairly good, both locally and for Eastern shipment, though the lower grades are a little



quiet. Local packers are quoting the same prices as formerly, as follows:

Water White, Comb lb.....	16 @	17c
White .....		15c
Water-white, extracted .....	8 @	8½c
Light Amber .....	7 @	7½c
Dark Amber .....	5½ @	5½c
Candied .....	5½ @	5½c

#### HOPS.

Prices are unchanged. The bulk of the Oregon crop has been moved, and the California market shows rather more steadiness. Buying is considerably more active than before, though some of the growers show a tendency to hold.

Hops, per lb.....	7 @	9 c
-------------------	-----	-----

#### WOOL.

Local dealers quote prices on the fall clips as given below. The spring clip is fairly well cleaned up. While there have been a few sales of fall wool, most of it is being shipped on consignment, with an advance guaranteed in some cases. Sales in the East at present, however, are at very low prices, as the demand for California wools has increased very little.

Red Bluff (f. o. b. Red Bluff) free..6 @	7½c
Defective .....	less 2c
San Joaquin (at S. F.) free .....	5 @ 6½c
Defective .....	4 @ 5 c
Mendocino, free .....	7 @ 9 c
Defective .....	5 @ 7 c

#### MEAT.

There is a weaker feeling in hogs, as arrivals have been quite large for some time. Dressed mutton and lamb are also considerably weaker, with a decline in prices, and live steers and cows show a slight reduction.

Beef: Steers, per lb...	6 @	6½c
Cows .....	5 @	6 c
Heifers .....	5 @	6 c
Veal: Large .....	6 @	7½c
Small .....	8 @	9 c
Mutton: Wethers .....		7 c
Ewes .....		6 c
Lambs .....	8 @	9 c
Hogs, dressed .....	8 @	9½c

#### LIVESTOCK

Steers, No. 1 .....	3½c
No. 2 .....	3½c
No. 3 .....	2 @ 3 c
Cows and Heifers, No. 1 .....	2½ @ 3 c
No. 2 .....	2½c
Bulls and Stags .....	1½ @ 1½c
Calves, Light .....	4½ @ 4½c
Medium .....	4 c
Heavy .....	3½c
Sheep, Wethers .....	3½c
Ewes .....	3½c
Lambs, lb. ....	4 @ 4½c
Hogs, 100 to 150 lbs .....	6 c
150 to 250 lbs. ....	6 c
250 to 325 lb. ....	5½ @ 5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

#### SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Oct. 20, 1908.—We are now very near to the passing of the old orange season and the opening of the new one. While Valencias will probably be shipped for two weeks yet, it might be said that the season is practically over, and as the first car from Lindsay will go out today, it can be said that the new season is on, and it will be in full swing by the first of the month. All first orders are conditioned on shipment before November 10, or in time for Thanksgiving. Some report that orders are much more scarce than last year, as the trade got badly bumped at that time, this is probably true. Others report good sales and at good prices. All seem to be of the opinion that after the 10th of the month prices will be low or that demand will be light and that will force low prices. Prices are now being made all the way from \$1.65 cash to \$2.50 f.o.b., and in general it can be said that the dealers are not responding very liberally.

Valencias are doing well, and prices are now the best for any time during the year. This is largely because there is no other orange fit for the best trade, the imported and Florida stock being immature, sour and green.

There is a fairly active demand for good lemons, but at this time the best prices are being realized at the Eastern auctions. The imported stock is very low in quantity, and the quality is not in all cases of the best. Mid-Western markets have not as yet responded to the high mark set by the East, but as fruit will be diverted to the best paying markets it will not be long before these points

will have to come up to the price set by the highest.

Citrus fruit shipments to date have been 29,250 cars, of which 4775 cars have been lemons. To same date last season, 27,415 had been shipped, of which 3438 were lemons; and in 1906, 25,863 cars, of which 3723 were lemons.

#### SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Oct. 20, 1908.

The Tokay market this week is considerably stronger. Florin Tokays are arriving in the East in a fair condition, although an occasional car arrives decayed and showing mould. Florin Tokays averaged yesterday \$1.15, Lodi Tokays 95c. to \$1.

Shipments from Florin will cease before the end of this week; in fact, the last car will go forward on Thursday, October 22.

Cars of grapes from Lodi will probably go forward as late as the first week in November. We do not believe the grapes have been injured by the recent storm. A few cars are going out on f.o.b. orders, on a basis of 70c.

Fresno Malagas are selling none too well. The fruit is arriving in an off condition, consequently prices are low. The average for Malagas is \$1 to \$1.10; bunch pack, \$1.10 to \$1.20. The supply en route will soon be cleaned up, but higher prices on this particular variety are not expected.

We note one car of Cornichons sold in New York yesterday at 90c. The fruit arrived in poor condition.

A few Levi Clings are being sold in the Eastern auctions, averaging 80c. to \$1.15. There are about three cars of peaches en route. These will probably sell at an average of \$1 to \$1.15 delivered.

Winter Nellis pears are selling at 85c. to \$1.55.

The first car of Emperors will go forward the latter part of this week, and shipments will increase from that time on. Several orders have been placed f.o.b. for this variety.

Comparative shipments for the seasons of 1907 and 1908 to October 14 are as follows: 1907, 6718 cars; 1908, 10,750 cars.

#### THE STATE AND THE FARMER.

By PROF. L. H. BAILEY of Cornell University.

The germ of this book was a paper on the State and Farmer, which Prof. Bailey read as a presidential address before the Association of American Agricultural Colleges and Experiment Stations last year. It aroused so much interest that Prof. Bailey decided to expand the principles there expressed and apply them to a wider range. The book treats, in a very suggestive way, the whole question of the relation of the farmer to the political organization of which he is a part, and specifically, of course, with reference to American conditions.

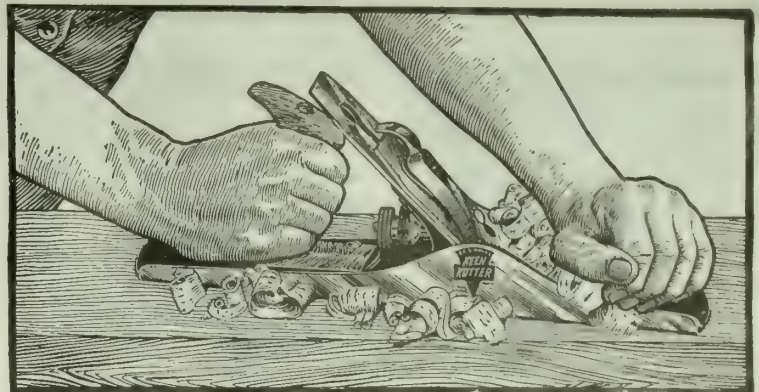
Coming at this time, it will be of value to the commission appointed by President Roosevelt to examine into the condition of the farmers from a social standpoint. Prof. Bailey has gone to the bottom of questions relating to the subject and offers many suggestions that will tend to solving the problems. The near future will see great changes in farm life, and those studying the question will find the book of interest. Macmillan Co. of New York, publishers. Price \$1.50.

The Harriman railway lines announced this week that the Roy Sprague pre-cooling device has been demonstrated a success in chilling ripe fruit for safe shipment in cars to the East. The company is now building plants at Colton and Roseville, which will handle 60 cars a day, and will cost upward of a million dollars.

Several carloads of horses have just been shipped from the Klamath country to Seattle, to be sent to the Philippines for cavalry service.

The recent State Fair held at Sacramento broke the record and cleared \$202. The total receipts were \$40,870.88.

A car of oranges of the new crop was shipped from Fair Oaks, Sacramento county, this week.



### Quality in Tools

Tools for the workshop, farm or home must be tools of quality. A plane, for instance, to smooth a board properly, must have a keen blade, carefully adjusted—its surface must be true and it must fit the hand.

## KEEN KUTTER

### Tools and Cutlery



are carefully inspected, adjusted and tested before leaving the factory.

Look for the Keen Kutter trademark on every tool you buy—it guarantees the tool to be satisfactory or money refunded.

The name Keen Kutter covers a full line of tools for shop, garden and farm, as well as scissors, shears, pocket knives, razors and table cutlery.

If not at your dealer's, write us.

SIMMONS HARDWARE COMPANY (INC.), ST. LOUIS AND NEW YORK, U. S. A.

## Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

## PACIFIC IMPLEMENT COMPANY

135 Kansas St., San Francisco.

TELL THE FOLK AT HOME

THERE WILL BE

# Homeseekers' Rates

in effect daily from Eastern points during September and October, 1908.

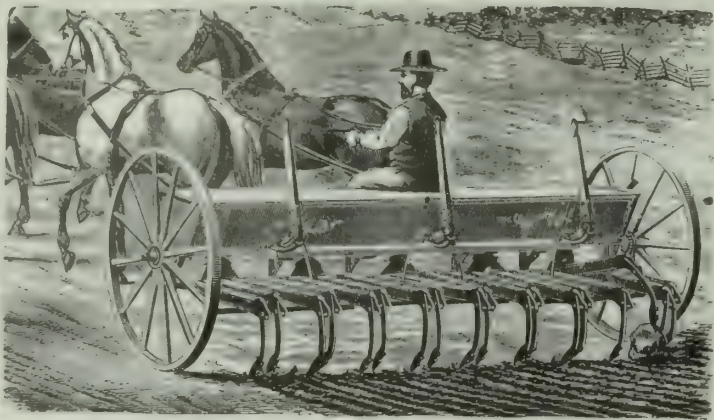
#### SOME RATES:

Sioux City	-	-	-	\$31.95	New Orleans	-	-	-	\$35.50
Council Bluffs	-	-	-	30.00	Peoria	-	-	-	36.75
Omaha	-	-	-	30.00	Pittsburg	-	-	-	47.00
St. Joseph	-	-	-	30.00	Memphis	-	-	-	36.70
Kansas City	-	-	-	30.00	Bloomington	-	-	-	36.75
Leavenworth	-	-	-	30.00	St. Paul	-	-	-	36.75
Denver	-	-	-	30.00	Minneapolis	-	-	-	36.75
Houston	-	-	-	30.00	Chicago	-	-	-	38.00
St. Louis	-	-	-	35.50	New York	-	-	-	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

# Southern Pacific





THE GENUINE GORHAM SEEDER AND CULTIVATOR

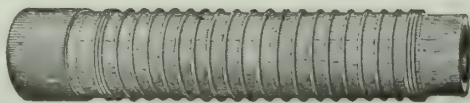
## Something New? No

USED WITH UNQUALIFIED SUCCESS HERE  
FOR 30 YEARS

There is nothing like it for hilly lands, summer fallowed lands, for seeding in the winds. The seed is evenly distributed in the quantity you measure and you get RESULTS. Prices are lower than ever. Write

**THE H. C. SHAW CO., Stockton, Cal.**

## All Soils Alike to Wood Pipe

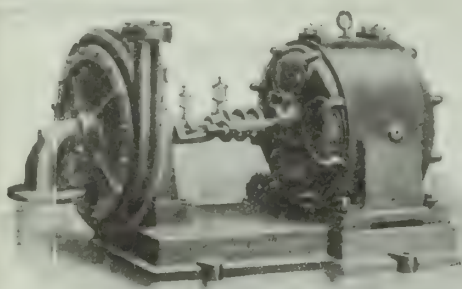


The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated. Air Excluded. Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our booklet, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe  
**National Wood Pipe Company**

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.

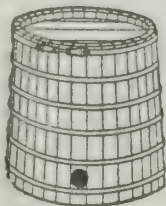


## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

**Krogh Man'f'g. Co.**

127 to 133 Beale St., San Francisco, Cal.  
Send for new catalogue No. 50  
just issued.



WINE TANK.

## Tanks

WINDELER'S PLANING MILL  
AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

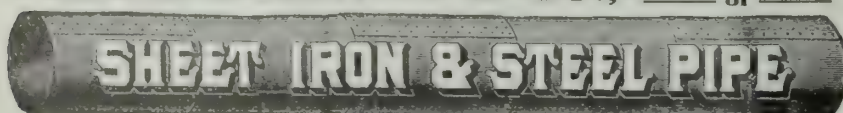
144-154 Berry St.

San Francisco, Cal.



WATER TANK.

**FRANCIS SMITH & CO.,** Manufacturers of



**SHEET IRON & STEEL PIPE**

FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 63 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks all sizes. Coating all sizes of Pipes with Asphaltum

## REX Lime and Sulphur Solution For Fruit Spray and Stock Dip.

This solution is guaranteed, when diluted according to directions for the dipping of Sheep and Cattle, to contain not to exceed one per cent of Lime (CaO), and not less than two per cent of Sulphur, combined in the form of Calcium Sulphides, and made according to Government formula.

The Department of Agriculture at Washington, D. C., has authorized the use of REX for Sheep Scab and Cattle Mange in the proportions of 1 gallon of REX to 15 gallons of water, making 800 gallons of Spray out of every barrel. Full directions for its use on every barrel. Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

Prepared by THE REX COMPANY, Omaha, Neb.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



Yield of Wheat on Miller & Lux's Poso Farm, Firebaugh, Fresno County, Cal., almost Doubled by fertilizing with

## Mococo Superphosphate

Land FERTILIZED with Mococo Superphos-

phate yielded per acre.....1,082.86 lbs. at \$1.62 \$17.54  
Adjoining land NOT fertilized yielded per acre 572.60 lbs. at \$1.47 8.42

GAIN, due solely to use of Superphosphate 510.26 \$9.12  
SUPERPHOSPHATE is the CHEAPEST FERTILIZER on the market.

FOR SALE BY

THE MOUNTAIN COPPER COMPANY, Ltd., 150 PINE ST., SAN FRANCISCO

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

**THE PACIFIC GUANO & FERTILIZER COMPANY**  
268E Market St., San Francisco, Cal.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.  
**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1830  
PIONEERS AND LEADERS

**Blake, Moffitt & Towne**  
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 18.

SAN FRANCISCO, SATURDAY, OCTOBER 31, 1908.

Thirty-eighth Year.

## The Future Walnut Orchard.

Written for the PACIFIC RURAL PRESS  
By FRANK A. LEIB.

In taking up this subject, we shall not—for lack of space and time—touch upon the important subjects of transplanting the trees from the nursery to the orchard, the after fertilization, cultivation and irrigation of the transplant and the harvesting, curing and profit of the walnut crop, but deal solely with the more important subjects of selection of root and selection of the variety with which to graft that root.

The importance of a thorough discussion of these two latter subjects is evident to every walnut grove owner, since a careful survey of his trees will show some few, out of a possibly many thousands, which, by reason of size, quality, quantity and uniformity of their crops, are worth, tree for tree, from twice as much as the next best trees to twenty times more than the very poorest, considering each tree as an income producer. What would it mean to him, if all his trees were equal to, or better, than these few best ones?

Obviously, these selections must be made from varieties now existing, from accidental crosses of



One-Year-Old Franquette Graft on One-Year-Old Selected Hybrid Root.

these varieties, and from intentional crosses to be made for the purpose of eventually combining to, or better, than these few best ones?

Of the varieties obtained from intentional hybrids, both for root and for the production of edible nuts, we shall not now speak, since none of them, with which I am familiar, has been given the sufficient trial, which is necessary to determine the commercial merit of any new fruit or

nut. This leaves us then to a discussion of varieties more or less familiar to all of us.

Each variety of edible commercial nuts has a certain combination of what we may term unit characters or qualities, such as earliness of bearing, bearing qualities, degrees of immunity from frost and blight, time of maturing nuts, growth of tree, self hulling quality, shape, size, color, flavor, size and keeping qualities of the kernel.

Now seedling nuts from fine varieties, in nearly every case, produce trees, grown from them, inferior to the original mother tree, both as to nuts and growth, and this accounts for the fact that we have, in our seedling groves, only a few heavy bearing trees producing nuts of merit, and also accounts why, in our grafted groves, we have



Eleven Nuts on Two-Year Grafts on Three-Year-Old Selected California Root.

some trees twice as large as many others, and producing double as many nuts, by reason of the stronger roots on which these larger trees were grafted.

Since our future orchard, then, must be a grafted, and not a seedling one, we shall discuss the merits of the various roots. The nuts from French and so-called English or Santa Barbara varieties are very undesirable to grow roots on which to graft. Under the most favorable conditions, their growth is very greatly inferior to either selected straight California black walnuts, or selected hybrids created by the crossing of the California black walnut with the Eastern black walnut or with the English walnut; and, under unfavorable conditions, such as excess moisture,

heavy cold soils, weak soils or drouth, they are either stunted or die, where the various black wild varieties subsist and even flourish. The man who plants a walnut orchard, grafted on ordinary English or French root, will have to get more than double the price per pound to make as much money as a man planting a grove grafted on selected Royal or Paradox hybrid roots. For instance, we have one year old selected hybrid trees in the nursery larger than the two-year-old English and French seedlings, which latter we



Five-Year Old Paradox Hybrid, in Dry Soil.

grow to produce new varieties. The Payne grafted California Black walnut tree has a crop of from seven to eight hundred pounds on it this year, probably twice as much as the crop on the best English or French tree of the same age, grown on its own root.

The Eastern black walnut we can also eliminate as a stock on which to graft, as it no more than holds its own with the California black in damp, heavy soils, and on dry, light soils is far inferior to it.

The straight California black walnut is comparatively rare, since it is perpetuated by seed and the Eastern black walnut is so commonly grown near it that the California black nuts are frequently pollenized by it, and hence many so-called California trees are really hybrids. The straight California will always be a favorite, as it is a good grower and does well in a wide variety of soils and climates.

The Paradox hybrid (California crossed with English) though sometimes an enormous grower is as yet (so far as I have tested the same) of

(Continued on Page 276.)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor  
FRANK HONEYWELL - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., October 27, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka.....	.0	4.88	3.59
Red Bluff.....	.0	.07	2.20
Sacramento.....	.0	.23	1.31
Mt. Tamalpais.....	.0	1.51	1.56
San Francisco.....	.0	.69	1.40
San Jose.....	.0	.23	1.39
Fresno.....	.0	.18	.92
Independence.....	.0	1.60	.81
San Luis Obispo.....	.0	1.44	1.66
Los Angeles.....	.0	1.55	.74
San Diego.....	.0	.99	.47

## The Week.

We presume that our readers have already decided to which group of presidential electors they will give their votes, so exhortations along that line are unnecessary. Even if this were not so, those who might not like our doctrine would probably claim that an agricultural preacher should not dabble in politics, and proceed to lessen our congregation. There is, however, an issue to be determined at the election on November 3 which is not political, and concerning which the voter can think and act wholly apart from his choice as to who shall live in the White House for four years from next March. Besides, this issue, while clearly non-political and non-partisan, is directly agricultural and therefore we conceive it to be our duty and privilege to hold forth upon it. We hold it to be directly agricultural from at least two points of view: First, it is unique in public affairs, because it is a tax reform which recognizes fully and fairly that agricultural property in California is forced to carry more than its share of taxation; second, it is a method of fairly adjusting this public burden by an altogether unprejudiced and scientific expert on taxation and public finance who was called to his work through the initiative demand of a representative organization of California farmers. It is exceedingly important that at the election next Tuesday those who have agricultural property and desire it to contribute its share to State support and no more, should by their votes secure the final enactment of a taxation method which does to them the even justice which they have for years been calling for in private conversation and in public discussion, and which they rightly conceive to be the basis of industrial equality and fairness in this State. In this affair we return to the old requirement of freedom-getting since the world began, "they who would be free, themselves must strike the blow." The industrial shackle is on the horn of the anvil. Strike now and we shall escape, in one phase at least, from the industrial bondage of unequal taxation, which has fastened itself upon every jot and tittle of farm property while millions of more

productive wealth have eluded their proper burden. We refer, of course, to Constitutional Amendment No. 1, providing for the reform of taxation in California, which will be found on election day at the head of the list of constitutional amendments upon which the voter has opportunity to vote for or against. No matter how great may be the voter's weariness when he has selected his candidates for office, he should not withdraw from the booth until he has recorded his will on this subject.

We are perhaps using the language of partisanship in urging this matter, but it is really not done in the spirit of partisanship. If the farmers called for a change because they felt the injustice done them as a class, nothing but the initiative itself pertained to a class-movement. The movement which has resulted in the framing of this amendment has never been except at the first moment in the hands of the farmers. It passed at once into the atmosphere of statesmanship. In the list of two governors, two State senators, two assemblymen and one expert on taxation who have officially examined laws, constitutions, financial precedents and movements since the commission was appointed in 1905, we do not find a man who has farming as his recognized business, and we doubt if many of them own an acre of farming land. We do not hold them at all better for that fact, they may indeed be the worse for it; but to understand the fact, and to find in it evidence of all freedom from class interest or prejudice, might help some people to view the matter more freely. The reason why the reform in the matter of imposing taxes is favorable to holders of farm and rural property generally is not because farmers have urged it, but because such favor, as contrasted with the old system, is everlastingly just in its fundamental principles. The farmer simply wins his case in a court of the highest resort in equity, and the only question now is, will the farmer affirm the decision by his vote—and that his action next Tuesday will declare.

We rather regret this appeal to farmers as a class to do what is industrially good for them, because enlightened farmers are the last of all people to make class issues. They may be charged with them on the basis of some things which are being done now and then in the name of agriculture, but when you come to consider them as a whole, farmers are the first of all the nation to forget class claims and to merge their own interests in patriotism, philanthropy and humanitarianism. In spite of the little complaining which he is always allowed to do about crops and pests, weather and prices, the farmer is optimistic for all mankind, and is never appealed to in vain in a just cause—in fact, his large heart sometimes burns his own justice in the glow of mercy to others, when its coeales are skilfully blown upon with air of adequate temperature. We are rather ashamed then to appeal to farmers to support a measure upon the ground that it is good for them as a class, because of the danger of weakening it in their regard. But what else can we do when the effort is boldly made to prejudice the measure and win urban negatives by branding it as a selfish rural issue? What else can we do when, as currently reported, the city assessor of Los Angeles denounces the amendment because it is "fine for the cow counties." Fine for the cow counties, indeed; fine for the orange counties and the lemon counties and the walnut counties also, no doubt. And this short-sighted official forgot, of course, how much rural property is owned by the residents of Los Angeles, and how they have been unjustly taxed for it.

This issue, then, of the rural benefits of the amendment is not of our making, but we are righteously inflamed by it, as other ruralists should be. Where would any great city in California be but for its environment of agricultural property. Who would have carried millions into Los Angeles if the citrus lands of its own county and of adjacent counties if the orange had not stood forth as the exponent of health and gold in southern California, or if the oil had not flowed from wells in rural fields and canyons? If, however, some city men are to impeach this amendment and secure urban votes against it by the reflection that it is a class measure, we must fight the issue with the same fire in the veins of the rural population. Let our farmers understand, then, clearly that it is good for farm property. The secretary and expert of the Commission on Revenue and Taxation, Professor Plehn, of the University of California, shows clearly by his recent publications that the reform would have reduced the State tax this year on rural properties over 18 cents per \$100 assessed valuation—that is, under the amendment, owners of rural property would pay 22c. instead of 40c., as they will this year. But the State tax this year is the lowest but one in the whole history of the State. For the last ten years it has averaged 49½c., and the reduction from such a tax would be nearly 28c. Surely it is "fine for the cow counties." We accept it that way, if the issue is made on that ground.

Now, why does it come out that way? It does not mean, of course, that the State will have less money to support its desirable and progressive institutions. The farmer would not for a moment accept a measure which would injure the name of his State nor make it an inferior home for his children, nor would a statesmanlike commission think of such a proposition. There will be no less money for public purposes, but the farmer will only pay his just share toward such purposes. Here again perhaps we can claim that the issue is a rural one, because it has long been a rural conviction and complaint that property not so easily seen and measured as the farmer's acres, improvements and live stock was escaping its share of public burdens; that people who were pulling down fine plums of fortune were paying relatively less taxes than he, and that if all productive property paid its share, his share would be less. He has always believed that great corporations largely escaped taxation, that very profitable franchises escaped, that millions of productive capital rolled out of sight on the ides of March. And so indeed it was, and is!

The basic principle upon which the amendment, which must now be adopted by popular vote, rests is that of equalization of tax burdens among the different forms of productive property. In its investigation the commission found these glaring inequalities: 1. That those whose property consisted of real estate only were grievously overtaxed. Real estate pays over 80% of the entire taxes. 2. That in their mad rush to avoid the State tax the assessors were undervaluing property and thus creating many inequalities, both between counties and between individuals. 3. That certain classes of public service corporations were undertaxed, and that the national banks paid practically no taxes. Among minor evils were the over-taxation of savings banks and the inequitable distribution among the counties of the taxes on railroads and similar classes of corporations whose property extends through many counties. In a word, the escape from these evils is to remove the State tax from property local in the counties



and to support the State by taxes levied upon the earnings of corporations which have the State as a field for activity and profit, while the counties shall meet their local expenses by local taxes upon assessments, which they can regulate as they see fit, and which need not be mechanically raised or lowered by State authority to suit State purposes. Whatever incidental advantages there may be in this procedure, in the way of saving expenses of equalization, etc., the chief advantage, and the one which rural interests will chiefly approve, is of course the bringing to the money making concerns which have never been adequately taxed hitherto, and the changed system proposed is a means toward that end.

In its proposed amendment the commission selected for taxation six classes of corporations: The railroads, including street railways, the car companies, the express companies, the telephone and telegraph companies, the light, heat and power companies, and the banks. The street railways were included, first, because they cannot in these days be distinguished from other railroads, and by taxing them for State purposes the just balance between city and county could be maintained. Banks were included because, although they usually have a local habitation in some city, their business permeates all through the State. But the amendment provides that the banks shall still be taxed locally on all real estate they own. Water companies were not included because, first, there is a movement in many places toward municipal ownership; and second, because in many places irrigation companies also supply water for domestic purposes; and third, because no uniform rule could be found for taxing companies whose business presents such a variety of conditions, and lastly, the State would not require the revenue, and the counties could treat their possessions as other property. The corporations which are to be taxed will pay on the basis of their gross earnings, which the experience of other States shows can be easily and accurately ascertained. Banks are to be taxed upon their capital stock, which is the only way that national banks can be reached, except, as stated above, their real estate is to be taxed for local purposes as heretofore.

The foregoing seems to us to be a fair statement of the new scheme of taxation and what it is aimed to accomplish by it. The amendment to the constitution is carefully drawn and prescribes in detail the way in which it is to be carried out. The general plan is the same which is in successful operation in other States, so that there is no untried experiment in it. The present system in California is antiquated and has been working injustice long enough. It would have continued indefinitely if those who were overtaxed had not arraigned it at the bar of public opinion and secured the affirmation of their claim for justice at the hands of an expert body of investigators. It was too much to expect that the beneficiaries of the old system would do anything but enjoy it, and, if the assessor of Los Angeles county is heeded, it is not to be expected that those who are now listed to do their full duty to the State will be especially active for a change. It is up to the rural property owner to protect himself in the way the State has provided, for the legislature has passed the question to the people and two governors have emphatically commended it in their messages to the legislature. It only needs now to be voted for. It must, under the law, secure an adequate proportion of the votes cast at the next election, and it can die from neglect as well as from opposition.

We desire in a word to call attention to the walnut article by Mr. Leib in this issue, as a token of the advanced standing of horticulture in this State. Learn from it how deep are the considerations which move our fruit growers, how fine are the distinctions they have to make, how intellectual are the qualities of men who only claim to be growers of fruits in California.

## Queries and Replies.

### Sub-Irrigation Systems in California.

To the Editor: In our district we are much interested in the subject of irrigation. Our irrigating proposition, in this particular district, is a very difficult one, owing to the roughness of the ground and the fact that water has to be pumped. We have not as yet been able to get in touch with a system of applying water which was satisfactory. A young engineer from your State or Colorado recently explained to me a system of sub-irrigation which might solve our problem. According to him, in certain sections it was the custom for growers to pipe their land and apply the water by means of spear points on the ends of small pipe-rods, with small apertures in the pipe near the spear end. These improvised spears are thrust into the ground near the tree or plant to be irrigated, and the water allowed to sub-irrigate, doing away with all baking evaporation and making it as easy to irrigate rough land as smooth. In regard to this system of irrigation I would like to get full particulars.—Grower, Washington.

Several sub-irrigation plans have been proposed in this State during the last quarter of a century, none of which has ever been brought into use. Whenever you see accounts of fruit grown on sub-irrigated lands in this State you may put it down that it means lands which are irrigated by underflow, naturally, and not through pipes, the water coming from adjacent water-sheds or from higher running streams or ditches. The device described to you by a young engineer, possibly from this State, has not come to our notice. Possibly he has seen an arrangement for a driven well and conceived it to be for irrigation purposes. Of course, driven wells can be used for irrigation purposes when they strike strata carrying an abundance of water, but in that case a pump is necessary to raise the water to the surface, from which it is distributed in the usual way, by surface ditches, furrows, etc. We have never heard of irrigation by water rising naturally in such perforated pipes, and should not expect success along that line, unless the pipes should strike water under pressure which would yield a flowing well, and so far as we know, nothing of that sort has been done except for surface application of the water. If he means that such points were connected with water under pressure and thrust in here and there to distribute such water underground, we should have no confidence in that method either. The best way to carry water to trees which cannot be handily reached by ditch or furrow is through detachable or jointed pipes of galvanized iron, which can be readily adjusted to deliver water to checks or basins in which the trees stand.

### Wider Spacing of Septuple Plantings.

To the Editor: I wish to ask your advice about eight acres of prune trees. They are 20 feet apart in triangles, and are so large that they are too close. What would your idea be about thinning them out. They are pruned so as to have a low trunk, with an average of five limbs from about two feet from the base.—Orchardist, Colusa County.

One of the chief difficulties in planting in triangles is in the removal of surplus trees. About all that can be done is to remove alternate rows

one way, leaving the trees near together in the rows and the rows far apart. It is impossible to get an equal division of the ground, as you can by removing alternate rows in square plantings. Before we undertook any such radical treatment we should see if the branching could not be reduced, especially those branches which have a spreading tendency. By extra cultivation and manuring you can keep them up to bearing without interference. It is not generally desirable to cut back branches, as with the peach, but to remove entirely those which can be dispensed with.

### Branch-Failure of Apricots.

To the Editor: I send you a package of apricot branches, and would like to know what is the matter with the trees. It looks to me like some kind of a blight. I first noticed it on a limb of a tree about eight years ago. The limb did not grow much, but for years it did not spread to the rest of the tree. But the last couple of years I find it on many trees, some trees only a branch or two is injured, on others it has spread over the whole tree. Branches that are affected make very little growth, and sometimes die back at the ends. Apricots on these injured branches are small, not much larger than cherries. It seems to be the worst where apricots are on peach root.—Enquirer, Santa Clara County.

The behavior of apricot branches which you mention is an old trouble of the tree, and is probably not due to specific disease, but to some physiological phenomenon manifesting itself in this defective growth. All branches acting this way should be cut back freely to get healthy growth, even to the removal of the branch from its starting point, and the balance of the tree may then retain its thrift. Sometimes when a whole tree seems to be going that way, it can be renewed by cutting back all around at the beginning of the growing season. Sometimes trees go wrong this way owing to unfavorable conditions in the soil or moisture supply, and in that case the tree should be removed and another tree, preferably of another kind of fruit, put in its place, but where the trouble is restricted to a branch here or there, while the balance of the tree is healthy, amputation seems to be a reasonable treatment.

### Eucalyptus on Alkali.

To the Editor: Will the eucalyptus tree grow well in an alkali soil? I have a tract of land intended for vineyard, but there was found to be too much alkali in the soil. I have never improved the land, not knowing what would grow well. Would it be wise to plant it with eucalyptus trees, say about 1200 to the acre? Should you thing favorably of the idea, would you let me know whether I might hope for help from the Government, in the way of seeds and instruction as to care in the trying of the experiment? I would be willing to give a portion of the land to have the idea tested.—Owner, Kern County.

The eucalyptus tree cannot be relied upon to succeed in alkali soil. The red gum, *Eucalyptus rostrata*, has the reputation of enduring more alkali than the blue gum, but the success of either depends upon how much alkali you have to deal with. There can easily be too much for any tree to grow. When there is not enough alkali present to actually kill the tree, its growth is likely to be stunted, so that anticipations of profitable return may be long deferred. The eucalyptus understands good soil, ample water and the right kind of care as well as any kind of plant which we have to deal with. Many disappointments are likely to occur from undertaking to grow it in unfavorable conditions. There is no arrangement which we know of for Government assistance in the growing eucalyptus trees, except in the way of giving advice about it.



## Horticulture.

### THE FUTURE WALNUT ORCHARD.

(Continued From Page 273.)

little value, as a parent for seedlings for stock, since I have found its seedlings to be almost all weak growers compared to its parent; and besides it is almost barren. For instance, a tree forty years of age and four feet through—the largest tree I have seen of this cross—produces less than a hatfull of nuts annually. This hybrid, owing to its English blood doubtless, I have had die when planted where the water table was only six feet from the surface, although the California, which I use, and especially one particular kind of the Royal hybrids, planted under the same conditions, did splendidly.

The Royal hybrid (every cross between the native Eastern black walnut and the native California black walnut is called a Royal hybrid), is, in my opinion, the most magnificent growing tree in the walnut line, and I believe that in the future some Royal hybrids can, by persistent selection, be sufficiently fixed to furnish the strongest possible roots of substantial uniformity on which to graft. At present I know of only one tree, picked out from many hundreds, which is sufficiently fixed to grow a fair percentage of seedlings equal to itself.

Only from one to two per cent of the seedlings of most Royal hybrids is equal to the parent, and the percentage of even the best straight California is only from fifteen to twenty per cent, and the poorest give less than one per cent.

In Bolivia, lumber companies are formed for the purpose of converting a magnificent variety, called the Bolivian black walnut, into hardwood lumber of the very finest quality. We find that seedlings of this variety vary greatly, but even the best are inferior to the best California or Royal hybrid, except in one regard—it lives with us under swampy conditions where no other walnut can live, and doubtless, therefore, crossing it with either California or Eastern black walnuts or the Royal hybrid, may give a better and hardier stock than anything we now have, especially for lumber purposes and for heavy soils.

At present, we, by a system of sprouting, are able to eliminate four-fifths of the weakest growing nuts, and we plant the remaining fifth in the nursery. Twenty-five per cent of such remaining nuts from our selected trees of Royal hybrid blood, and fifteen to twenty per cent from our selected California trees, grow three to four feet the first year. The three to four foot seedlings in the nursery are grafted when one year old, and the remaining smaller trees are left for another year; and for this reason a small per cent make a disproportionately large growth of root compared to its moderate top the first year, and make an immense growth of top the second year.

All Paradox hybrids make a large root and but a moderate top the first year, as do many seedlings from the Royal hybrid, and as do very, very few from the straight California. These few trees, which "make good" the second year, three or four per cent, possibly, of the trees left to grow another year in the nursery, are grafted at the end of the second year, and the balance thrown away as unworthy to be grafted and given a chance in orchard form; for a tree which is to have in the orchard from sixteen hundred to thirty-six hundred square feet, cannot be too good, either as to root or top.

So much, then, for selection of the roots on which to graft. Now as to the scions. Where practicable a variety should be improved and finally fixed (if there be such a thing), by bud selection. For instance, as a start in the direction, we got grafts from the best bearing Franquette trees of the best bearing orchard we knew of and grafted them on a row of large blacks. We found that some of the grafts, a little more than half, produced decidedly more walnuts and of larger size than the others, although all were, of course, of the same type. From these heaviest bearing scions, we got grafts for our nursery stock and orchard trees. The result was that the second year from the graft a few nuts were produced, while they rapidly increased year by year

thereafter. These scions are cut long and the strongest bud on each is saved to make the future nursery or orchard tree and the others cut off. This gives with us, in the Franquette variety, an average growth for the first year of six feet on one-year-old selected root on our soil. In the same nursery, it takes a French or English seedling three years to make a top of the same size, and the root is far inferior in soil penetration.

We will make the discussion of varieties as brief as possible. The Santa Barbara and Santa Rosa varieties with us (and in most localities) are inadvisable, owing to their susceptibility to blight. That leaves us the standard French varieties and various French seedlings. The leading standard varieties are: Bijou (large but too rough and not well filled, fine flavor), Parisienne (shapely, good size, but inferior in flavor to Franquette or Mayette), the Vourey (good flavor, too small, good for candy purposes, but any variety has a sufficient number of small nuts to supply all demands for that size), Meylan (large and beautifully shaped, untested commercially in orchard form, Mayette (highest priced nut in France, large, shapely, but unproved here in orchard form, owing to unreliability of French nurserymen; few nurserymen in California or Oregon have or know the genuine Mayette; our



Five-Year-Old Selected California Seedling.

importations of three and two years ago of grafts from France of supposedly genuine Mayette gave us some genuine Mayette and half a dozen seedlings of the Mayette, though of the same type), the Franquette (large, shapely, oblong, thoroughly proved in orchard form in the Vrooman orchard at Santa Rosa, and selling for a cent, or a fraction of a cent less a pound than the Mayette in France, where for over a century and a quarter it and the Mayette have never been surpassed for all around qualities and neither of them has ever lost more than a small per cent of nuts from blight. Conditions in France are much more apt to produce blight than here, where we have no summer rains. It is interesting to note that the walnut blight was and is imported from France by persons ignorant of its existence there.

It is also interesting to note that there is in France a still greater menace in the form of a small worm which burrows into the nut when green and destroys it. Large losses occur some years from this cause. Up to this date we have no trace of this enemy, but it is suggestive that some growers in Oregon are each year importing French nuts from which to grow seedlings and that French nurserymen (in answer to queries at least) are "unaware of any disease affecting the walnut." Many of the readers of this paper will recognize with us that here is a case where the prevention is much easier than the cure.

Of the French seedlings and hybrids there are many merits, but none of them, so far as they have been proven out in this country are as good as the Franquette, though I believe through hybridization and selection that in time we shall

see a better commercial nut; and the Mayette may prove its equal, or superior, as it has done in France. We are testing it out thoroughly.

To sum up, then, I believe that the future walnut orchard will be planted with roots selected from seedlings of the Royal hybrid, or a cross with it and the Bolivian black walnut, and grafted to either Franquette, Mayette or some selected seedling of a French hybrid, and by reason of breeding and selection will pay more at the age of ten years than the seedling orchard will at the age of twenty.

## Citrus Fruits.

### THE ORANGE GROWER'S TROUBLES.

Written for the PACIFIC RURAL PRESS  
By MR. THOMAS C. WALLACE.

**Irrigation Details.**—In the last issue we discussed mostly the matters of cultivation for mulch, and irrigation in a general way. There are some points of importance in irrigating an orchard which it is found quite commonly escape the attention of the irrigator. It is often noticeable that the lower part of the orchard shows better conditions in quantity of fruit and tree growth than the upper part nearer the flume. Growers express surprise at this, as they often assert that the upper part gets the most water, and this taken as proof that water, or the want of it, is not the only trouble. On examination of these conditions, it is invariably disclosed that the soil of the lower part is much richer than at the end of the grove nearer the flume. This is caused by a washing of the plant food and humus down through the length of the orchard, so that the soil is weakened in one end and strengthened at the other. Defective irrigation is the cause, but how does this occur? All the manure or applied fertilizer is put into the first five or six inches in depth of the soil. The furrows for irrigation are usually about two to four inches deep, and as a consequence the flow of water is over and through the richest part of the soil, the soluble contents of which are carried in the little streams, as it naturally floats to the surface. To avoid this, irrigation furrows should be cut to a depth below the applied fertilizers, so that no water will run over the surface, and thus the loss of valuable and costly materials prevented.

**The Deep Furrow.**—But this deep furrow has another advantage, in that it protects the flow of water from evaporation to a considerable extent, and, as water costs money, a saving is effected. But that is not all, for the deep channel helps the water to get deeper into the soil while it prevents the puddling of the surface, the water spreading laterally much more perfectly, and gently rising by capillarity toward the surface, leaving the coating of soil at the top dry. This insures a friable mulch which will not bake, as it requires a soaked surface to present a baked crust. The narrower the point of the furrowing tool the better, as a deep narrow furrow will carry a better irrigation stream than a wide one, and enable the irrigator to run the water surer and longer distance with safety. A stout chisel tooth at the point of the furrower will be found very helpful in cutting a deep channel, and as the water sinks in the narrow channel there is no important side washing of the furrow, as in a few moments capillarity sends water enough up into the side earth to hold it together. Observation shows that defective irrigation in the shape of shallow furrowing is one of the causes of lessened crops which needs correcting on many groves. In soils which too easily form an irrigation pan this deepening of the furrows is very important and should receive most careful attention. If irrigation is worked in shallow furrows it is necessary to have them closer together, and probably six furrows are hardly enough in the average soil. The lateral spread of the water requires close soil, and is an upward and outward movement, and not a downward and outward movement, as popularly supposed. If the furrows are deep the water will spread much easily and farther, so that the whole land will be more perfectly moist-



ened. Four furrows, and in many groves three furrows, will effect a complete irrigation in the majority of cases, and the deeper the side furrows are made the nearer the water will come to meeting from row to row, and moisten about the tap-roots of the trees. This is an important consideration which seems quite generally lost sight of. Too often the cross land and the soil about the tap-roots of the trees pass through a whole season without receiving any moisture. If a dry winter follows, over a year goes by without the water reaching a considerable area of the tree's power of feeding. The result on the tree in time is as sure as it is disappointing to the grower, but is generally attributed to some other cause. When I urge growers to use the deep furrow I am met with the argument that it would cut off a lot of roots to put such furrows in their orchards. This is too true, and to be regretted. There is a difference between allowing the roots of the trees to become established near the surface, and having the upper soil filled with fine feeding rootlets. The lateral roots should be kept as deep as practical, which is, not deeper than the loam or closely beneath it. The rootlets should be encouraged to come up from the roots and fill the loam up to the mulch. The irrigation furrows will not materially harm this up-growing mass of rootlets, which will be pushed aside rather than cut out to any considerable extent. If the lateral roots are below the air line and below the loam, they will not make many rootlets, as these develop in loam. There seems to be a good reason for keeping the roots, not the rootlets, well down in the soil, as by doing so, splitting of fruit seems to be guarded against. All indications point to the fruit splitting as due to temperature variations, day after day showing a wide range between daytime and night. Observation shows that trees with roots near the surface suffer severely when the conditions for splitting prevail, while the trees with roots kept below much atmospheric influence escape the splitting. If this is correct, it is most probably caused by the contractile action of the cold, the air entering the top soil, and as cold air is always depressed, thus shrinking the wood and retarding the flow of water toward the fruit.

**Smothering Soil with Water.**—Another trouble occurring from irrigation is that in the event of a pan forming at one or two feet under the surface, the water is held up at that depth and the one or two feet of soil are so saturated that the air is driven out of the soil. Unless, then, the amount of water used is reduced, about 30 per cent of the absorbing power of the soil, it will have too much water to allow for air circulation. The absorbing power of the soil does not mean saturation, which is a much more serious condition.

Suppose, for example, the amount of water used for a soil is sufficient to moisten it properly on a basis of 70 to 75 per cent of its natural absorbing power for six or eight feet deep; imagine the saturation condition of the soil when this same amount of water is held up by a pan in one or two feet of soil. This is one of the conditions to be found on many unprofitable groves. The crops on such groves are insignificant, and the trees have a tired look. This emphasizes the need of the irrigator knowing the power of his soil to carry water, as one soil will hold up twice as much water as another, and the variation in this respect is not only great, but it is widespread and frequent. It does not follow that because a soil has seemingly absorbed all the water given to it, that it has not been practically over-irrigated. If, as above shown, a soil becomes so hardened at one or two feet depth that the water is held up at that point, the amount of water suitable to properly moisten six feet of depth can be concentrated in the one or two feet by saturating the soil to its limit, which in most arable soils is far above its practical farming point. Guess work is a rather poor plan upon which to base anything so important as a ten or twenty, or mayhap a fifty thousand dollar investment, which is what a good orange grove costs. The matter of irrigation is the very soul of the other operations in growing oranges in California, and growers cannot afford to neglect it, as is now notably shown from an examination of orchards with light crops.

Fertilizing methods will receive consideration next week.

## The Vineyard.

### THE RAISIN MUSCAT.

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

Of the innumerable cultivated varieties of grapes there is none more noteworthy than the Muscat of Alexandria. It is remarkable for its antiquity, its high quality, the extent of its dissemination, and for the great value of its products. In all of these respects it probably exceeds any variety of grape or other fruit.

It seems to have been cultivated first by the Arabs, and was probably introduced into Spain by the Moors. The Apianae of the Romans, mentioned by Columella and Pliny, so far as we can judge by their imperfect descriptions, do not seem to have included this grape, but to have resembled the small, juicy Muscat of Frontignan or White Muskateller.

St. Isidore of Seville (570-636 A.D.) described the grapes of his time and region, but does not mention this variety.

Ibn-el-Baithar, an Arab author, who wrote in 1248 A.D., mentions the Zebib. This is the name still given to the Muscat of Alexandria in Algeria.

Soderini (1526-1596), in Tuscany, mentions the Uva Angela as a synonym of the Zebibo bianco.

Olivier de Serres (1539-1619), in France, describes a grape which he calls Augibi or Piquardant, esteemed for the manufacture of raisins. This is evidently the same grape.

Duhamel du Monceau (1701-1782) gives a very good description of this grape under the name Muscat of Alexandria.

Simon Roxas y Clemente, of Spain, the father of modern ampelography, who wrote at the beginning of the last century, describes and illustrates this variety under the name of Moscatel gordo blanco.

At present this variety is cultivated largely in all the viticultural regions surrounding the Mediterranean, in Chile, Australia, and California. In all of these regions it is used principally as a raisin grape, and to a smaller extent for the manufacture of sweet wine.

In more northerly grape-growing regions it is grown sparingly in gardens as a select variety for table use, and in northern Europe it is valued as the finest and highest priced of hothouse grapes.

Through its antiquity and its wide distribution this variety has acquired a large number of synonyms, some of the most interesting of which are the following:

Muscat of Alexandria—France, California, hothouses of northern Europe.

Moscatel gordo blanco—Andalusia.

Moscatellone—Piedmont.

Salamanna—Tuscany.

Gerosolomintana bianca—southern Italy.

Zibibbo—Sicily.

Zebib—Algeria.

Muscat de Bizerté—Algeria.

Huasco—Chile.

White Hanepoot—Cape Colony.

Feher Szagos(?)—Hungary.

While this synonymy is probably correct, it does not mean that all the grapes cultivated under these names are absolutely identical. Like all varieties of plants grown over wide areas for long periods, this variety has a tendency to form variations, or sub-varieties.

The Gordo blanco of Malaga seems to have somewhat less elongated berries than the Muscat of English hothouses. The Angibi of Province is said to be earlier and more juicy. The Huasco of Chile, as grown in California, seems to set its fruit a little better.

While the differences may be of considerable cultural value, the names all represent essentially the same variety. The variations, however, show clearly the need and value of cutting selection with the raisin Muscat.

Some observers claim to be able to distinguish two varieties in our Californian vineyards, which they call respectively Muscat of Alexandria and Gordo blanco. Other equally experienced observers are unable to distinguish these varieties, and claim to be able to find all the marks used to characterize them in the leaves and bunches of the same vine. Undoubtedly there is considerable

variation in the fruit of Muscat vines from different vineyards and different districts. Some of this variation is due beyond question to soil, climate and cultural conditions, but some is probably inherent in the vine, and points again to the advantages to be obtained by a careful choice of planting stock.

The synonym Feher Szagos is given doubtfully. This name is used in California for a large tasteless white grape, to which it evidently does not belong. The grape was found growing, without history or pedigree, in a Californian vineyard, and was christened by a Hungarian who claimed to recognize the variety as one he had known in his native land. According to information kindly furnished by Dr. Sigmond Elek, agricultural expert at Budapest, Hungary, the name Feher Szagos means aromatic grape, and is given to a large Muscat much appreciated for table use in Hungary. His description leaves little doubt that it is identical with our Muscat of Alexandria.

## The Field.

### HINTS FOR A MAN IN A NEW PLACE.

We have often suggested the value of going slow in a new country, and endeavoring to learn from environment what to do, rather than to try to carry out things which one was dead sure of under entirely different conditions. What Professor Massey of Maryland recently wrote in the New York Tribune about Northern farmers coming South is suggestive of what the attitude should be of people coming from other climates to California. Professor Massey says:

One peculiarity in the Northern farmer, especially if he comes from Pennsylvania, is that he wants a big red barn at once. The big barn is the outgrowth of climate. In the North, where the stock are housed all winter and the farmer's work needs to be done with some sort of protection from the cold, the big barn, handy to the house, is a very important matter. In fact, in New England many have a covered way between house and barn. Hence in coming southward the Northern farmer is likely to hold on to the big barn idea. But he soon outgrows it, and if he sells and starts a new place he follows the Southern plan of scattered buildings. These, of course, involve more walking, but when a man has all his possessions in a big barn, and that barn close to the chimneys of his dwelling he is running a great risk, made necessary by his climate. But coming southward, where cattle spend more time outside in winter than they do inside, and where the going to and fro in the care of them is not done at so much discomfort, the farmer gradually finds that it is far better to have separate buildings and not to put all the products of the farm and the cattle and horses in one building.

Many Northern farmers coming South are too apt to assume that all the practices of their neighbors who were born there are wrong, and they go to work at once to show them a better way, when, in fact, the old way has grown up in the experience of generations, and the Northern man soon learns that there are some things in every section that are different from those in other sections, and that out of the local conditions there have grown up practices that are essential to that particular soil and climate.

No matter how backward the farming may be in any section into which the Northern farmer comes, he should realize that the people around him are not all fools, and that though they may be backward in many respects, they can teach him some things in regard to that particular location that will save his learning in the dear school of experience.

The wise farmer in any section is always ready to learn from the experiences of his neighbors, and to no one is the experience in any locality more important than to the man coming South from a different climate and soil.

Therefore, watch your neighbors, and especially try to get the experience of a Northern man who has been in that locality for some years. If none such, then study your neighbors and hold fast to what is good in their practices while striving to improve on them.



## Patrons of Husbandry.

### THE STATE GRANGE.

To the Editor: The State Grange opened Tuesday morning, October 6, with 150 delegates in attendance. Reports were received from 32 Granges, nearly all indicating a gain in strength and prosperity.

The officers present were: Master, W. V. Griffith, Geyserville, Sonoma County; Overseer, E. T. Pettit, Cupertino, Santa Clara county; Lecturer, F. H. Babb, San Jose, Santa Clara county; Steward, William E. Stewart, Danville, Contra Costa county; Chaplain, Mrs. C. F. Emery, Oakland; Treasurer, Daniel Flint, Sacramento; Secretary, Miss Emily L. Barnham, Healdsburg, Sonoma county; Gatekeeper, S. S. Gladley, Antelope, Sacramento county; Pomona, Mrs. Martha L. Gamble, Santa Rosa, Sonoma county; Flora, Miss Laura L. Root, Stockton, San Joaquin county; Ceres, Mrs. A. Van Marren, Fair Oaks, Sonoma county; Assistant Steward, Miss Nellie A. Borrette, Napa; Organist, Mrs. Rose L. Stevens, Cupertino, Santa Clara county; Special Correspondent, Mrs. Grace S. Harwood, Geyserville, Sonoma county; Executive Committee, Thomas Jacobs, Visalia, Tulare county; G. N. Whitaker, Santa Rosa; Michael Farrell, Mountain View, Santa Clara county.

The evening of Tuesday was spent pleasantly at the reception given by the Sacramento Grange. There were addresses, music and light refreshments.

The State Master's report was given close attention. It dealt with the important topics which would call for the action of the Grange at this session. He spoke of the change from "the days of old, the days of gold," to the golden days of the farmer, the change from wheat growing to diversified farming, and of the adaptability of the Grange to the varied wants of the farmer, co-operation in many ways, the great impetus given to agricultural education, and the extension of the opportunities for social life.

The work of two important committees, of which John Tuohy of Tulare is chairman, was referred to. One of these is the Special Committee on Taxation, first appointed in 1903. It has given effectual support to the formulating of the measure to make taxation more equitable in our State. A constitutional amendment has been prepared by the Legislature, which is to be submitted to the people this fall. It makes a much-needed provision for the reform of taxation in California, and will certainly be approved by all farmers, as it introduces a just and equitable system which is in accordance with the reforms that are being adopted in other States.

At the last National Conference on State and Local Taxation, held at Columbus, Ohio, 33 States, 3 Provinces of Canada and 32 universities were represented, and resolutions were adopted strongly favoring such amendments in the manner of collecting revenue as are now proposed in Amendment No. 1.

The report of the special committee on fraternal fire insurance was referred to, and mention made of the success of the Grange in other States in providing insurance at low cost for its members. This committee had been appointed to draw up a bill to present to the Legislature at the next session, authorizing all fraternal organizations to establish insurance companies for the purpose of taking risks exclusively among their members.

Earnest and inspiring words were addressed by the Master to the members: "Let every member think not only what

good can I get from being a member of the order, but what can I do for the Grange and in the uplifting and benefit of the farming community of which I am a member. Whatever conditions we find in our Grange or neighborhood, it is our business to try to improve it. 'Lift when you stand,' the saying of that brave old master-thinker, Edward Everett Hale, comes to me with fresh force when I see what can be done by even weak hands if they are strengthened by the purpose to do something."

Special mention was made of the PACIFIC RURAL PRESS and of several county papers, for the attention they have given to Grange news.

Among interesting Grange reports received was one from Roseville, which branch has within the last year purchased 10 acres of ground for picnic purposes, and intends to build a hall thereon for their meetings.

Another was the report from Potter Valley, presented by James Eddie. That Grange owns its hall, a good two-story building, the lower part being rented for a store, and the hall supplying the needs of other fraternities as well as its own. The Grange there is a successful business proposition as well as a social center.

At Soquel the best results have been obtained in co-operative trading, their last quarter's report showing a volume of \$17,000.

"Soil Exhaustion and Restoration" was the chief topic of Wednesday afternoon, and its treatment was well provided for by the State Lecturer, F. H. Babb. The principal address on the subject was delivered by the Hon. John Tuohy of Tulare. Blaney Maynard, the fertilizer expert of San Jose, spoke on "Fifty Years of Experiments on Fertilization at Rothamstead, England."

Thursday was spent at the University Farm. Friday was the day for resolutions and the general conclusion of business. Michael Farrell was re-elected member of the executive board. In the evening 40 candidates were initiated, and the remainder of the evening was spent in social amusements. Petaluma was selected as the next place of meeting.

GRACE S. HARWOOD.

Geyserville.

### FERTILIZATION ON THE PACIFIC COAST.

To the Editor: Until the last two or three years the use of commercial fertilizer on the Pacific Coast has been confined chiefly to the numerous orange and lemon groves of southern California. Their application in that section has been so extremely profitable, not only in the increase of the crop, but also in the improvement in the size, flavor and carrying quality of the fruit, that it has attracted the attention of growers of other fruits, notably prunes, apricots, peaches and grapes, many of whom are becoming deeply interested in the subject of fertilization, and are experimenting in the hope of ascertaining approximately what percentages of nitrogen, phosphoric acid and potash can be most profitably applied, in what form and in what quantities, to the particular crop and soil of each.

On account of the great diversity of soil, water used in irrigation, and climatic conditions of California, experience gained in one section is often of little use in another, while literature based on Eastern conditions is applicable on the Pacific Coast only in a general way. Having no other guide to follow, it was perhaps natural that scientists, as well as agriculturists, should have had recourse to soil analysis, on which much hope was founded thirty or forty years ago in Europe and in our own Eastern States. Yet

soil analysis was found to be an unsafe guide, owing to the difficulty of obtaining a sample which would fairly represent any considerable area of land, to the difference in the composition of the soil on the same farm, and sometimes in the same field, and to the fact that no chemical process is known whereby the availability of the plant food in the soil can be determined. The same difficulties exist in California. Scientists, basing their calculations upon analysis of the soil and of the irrigation water, have preached that the great need of the orange groves of California is phosphoric acid, and yet the best orange trees in the State have been manured for years with liberal applications of a fertilizer containing a high percentage of nitrogen, either in the form of dried blood or nitrate of soda. The choicest fruit was obtained from groves in which a fertilizer containing, in addition to the above, 10 per cent of actual potash was used, despite the fact that an analysis of the soil and the water used in irrigation showed that they contained a liberal supply of potash. It is quite within the possibilities that the potash thus found may have existed in the form of particles of mica, which is rich in potash in an insoluble form, totally unfit for plant food.

One of the best ways to determine the needs of an orchard, vineyard or grain field, is to put the question to the soil itself, and get an answer in the crop obtained. Do some experimenting. Try different mixtures and ingredients on various plots, give all the same kind of cultivation and attention, and then, by keeping the results separate at harvest times, a valuable index to the soil's needs can be obtained. It may be necessary to continue these experiments for two or three years in an orchard, but all the time the work is being done, the owner will not only be getting better acquainted with the use and application of fertilizers, but the result in the land will be more satisfactory, for he will have solved his own problems as a basis for future proceeding.

D. I. DUNCAN.

### SITUATION AND HELP WANTED

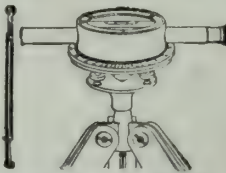
Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

POSITION WANTED—By young married man, graduate agricultural college; experienced manager of dairy farm; five years' experience in dairy business. Wish to come west. Have small sum to invest in right place. E. E. Greenough, Rocky Ford, Colo.

### A FARMER UP TO DATE AND A HUSTLER

wants place as foreman or superintendent. Is thorough in general farming, irrigation, vine and deciduous fruit growing. Experienced in working all kinds of labor, both tenant and wage systems. Address Box 37, PACIFIC RURAL PRESS.

### BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

**Used for Irrigation and Drainage Work**

Has the latest patented improvements in simplicity and usefulness. Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

### Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

Write for Samples and Booklet of  
**REX ROOFING**  
and see for yourself  
J. A. & W. BIRD & CO.,  
91 India Street, Boston, Mass.  
PACIFIC COAST AGENTS: W. P. Fuller & Co., San Francisco, Sacramento, Oakland, Stockton, Los Angeles, San Diego, Portland, Seattle, Tacoma, Spokane.

**Stickney Gasoline Engines**  
ARE THE BEST  
The engine with an outside igniter and a modern open tank cooling system. Our new free catalog tells 57 reasons why we have the best engine Stationery and Portable 1½ to 16 h.p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.  
**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

### THE "SOUTH BEND"



THE BEST CHILLED PLOW IN THE WORLD.

The No. 1-B vineyard plow, as illustrated above, is especially designed for the Pacific Coast orchards and vineyards. It has the same capacity as the No. 1-B, turning a furrow 5x8 inches. It is fitted with a hinged handle, as shown in the picture, at the right, which can be closed up, thus enabling the operator to plow very close to the trees and vines without doing damage to either, making orchard and vineyard cultivation an easy and comfortable task. Weight, 65 pounds.

Write us for Catalogue describing the Complete South Bend Line of Plows.

General Agents,

PACIFIC IMPLEMENT COMPANY,  
135 Kansas St. San Francisco.

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.  
HANDSOMELY ILLUSTRATED.

Price \$2.50 per copy, postpaid.

READY FOR NOVEMBER DELIVERY.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO  
**PACIFIC RURAL PRESS, Publisher,**  
667 HOWARD STREET,  
San Francisco, Cal.



# TREES

SEASON 1908-9.

## ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

### SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

INC.  
Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock; grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

LEONARD COATES NURSERY CO., Inc.

ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
J. B. WAGNER, Pasadena, Cal.  
The Rhubarb and Berry Specialist. Dept. I.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

The olive crop around Winters is reported to be very short. Less than half a crop is expected.

The fruit growers of Manton, Tehama county, report that a fine crop of winter apples will soon be harvested there.

J. P. Nelson, living near Berryessa, in Santa Clara county, reports a crop of 7000 boxes of apples from 20 acres.

The annual Tulare County Citrus Fair will be held at Exeter, commencing December 1 and running to the 5th.

The prune crop around Manton, in Tehama county, is now being shipped, and amounts to about one hundred tons.

Fifteen hundred boxes of oranges were shipped by steamer October 23 for Australia. The oranges came from Placer county.

Practically all of the green fruit shipments for the season to the East have been made, with the exception of grapes and winter pears.

The indications at this time are that the orange crop in southern California will equal that of the past season. Navels will run to large sizes.

Oranges will be shipped from the Centerville district, near Sanger, in time to reach the East for Thanksgiving. About 200 cars is the estimate of the crop.

The berry growers of Sebastopol have commenced suit against the Napa Valley Packing Co. to collect money due them for fruit furnished during the past season.

Thousands of orchard nursery trees have been sold to Winters fruit growers already this season, and the outlook is that a very large increase in the fruit acreage will be made there this year.

The offer made by the Armsby Company to buy the raisins around Fresno, if 90 per cent of the crop could be secured on a 4-cent basis, has been called off, as not enough fruit could be contracted at this price to meet the offer.

The prune growers around Geyserville, in northern Sonoma county, have organized an association for the promotion of the prune growing industry and to get the fruit in the best shape for market. About 90 per cent of the acreage there is signed up.

The Carter Lake National Park, near Klamath Falls, is a vast huckleberry patch. During the past season the superintendent estimates that 40,000 gallons of huckleberries were gathered there. The fruit sold for an average of a dollar a gallon.

George Robertson, writing to the Fresno Republican, gives the following figures relating to the raisin crop: Last year the total amount produced was 130,000,000 tons, which was the largest crop raised; the next largest was in 1903, when the total was 120,000,000 tons.

E. G. Stone, of Ceres, says that he read in the PACIFIC RURAL PRESS recently of a big yield of peaches, and wants to go one better. From 400 peach trees, a little less than four acres, he harvested 50 tons of peaches. The trees were seven years old. He closes his letter to us by saying, "Who next? Hurrah for old Stanislaus! The best fruit land in California."

Alviso, in Santa Clara county, has a big apple crop this year; even the young orchards are loaded to the ground. Some nine-year-old trees are yielding from 12 to 15 boxes. The fruit is of good quality, the White Winter Pearmain and the Smith Cider being especially fine. Most of the growers are marketing independently, the best grades bringing from 75 to 80 cents a box, free on board.

### AGRICULTURE.

Manuel C. Machado of San Luis Obispo has invented an attachment for a harrow which prevents it from sliding downhill when used on sidehill work.

The bean crop at Gilroy is now being thrashed. The acreage is smaller than last year, but the yield is fair. Pink beans started in at \$3, but are now selling at from \$2.25 to \$2.50.

A correspondent, writing from Pajaro, Santa Clara county, states that the farmers around there have been making a specialty of raising black oats, for seed purposes. The oats are very fine and bring top price, from \$2.35 to \$2.50.

The harvesting of 400 acres of Kaffir and Egyptian corn, on New River, in Imperial county, is now progressing. The crop is a good one. The method of harvesting is to drive teams with wagons through the fields, the heads being cut off by hand and thrown into the wagon.

The bean crop grown around Sacramento this year amounts to over half a million bags. As the bean crop of the East has been almost a failure, the California growers have been able to dispose of their crop without warehousing them. The quality was excellent and prices received were good.

According to the Chicago Packer, Orange county had the following acreage in vegetables: 1600 acres of cabbage, 14,000 acres of beans, 10,000 acres of Irish potatoes, 225 acres of sweet potatoes, and there were produced 10,000 tons of tomatoes and 2700 cars of celery. The yield of honey was about 26,000 pounds.

### LIVE STOCK.

Charles Hoffman has leased large tracts of land near Red Bluff and will go into the cattle business extensively.

A dairyman of Riverside was fined \$100 last week for bringing 12 head of cattle into Riverside, from Orange county, contrary to the State quarantine law.

The Santa Barbara Poultry Association has decided to hold its next show from January 6 to 9, 1909.

A new creamery is to be started at Santa Cruz the first of November. The latest form of equipment is now being installed.

C. A. Kimble, of Kings county, has recently shipped seven cars of Merino bucks

### RESISTANT GRAPE VINES

I am extensively engaged in the importing of resistant grape vines. I inform the parties intending to plant new vineyard that they have to send their order as soon as possible, so as to have the vines here before the first of February and to be sure to get the varieties wanted. My French grafted resistant vines are the best. They have stood the test. Ask any of the growers who have bought from me during the past seven years. I guarantee them to be of first quality, true to name as to the resistant stocks and variety of grapes. My vines are specially ordered to suit the climatic conditions of this State. Write me for further particulars and state variety desired.

F. B. VADON,  
Cloverdale, Sonoma Co., Cal.

### MODESTO NURSERY.

Complete Line of Citrus and Deciduous TREES,

BERRIES, VINES AND ORNAMENTAL STOCK.

Write for PRICES NOW.

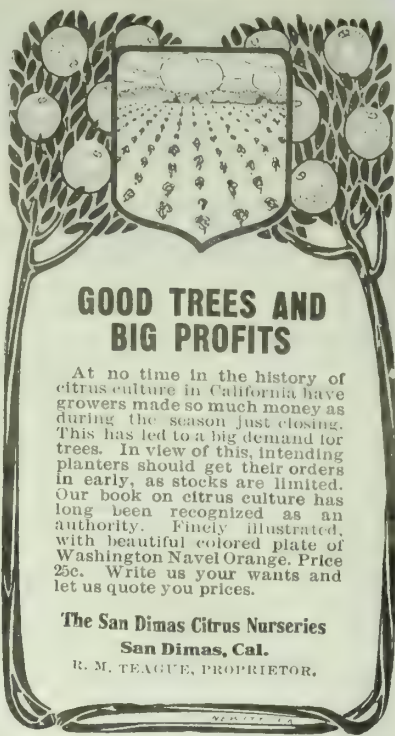
SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

## TREES STANISLAUS NURSERY

Formerly Analy Nursery, of Sebastopol.

T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

## EUCALYPTUS



**GOOD TREES AND BIG PROFITS**

At no time in the history of citrus culture in California have growers made so much money as during the season just closing. This has led to a big demand for trees. In view of this, intending planters should get their orders in early, as stocks are limited. Our book on citrus culture has long been recognized as an authority. Finely illustrated, with beautiful colored plate of Washington Navel Orange. Price 25c. Write us your wants and let us quote you prices.

The San Dimas Citrus Nurseries  
San Dimas, Cal.  
R. M. TEAGUE, PROPRIETOR.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

FOWLER NURSERY CO.,  
Fowler, Cal.

## 300,000 BERRY PLANTS

Berries of all kinds, Fruit Trees, Roses, Oranges, Lemons, Seeds, Etc., Etc.

Send for the most descriptive Berry List on the Coast, FREE.

A. MITTING, SANTA CRUZ, CALIFORNIA.  
Lock Box 380.

## IMPROVED BERRY PLANTS BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalog tells the rest.

G. H. HOPKINS & SON  
BURBANK, CAL.

### Navels, Valencias, Eureka Lemons

Orange seed-bed stock. Orders booked for delivery now or season of 1909.

SOUTHLAND NURSERIES—F. H. DISBROW, Prop.  
Pasadena, Cal., R. D. No. 1  
Phones, Home 2520 Main 949.

### CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

CHICO NURSERY COMPANY

Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## SEED GRAIN BLACK and RED OATS, WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St., San Francisco, Cal.

Buyers of Grain and Beans. Members Merchants Exchange. Established in 1855. Correspondence invited.

Large Assortment—All Varieties Hardy and Selected Rapid Growers Write for prices, giving amount wanted LLOYD R. TAYLOR, Modesto, Cal.



to Mexico, four cars to Texas and one car to Arizona.

Very heavy shipments of cattle have been made from Cottonwood, Shasta county, during the last week to the Biggs Company, of Butte county.

Sixteen hundred head of Southdown lambs have just been driven from Lake county, Oregon, into Siskiyou county, from which place they will be shipped to San Francisco.

An experiment in dipping sheep was tried at the Keenan ranch, in the buttes of Yolo county, this week. Two Government inspectors, besides many local sheep owners, were present.

The suit to collect about \$1000 due dairymen furnishing milk to the Dinuba Creamery was tried last week at Fresno. This is an old case, and the creamery is now being used for other purposes.

Large herds of cattle are being transferred from the summer pastures in the mountains back of Placerville to the foothills for winter keeping. Heavy rains are needed to start the winter pastures.

A dairy owner in the mountains near Santa Monica claims that anise as a fodder for milch cows is a splendid all-the-year-round feed. He is going to cultivate it, and expects to secure the best of results.

According to the bee inspector, H. M. Cole, Stanislaus county has produced this year from its 5000 hives an average of 175 pounds of honey, which, at the present price of 8 cents, is valued at \$72,000. Besides this, there was 3500 pounds of beeswax, worth \$875.

The honey men of Kings county held a meeting last week to form an organization to secure better prices for their product. The honey crop of Kings county is about 75 tons. As a result of the conference, it is stated that six cars of honey was sold to Guggenheimer & Co., of San Francisco, at about 5 cents.

#### MISCELLANEOUS.

Pleasanton and Decoto hay shippers are worrying over a car shortage.

Plans have been drawn for a new packing house, to cost \$5000, for the Rialto Orange Company.

It is estimated that 200 cars of fall and winter tomatoes will be raised this season in southern California.

A large acreage is being set out to cabbages in the Coachella valley at this time for early winter shipment.

The cauliflower crop near Los Angeles promises to make about 500 cars this season. Shipments will commence soon.

The work of erecting the new packing house for the San Dimas Lemon Association, near Los Angeles, is proceeding rapidly.

The Lodi grape juice factory has received 16 cars of bottles already this season, which will be filled before the factory closes.

The grape growers around Gridley are discussing the advisability of putting a grape juice factory at that place, to be ready for operation next year.

The famous Sparks-Harrell ranch of Nevada, covering hundreds of square miles, was sold last week to Ogden parties for \$1,000,000, spot cash.

A big artesian well has recently been brought in near Porterville, which has a flow of 100 inches. The well is 115 feet deep and 14 inches in diameter.

Several thousand acres belonging to the Rea, Ellis and Sargent estates, near old Gilroy, which had been covered with water, are being drained and brought under cultivation.

A number of Santa Clara valley men have recently purchased several thousand acres of land in the Yaqui valley of Mexico. A canal is being built and the land will be put under cultivation very soon.

Celery shipments from Orange county will commence in about two weeks. The crop is estimated at 2000 cars. Owing to damage by flooding, the crop in the Sacramento district will not go over 500 cars.

At the meeting of the San Jose Grange last Saturday the charge was made that packers who had contracted for fruit early in the season, when prices were high, are now going back on their contracts.

The merchants of Anaheim have secured a plot of ground near the center of town and will inaugurate a farmers' market day. Farmers are asked to bring their produce to the market and dispose of it themselves.

The largest traction engine ever used near Knights Landing is at work pulling three big four-gang plows, which turns over 30 acres of land per day. Part of the land will be sown to grain and balance planted to sugar beets.

The reserve of 12,000 acres of land in Yuma Indian reservation is now being cut up into 20-acre tracts by the Government, and will be opened for entry by homesteaders as soon as the closure of the Laguna dam is completed.

The Eucalyptus Culture Co., of San Francisco, which recently purchased 4000 acres of land near Escondido, San Diego county, is having 500 acres plowed, to get it in shape to plant to trees in January. Four hundred thousand young trees have been secured for the first planting, of which 200,000 are blue gum, 60,000 gray, and 140,000 sugar.

#### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

**JOHNSON & MUSSEY SEED CO.,**  
113 N. Main St., Los Angeles, Cal.

#### Winegrowers, Take Notice

I am now receiving orders for

#### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

#### MAN, OH MAN!!

Why do you neglect your orchards when Warnock's Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**  
Loomis, Cal.  
AGENTS WANTED.

#### SMYRNA PARK NURSERIES

Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

**CAMPIN & MOFFET** - - - - - Ceres, Cal.

## PLACER NURSERIES

We have now growing for next season's delivery a large stock of all leading varieties of trees and vines. We propagate only the best commercial sorts. Our trees and vines are the best that good care can produce and in their selection, propagation and growing we spare no labor or expense; and they are true to name. That is what you want.

**Contract now the trees and vines you will want for next season's planting.**

WRITE US

**SILVA & BERGTHOLDT CO.**  
Newcastle, Cal.

#### SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S  
BEST  
SEEDS**



Established 1885

Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

**THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.**

## Plants SEEDS Trees BULBS

**WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS**

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Quotations will be given prospective planters of Alfalfa, Clovers, or Grasses.

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

44 Jackson St. Also Market St. San Francisco, Cal.



## SEED

### TREES PLANTS BULBS

If you are interested in the **best seed**, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you **Free**.

#### Trumbull Seed Company

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - - - San Francisco.

Please mention this paper.

### 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman, Petaluma, Cal.**

## EUCALYPTUS

Growers of commercial and ornamental Eucalypti.  
EKSTEIN & EKSTEIN,  
Modesto Euc. Nursery  
Modesto, Cal.  
EKSTEIN BROS.,  
Vignolo Euc. Co.,  
Anaheim, Cal.



## Live Stock and Dairy.

### AROUND TULARE LAKE.

Written for the PACIFIC RURAL PRESS  
By SAMUEL E. WATSON.

There are many water courses from the Sierra mountain canyons leading down to the lake, all of them dry in the late summer months. Along these and where they formerly emptied into the water of the receded lake bed the finest farming lands of the State may be found, and an especially fine class of young Eastern farmers have been attracted here, largely through the efforts of Los Angeles agencies.

**LIVE STOCK FORAGE PLANTS.**—It is naturally a wonderful live stock region, prolific in grasses and natural forage started by winter rains and kept growing by sub-irrigation of the open alluvial soil from numerous streams. The first rainfall of October germinates the annuals, like barley-grass or foxtail, broncho-grass or great brome, and these grow to such heights that they form the basis of wild hay, everywhere used as reserve feed. Almost as plentiful is a tall annual grass that the farmers call "cheat," somewhat resembling rye, though awnless, but no-wise resembling perennial rye-grass, none of which grows wild in this region.

Wild oats are less common than in the northern valley and on the coast. Burr clover, alfilerilla and mesquit are almost unknown. Johnson-grass is everywhere on low ground, and another "water-grass" resembling orchard-grass is still more plentiful. Along ditches, roads, railroads and waste places white melilot or "sweet clover" grows densely, with white terminal flowers in October, in two to six-foot stems. The smaller yellow-blossomed species of the coast is not in evidence. It is a perennial here and is called wild alfalfa, stock eating the young shoots as they grow among the herbage.

Bermuda and salt grass are perennially green, one or the other occupying all uncultivated ground, the latter in alkali soil and the first encroaching on alfalfa and orchard land, making good feed the year through for dry stock especially. The country north and east of Tulare lake, along the streams and on the former overflow region, is prolific of valuable forage and useless weeds, wild sunflower being the most prominent on account of its small brilliant yellow blossoms and green leaves. It is said to indicate good, deep soil, as the "yellow sticker" does the same for worthless alkali tracts.

**DAIRY LIVESTOCK.**—Some herds are headed by Holstein and Jersey bulls; coast cattle have been brought to the valley in years of short feed, but generally the beef range has supplied a basis for dairying. Improvement depends largely on the young Eastern farmers with advanced ideas but most of these have used every dollar in reach to buy land and get water for irrigation, taking anything available to stock the land. Their hope lies in alfalfa and no profitable dairying can be done without it.

Most farms have room for dry stock, calves and hogs on wild or cultivated land, and the Easterners use the latter for corn, squashes and beets, planted after rain or flooding of land from ditches, thereafter sub-irrigated by the general water level. These crops are enormous, and in the aggregate put California to the front as a corn and pumpkin State. Corn is used for hardening the hogs, mostly after alfalfa and natural feed, pumpkins being fed liberally as a filler to push growth of the animal.

Berkshire and Duroc-Jerseys are the favorite breeds of hogs. It is interesting

to watch the result of crossing, the red of the Duroc sire showing palely on a black and white background in the first generation. In the second by dark spots on a reddish color and the correct red color coming back in the third, Berkshire points disappearing. It illustrates the fallacy of trying to combine characteristics of ages in temporary crossing. It proves that short cuts to fortune cannot be applied to dairy or other stock, with the idea of getting the best from distinct breeds in quality and quantity. This delusion fills the minds of dairymen until they are driven out of business.

One dairyman near the lake tests his Jerseys, some grades, every four days the year around and sells his culls at good prices, as they are better than those of surrounding herds. The man that separates also weighs and tests the milk from thirty cows of one milker today, the next tomorrow, and so on, coming back to the first the fourth day. Culled animals sell at \$60 and none testing under 5 per cent and a certain quantity of milk are saved. The calves from these make the future herd. The result in profit more than pays the cost of eliminating. He ridicules the idea of getting calves of large size to sell for veal prices advocated by most dairymen, and he is certainly right.

**BARNs AND FEEDING.**—This is a region of little rain and intense summer heat, the high Sierras supplying ample water for irrigation. Milking is in the corral usually and occasionally under open sheds or barns. Alfalfa hay and grazing sustain the cows the year through, an error common to alfalfa feeders of California. Cheapness of feed comes before the needs and cravings of the animal for a variety. The waste that might be saved by feeding grain is similar to that in our coast pasture regions. Corn, oats and barley are great crops here and it would be economy to feed them. Corn for ensilage can be grown, fifteen to twenty tons to the acre, and this in winter with alfalfa hay and some grain will make a profit when cream brings the highest price. One combination that is an improvement is the feeding of oat hay with alfalfa, beets and other root crops coming next. Wheat straw is often fed to advantage to save the waste of alfalfa.

The best barn seen near the lake cost \$1,000, with stanchions, plank floors and good roof, but open on sides, giving room for 120 cows. It serves the purpose in this climate, with care as to the removal of manure.

**COMPETING CROPS.**—Where alfalfa has prepared the way, the tendency is to use the land for raisin grapes and peaches, dairying being pushed to the cheaper land near the lake. It is used to select and test the soil as to drainage and alkali before putting in long-lived vineyards and orchards. This is constantly taking place from Fresno southward and reclamation of the lake bottom may be required to allow dairying to hold its own. The margin of the lake produces remarkable wheat crops, and in time alfalfa will drive this out, just as raisins are doing for alfalfa, so there are compensations.

**MARKETS.**—At the present time Los Angeles absorbs all dairy products below Fresno. A steady market, free of San Francisco fluctuations can be depended on and prices are usually better. Los Angeles enterprise reaches through the San Joaquin valley, and the open-shop policy of that city in competition with union labor around the bay gives it a great advantage in the trades that supply the needs of farmers, especially in irrigation machinery. The lower half of the valley is therefore closely identified with the southern city.

Hanford, Oct. 16.

## —POLITICS AND— CREAM SEPARATORS

The manufacturer of a much advertised cream separator, sold mainly by implement dealers, is out with an announcement to employees that if Bryan should be elected his factory will have to at once close down. Regardless of political preference, everybody may judge for himself of the propriety of threatening employees in this manner.

But if this separator factory does close down, it will not be because either Taft or Bryan is elected, but because of the sweeping success of the new 1908 line of Improved DE LAVAL machines, which has already "closed down" most attempted competition.

So far as DE LAVAL machines are concerned, there are going to be just as many cows and just as much milk to separate, whether Taft or Bryan is chosen President, and the well informed buyers of separators are going to put their money into DE LAVAL machines in as large proportion one way or the other, and do so in constantly increasing proportion as comparative separator merit becomes more a matter of actual knowledge and less of mere catalogue and advertising claims.

We are not in politics and not trying to dictate to other people how to vote, but we are in the separator business, and are trying by every justifiable means to bring about the universal use of DE LAVAL Cream Separators because of their overwhelming superiority in every feature of separator practicability.

### DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

PACIFIC OIL & LEAD WORKS, - - SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, - - PORTLAND, ORE.

### PROPER METHOD OF EXAMIN- ING A SICK ANIMAL.

By Dr. DAVID ROBERTS, Wisconsin State  
Veterinarian.

First take the temperature of the animal by placing a fever thermometer into the rectum, allowing it to remain there from three to five minutes. The normal temperature of a cow is 101 degrees Fahrenheit. The normal temperature of a horse is 100 degrees; sheep, 101 degrees.

Second, take the pulse of the animal, which can be found at the angle of the lower jaw bone. The normal beats of a cow's pulse is from 40 to 50 per minute, and that of a horse from 33 to 40 per minute.

Third, count the respiration of the animal, or number of times it breathes, by watching the sides of flanks, or by pressing the ear to the side. The normal respiration of the cow is from 15 to 20 per minute, and that of a horse is from 12 to 15 per minute, while resting. If the temperature, pulse, or respiration is found to be higher or faster than above described, you will know that the animal is ailing.

**STOPPAGE OF THE BOWELS IN CATTLE.**—This is one of the most common ailments that cattle are subject to; at the same time, more cattle die from this cause than any other, for the simple reason

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blackow, Roberts, Glide  
French Merino Sheep.

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

RAMS FOR SALE AT ALL TIMES  
P. O. Box Home Telephone  
287 Sacramento, Cal. Dixon, Cal.



that stoppage is due to paralysis of the bowels.

Stoppage of the bowels is to be regarded as a sign of another disease, rather than a disease of itself. It occurs in almost all fevers, indigestion and over-eating.

In order to overcome stoppage of the bowels, a treatment must be applied to overcome the ailment which causes it, such as paralysis of the bowels. Seventy-five per cent of the cases of stoppage of the bowels are due to partial paralysis of the bowels. In this case the bowels require a laxative and tonic, and not a physic, for if the bowels are paralyzed a physic will have a tendency to cause irritation, indigestion, inflammation, and death follows.

A cow thus afflicted should be given a laxative and tonic, plenty of drinking water, with the chill taken from it, bran mash made of flaxseed tea; also inject several quarts of water once or twice daily through the rectum by the use of the hose and funnel, and give the animal a reasonable amount of exercise.

### ALFALFA IN HARD PLACES.

To the Editor: I have something on my mind which will not shake off. So I just concluded to unload it on you. I have lived upon a high hill in Los Angeles for five years, and on each side of me are vacant lots from which I have cut green alfalfa for my chickens. It suddenly occurred to me that it was remarkable, for those lots have no soil on them, having been graded down where it is almost stone or sandy clay that takes years of weather action to disintegrate, and further without a drop of water for months, and it is getting thicker and thicker on the lots, seeding itself.

Since making the discovery I can't get the matter off my mind. I have kept a lookout as I go around the city and country side and I see bunches of alfalfa growing everywhere on vacant lots, alongside the country roads and even between the cobble stones in the gutters of the street.

I read an article in the RURAL PRESS deploring the scarcity of good pasturage in California and it called attention to the fact that many pastures depended a great deal on foxtail (just think of it) to tide them through. For five years I have seen the alfalfa grow on these vacant lots and battling its way against gophers, weeds and drought, and today it stands two feet high where I have not cut the bunches for some weeks.

It seemed to do best when the hot

weather came and killed all the grass and weeds with which it grew. A few weeks ago I took a trip north of Los Angeles, traveling about 150 miles, and passed by miles and miles of land that did not look as if twenty acres would feed a jack-rabbit. I believe nearly all of it could be made to support immense numbers of stock by planting alfalfa. I believe firmly that I could take 160 acres of those hills and hollows and make the quarter section feed as much stock as a thousand acres does now.

I would sow the alfalfa very thin—have the plants from one to two feet apart—and I would sow a nurse crop with it, such as burr clover, for instance, and I would sow four times the burr clover that I would alfalfa seed. I would plow or cultivate the ground so the seed would have a chance to germinate and plants to get a good start. It would be of no use to plant on bare ground without a certainty that there would be a nurse crop come up with, for every living creature would be after it before it was fairly started.

I am satisfied that no one ever tried this plan as above outlined, because you could not find a rancher in California crazy enough to attempt to grow alfalfa on land I have described. But after knowing that I have seen it growing and spreading itself on just such land—or worse—don't you think you could persuade a good many to invest a few dollars and a few days' work to see of the proposition is feasible?

I earnestly urge every farmer or stockman to test the plant before casting it aside, as every chance is in his favor, for if the alfalfa should in some case prove a failure the burr clover would pay for all time and outlay.

Los Angeles.

READER.

[We would certainly like to have our correspondent try to see if he can make his thinking good. We have seen such plants as he describes, but it seems to make a great deal of difference whether a plant picks out its own place to grow or whether you try to put it in your place. Hundreds have tried to do what our correspondent describes, but perhaps they have not tried it in just the right way.—

EDITOR.]

## Apiculture.

### THE BANATER BEES.

Written for the PACIFIC RURAL PRESS  
By MR. RALPH BENTON of the  
University of California.

Mr. E. L. Taylor of Chatham, Mass., under date of October 6th, writes as follows: "I have been trying to clear up, for a long time, some doubts in regard to color of Banater bees, and I believe you are perhaps the only one in the United States that can give me correct information upon this subject. This is the question, whether or not the Banater worker ever has yellow or rust-color or reddish bands, or any or all of the first three segments, of the abdomen, or any of these colorings which approaches a band on the first segment? I have a very superior strain of Banater that do not show any bands. I also have introduced blood into my yard that have all of the characteristics of the Banater as I know it, but that show one, two or three bands of the above colors. I have noted also that some young queens breed workers at first having the bands of yellow or red, but later and all through their careers their workers are minus these colored bands. Any information that you may choose to give on this subject will be very gratefully received."

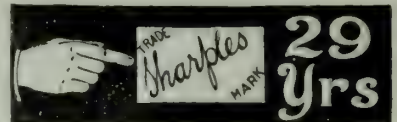
For the general information of our

readers let us say that the Banaters are a brownish gray variety of bees found typically in the province of Banat, Hungary, hence their name. They are noticeably smaller than either the Carniolans west of them or the Germans to the north, both varieties of which are somewhat isolated from them by mountain ranges. Like Germans and Italians they are not so prolific but that they may be crowded in smaller sized hives without exhibiting a tendency to dissipate in swarming. They cap their honey white and do not exclusively propolize, although they do gather more propolis than Carniolans.

In direct reply to Mr. Taylor's question, we would say that the typical Banater is of a brownish gray showing no yellow. On the other hand, we were told when in Budapest, by reliable authority, that in the Siebenberg region to the east of Budapest the bees showed considerable yellow.

We have also noted that breeding queens imported from about Nagy-Beskerek (a point in southern Hungary also visited by us on our way overland through Serbia and Bulgaria to Constantinople) occasionally have progeny showing a slightly rusty band on the first segment of the abdomen. The observation made by Mr. Taylor that this rusty band disappears in later progeny is an interesting one upon which we have no data. It points to a need of very careful breeding experiments conducted through a series of years with a view to determining the laws of heredity in bees, to the end that we have a basis for selection in breeding, so that we may by such judicious and intelligent selection not only better the existing bees but develop new strains for special purposes or branches of specialized bee-keeping for certain localities. The possibilities of such an investigation covering a long enough time to arrive at definite conclusions are at once full of deep scientific interest and of great practical value to the apiarist at large. It is a line of work that should be taken up under the auspices of the State Experiment Station, both on account of its bearing upon certain lines of biological research and because of its highly practical value and bearing upon the selection of stock in apiary practice.

In conclusion let us observe that the Banater bees are among the gentler varieties of which the Carinolan and Caucasians, previously spoken of in these columns are also representative. We have seen the rare spectacle of a Banater queen quietly moving about and depositing eggs on a comb under manipulation, so gentle and undisturbed are the bees when handled. Since Banaters can be crowded without danger of excessive swarming, we would think them an excellent bee for the comb-honey producer. We have also found them of value above some of the other varieties of bees in making up nuclei for queen rearing, in that they more easily acquire new loca-



This is the age of specialists—each man an expert in his line.

Our specialty is building cream separators; and our years of experience have resulted in the **best** and **most original** separator the

## TUBULAR

It is popular because it fulfills our claims and does its work in an easy and quick manner.

The Tubular is the acknowledged **leader of cream separators**, because it is easy to fill, clean, turn, oil and handle and because it **skims clean**—the trade mark guarantees it.

For proofs, ask a Tubular user or, better still, try one.

Free Catalog 131 tells how. Write for it.

THE SHARPLES SEPARATOR CO.,

West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## TULARE LAKE STOCK FARM.

REGISTERED

Jacks and Jennets For Sale.

We breed the Best. Don't write—come and see. We can show you.

JAS. W. McCORD,  
Hanford, Cal.

tion, a trait easily to be seen of value for such purposes as the one in question.

EUCALYPTUS IN CALIFORNIA.—A recent publication of the University of California of interest to beekeepers is Bulletin No. 196, entitled "Eucalyptus in California," and prepared by Mr. Norman D. Ingham, foreman of the University Forestry Station at Santa Monica. It gives notes on the value of eucalyptus trees for timber, methods of growing and planting, and a resumé of the distribution of these trees over the State. This is followed by a list of trees for planting, with descriptive notes, accompanied with most excellent cuts of the blooms, and in some instances trunks of the trees themselves. On page 110, entitled "The Eucalypts as Bee Pasture," is given data about the blooming time of the several varieties grown. In this connection it is to be noted that there is enough variation in blooming time to afford pasturage the year round, were all the trees to be grown in one locality. The most widely distributed one is the Blue Gum (Eucalyptus globulus), blooming during the winter months, when there is no other appreciable source of honey, but unfortunately the weather at this time is such that the bees do not get the full benefit of this important source of honey.

QUEENS—CARNIOLANS, BANATERS, AND CAUCASIANS. Home-bred, \$1.00 each; five at 80 cents each; Imported, \$1.00 each. FRANK BENTON, Box 17, Washington, D. C.

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

A Human Remedy for Rheumatism, Sprains, Sore Throat, etc. It is invulnerable. Gombault's Caustic Balsam sold in 1/2 oz. bottles for \$1.50 per bottle. Sent by express, charges paid, with full directions for use. Send for descriptive circulars, testimonials, etc. Address:

The Lawrence-Williams Co., Cleveland, O.

## KENDALL'S SPAVIN CURE

The remedy that horsemen everywhere know to be effective in curing Spavin, Ringbone, Curb, Splint and all forms of Lameness. It may cost you a horse to experiment. Use the proven remedy.

McGregor, Mich., Jan. 13, 1908.

Dr. B. J. Kendall Co.,

Enosburg Falls, Vt.

Gentlemen:—Please send me a copy of your "Treatise on the Horse and his Diseases." Have used Kendall's Spavin Cure for 20 years with the most wonderful results.

Yours truly, E. M. Task.

The World's Greatest Liniment for man and beast. Sold by all druggists. \$1 a Bottle; 6 for \$5. Get the 96-page book, "Treatise on the Horse" free of druggists or write to

DR. B. J. KENDALL CO.  
Enosburg Falls, Vt.



## The Poultry Yard.

### POULTRY ON THE FARM.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

After the fruit is gathered the orchard is a good place for the fowls and the fowls are good for the orchard. They will eat the waste and wormy fruit lying on the ground and scratch out and destroy myriads of insects; at the same time enriching the soil with their droppings. When the orchard is cultivated they will follow the plow and make a finish of every worm, grub and nit in the soil. It is an excellent plan to have small, removable colony houses for lacing and changing the fowls wherever desired. A good easily handled size for some 20 fowls is 4 by 6 feet; height 4 feet front and 3 feet back. It can be built to slide on the lower, side joists like on sled-runners; a team may be hitched to the end at night, after the fowls are shut in, when they may be taken to any part of the farm desired. Inch-mesh wire should extend across the upper half of one end of such houses for air and ventilation and this end always be turned from the wind. Below the wire there should be a row of covered nests for the laying fowls. If they have been reared to roost in houses there will be little trouble about their taking to the trees. These small colony houses make excellent weaning pens for the chicks when taken from the brooder at about six weeks of age. By locating them, some 25 in a pen, in an orchard is a capital way to rear vigorous, lusty birds. Care must be taken to close them in at night and to have the floors of inch boards and tight, with inch-mesh wire over the openings, else the slick weasel and other varmints will play havoc with the youngsters.

**BREEDING PENS.**—These colony houses are just the thing for the farmer's breeding stock. He can mate a dozen of his best and most vigorous hens with an A1 cock and move them in one of these houses to a distant corner in his apple orchard, where the birds will not interfere with the fruit during the breeding season. In this way he can solve the problem of strong-germed hatchable eggs which will produce the strong lusty chick.

**MARKET EGGS AND STOCK.**—For this purpose a limited range is advised. As a rule farm poultry fails to meet first-class city trade requirements. The fowls which have legged it all over the fields may be strong and vigorous, but they are likewise tough and sinewy; besides they have eaten many things which do not give a dainty flavor to their flesh. Before marketing them they should be penned in very limited but clean quarters and fed a fattening mash morning and noon and all the cracked corn and green feed they will eat at night for two or more weeks. They will weigh enough more to pay the extra cost and a profit besides—and be fit to set before an alderman! The same is true of the laying stock. They will run off their surplus feed instead of changing it into eggs, consequently the output will be limited; while this is what is proper for the hatching egg it does not pay for the market egg farmer. For fall and winter layers the pullets should be brought in from the range the last of August and placed in good winter quarters. Their houses should be comfortable, with a good dry scratching shed beneath where plenty of litter of a clean and wholesome quality is kept, and the runs of good size, clean, well drained and mellow. Fed them plenty of sweet, wholesome food and let the cracked corn and green feed predominate, and you will have eggs rich in color and delicious in

flavor and plenty of them. Surely the farmer will find it worth his while to work for such eggs when he looks at their market quotations just now (October 23), extra California fresh eggs 56 cents per dozen wholesale and 65 cents per dozen retail. During the late fall and early winter our egg market is at its height and pullets are the main dependence for the fresh egg. The last of December the hens began to drop back into the laying ranks and by the last of January they are about all in and the market takes a tumble. The fowl which has laid from the first part of October through to the last of December has well earned a year's board at a first-class hen's hotel even if she should loaf the balance of the year.

**A FARMER'S POULTRY HOUSE.**—In an English paper, "Farm and Home," we note a cut of such a poultry house in one of the ads which comes nearer filling requirements than any we have seen. According to description it is "made from one-inch boards, planed, tongued and grooved, on strong framing, the roof of matched boards, covered with patent asphaltic felt. Perfectly watertight and draft-proof, properly ventilated (with a wide space over the door); fitted with movable outside nest-boxes on both sides, strong floor, movable perches, ladder, slide, necessary bolts, nuts and a padlock and key." The house is mounted on four strong iron wheels with rings for traces. One of these houses complete, size 9 feet long, 6 feet wide and 6 feet high, is delivered anywhere on the mainland for a fraction of \$22. Such a house would cost a good bit more with us, but the general plan on a cheaper scale is recommended for a farmers' movable poultry house.

### Questions and Answers.

A correspondent asks: "Can you give, in your valuable paper, reliable figures as to the average cost of feed per fowl in what has been termed the poultry belt of California, i. e., the locality tributary to the San Francisco market? I have seen it stated somewhere lately that 66 cents will cover cost of year's feed for a fowl of the smaller breeds; but while I have kept no accurate account, I am convinced that my feed bill averages more per fowl than that."

Prof. Dryden of the Oregon Agricultural College says: "In experiments covering several years in which every ounce of food was weighed for six pens of Leghorns, the cost of the total food for the year per fowl varied in different pens from 61 to 78 cents and averaged 66 cents. In experimenting with larger breeds the cost was greater; that of Plymouth Rocks was \$1.15 per fowl, and of Wyandottes \$1." But he goes on to explain: "The wheat was charged at 1 cent per pound, the corn at one-fourth cent and the mill-stuffs at three-fourths of a cent per pound." Which makes quite another story when it gets to our State.

If the Oregon poultry raisers call such prices high for feed, surely we of California have cause for much grumbling. In the fifteen years that the writer has had to do with poultry here never have such low prices been handed down to the poultry raiser. As a matter of fact we are now paying 2¼ cents for wheat per pound, a fraction more for corn, and 2 cents and upward for millstuffs. Consequently, we may safely double Prof. Dryden's figures to meet the cost of keeping fowls here, with the result that the average cost for the smaller breeds is \$1.32, and for the larger from \$2 to \$2.30. In the writer's White Leghorn yards this summer the cost per fowl per month for feed, not including green stuff, was just 12 cents, or \$1.44 for the year; which corresponds very nearly with the professor's figures, allowing for the difference in the price of grains.

### The Poultry Industry in Australia.

Australia seems to have attained to the ideal on many points connected with the common good, the Government working with and for the people in the practical concerns of every-day life. In the matter of poultry she has caused the rest of the poultry world to "sit up and take notice," for she has made three world's records in her laying competitions, viz: From pens of six hens, W. L. Williams, Subiaco Poultry Station, 1494 eggs. A. H. Padan, Gattin Agricultural College, 1538 eggs (being the world's record, and an average of 256.33 eggs per hen). In the competition just closed at the Agricultural College, Roseworthy, the world's record of two pens in the same competition of over 1500 eggs each. By the way, it must not be overlooked that each of these records was made by that business hen, the White Leghorn. The following excerpts are from the official report:

Australians are probably not alone in the love of sport, hence it is found that the element of chance, even in a laying competition, attracts many who otherwise have no interest in poultry or the improvement of breeds. To this element we can doubtless ascribe a considerable share in the rapid increase in poultry breeders.

Our exports of eggs in 1907 were £106,800. The people whose poultry produce these eggs are as a rule farmers, who so far have taken but little heed of breeds or improvement in breeding. Although somewhat conservative in the matter of changes in methods, the fact remains that where profits are concerned these same people are ever on the alert, and the published results of these competitions are having an excellent effect. The Government is sparing no effort to promote the industry. Lectures are given at various centers throughout the State; practical demonstrations and help are also freely given. At the Agricultural College at Roseworthy, where the competitions are held, there is a large and well equipped poultry section; here the chief utility or commercial breeds are kept and various experiments conducted. The export trade is also assisted. Breeders are visited and encouraged to breed largely the description of table bird desired by English buyers. Eggs are forwarded to the Government Produce Export Depot at Port Adelaide, and are there tested, graded, packed and shipped on owner's account, and sold by the commercial agent in London.

Encouragement is also given to help forward a co-operative system of collecting and marketing eggs, so as to ensure freshness and absolute quality. After many years' experience, I found the keeping quality of the infertile egg so vastly

superior to the ordinary egg that I advocated it as best suited for export. The first shipment amply proved this, and South Australia is the pioneer in marketing this superior quality of eggs.—D. F. LAURIE, Poultry Expert.

### POULTRY.

**BUFF ORPINGTONS.**—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal **GEORGE H. CROLEY**, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

### E. F. Adams

364 Main St. Petaluma, Cal.

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our **FREE** Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

### COULSON POULTRY AND STOCK FOOD CO.

PETALUMA, CAL.

## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

**L. W. CLARK, 615 Main St., Petaluma, Cal.**



## The Home Circle.

### The Harvest Moon.

There's the moon above the housetops,  
there's the harvest moon, my sweet,  
Shining softly o'er the gray roofs, o'er the  
sombre city street,  
As it's shining o'er the wheat fields, turn-  
ing gold to silver sheen,  
Where the little winds go whispering bur-  
nished beech leaves in between.

There's the moon above the housetops,  
there's the night hush o'er the town,  
And a sudden drifting spearpoint of the  
silv'ry thistledown.  
Has it come to tell us, darling, of the  
harvest fields that lie  
Wave on wave of gleaming splendor  
'neath the moonlit autumn sky?

There's the cool wind on our faces, with  
the freshness of the night,  
And the level shadows lying o'er the pave-  
ment's checker'd white;  
There's the calling of the country in our  
hearts again, my sweet,  
And the sigh of wind-swept wheat ears  
down the sombre city street.

—Pall Mall Gazette.

### Hallowe'en.

"The passion of prying into fu-  
turity," said Robert Burns, "makes  
a striking part of the history of  
human nature in its rude stage in all  
ages and nations." Even in our  
twentieth century civilization with  
its growing skepticism there remains  
enough of this passion to give  
piquancy to "trying fortunes" on  
Hallowe'en; and no other entertain-  
ment can bring quite so enjoyable a  
thrill to the young folks as an old-  
fashioned Hallowe'en party where  
"Wi merry songs and friendly cracks,  
I wat, they didna weary;  
And unco tales and funny jokes,  
Their sports were cheap and cheery."

To get the real zest of this merry-  
making it must be held in the coun-  
tryside. Goblins, bogles, elfs and  
fairies can work no charms nor spells  
under the rude glare of electric  
lights, amid the stolid bricks and  
mortar and the shriek and clang of  
the busy mart. These sprites need  
the running brooks; the growing  
things; the wide, dark barns with  
great straw stacks and big-eyed cat-  
tle; the solemn stillness of the coun-  
try night over field and wood; the  
mystic twinkling of the stars—and  
the dull glow of the tallow dip!

The boys and girls of the farm  
have the advantage over their city  
cousins —

"Upon this night when fairies light  
On Cassilis Dowans dance,  
Or owre the lays, in splendid blaze,  
On sprightly coursers prance."

The old Scottish rites and super-  
stitions on Hallowe'en are the best  
known the world over because a  
great poet rose from the ranks of the  
Scotch peasantry who has immortal-  
ized their beliefs, customs and man-  
ners.

One of the first ceremonies on that  
occasion was to go out in pairs, hand-  
in-hand, blindfolded and each person  
pull a stalk of kail. Its size and con-  
dition are indicative of the appear-  
ance of the future husband or wife  
and the flavor of the core presages  
the temper and disposition; any  
earth which adheres to the roots is  
"tocher" or fortune. After their

examination the stalks of kail are  
put over the main door and the given  
name of the first person entering, of  
the proper sex, will be the name of  
the conjugal partner of the person  
placing the first stalk over the door;  
and so on to the last.

A fire on the hearth is a neces-  
sary part of many of the charms.  
One of these is burning nuts. An  
equal number of nuts is paired for  
each lad and lassie and named as  
they are laid on the coals. If they  
remain together and burn quietly,  
all goes well with the courtship, but  
if they fly apart it will come to  
nought.

A weird charm is to go alone in  
the darkness to the barn and open  
wide both doors; then go through  
the motions of winnowing grain with  
a "wecht" or scythe against the  
wind. Repeat this three times, when  
an apparition will come in at the  
windward door and pass out of the  
other.

The most amusing charm is to  
place three dishes on the hearth; one  
filled with clear water, one with col-  
ored water and the third empty. The  
person is blindfolded and led to the  
hearth. If the hand is put into the  
clear water, he or she will marry a  
maid or bachelor; if in the colored  
water, a widow or widower; if in  
the empty dish there will be no mar-  
riage. This is repeated three times  
as the poem says —

"In order, on the clean hearth-stane  
The luggies three are ranged,  
And every time great care is ta'en  
To see them duly changed.  
Auld Uncle John, wha wedlock's joys  
Sin' Mar's year did desire,  
Because he gat the toom (empty) dish  
thrice  
He heaved them on the fire  
In wrath that night."

The charm of the south-running  
rivulet was worked in a somewhat  
different manner in York State dur-  
ing the first part of last century. A  
youth or maiden goes alone to a clear  
spring where the stars are reflected  
and dipping the right hand into the  
water earnestly desires a glimpse of  
the future wife or husband; when, if  
there is to be any, the features of  
said party will be seen in the water  
beneath the person's shadow.

There was also a difference in the  
looking-glass charm. The person try-  
ing this goes down the cellar steps  
backward with a looking-glass in one  
hand and a lighted candle in the  
other and with his or her eyes fixed  
intently upon the surface of the mir-  
ror, where the shadowy outlines of  
the desired face will be seen as  
though looking over the person's  
shoulder; unless the party is doomed  
to celibacy.

Another charm popular with the  
Hallowe'en parties in York State at  
that time was roasting eggs in the  
ashes of the open fire, one for each  
unmarried person present. Just be-  
fore the party broke up, the yolks  
were removed from the hard-cooked  
eggs and the cavity filled with salt  
when the salted egg was eaten shell  
and all and not a drop of water or  
other liquid taken afterward. In the  
night the person becomes exceeding  
thirsty and the future matrimonial  
partner comes in his or her dreams  
bringing a cup of water.

An old Scottish superstition which  
we commend to boys who find pleas-  
ure in taking off gates, changing  
signs, and other annoying and rude  
tricks, is to go three times around  
the town or the farm buildings

astride of a broomstick. The third  
time, according to the superstition,  
they will see the devil. M. R. J.

### The Wealth of Years.

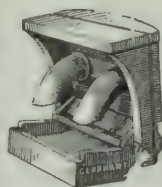
You are "getting into years." Yes,  
but the years are getting into you—the  
ripe, rich years; the genial, melting  
years; the lusty, luscious years! One  
by one, the crudities of your youth are  
falling off from you—the vanity, the  
egotism, the bewilderment, the uncer-  
tainty. Nearer and nearer you are ap-  
proaching yourself. You are becoming  
master of the situation. Every wrong  
road in which you have wandered has  
brought you, by the knowledge of mis-  
take, so much closer the truth. You  
no longer draw your bow at a venture  
but shoot straight at the mark. Your  
possibilities concentrate and your path  
is cleared.

On ruins of shattered plans you find  
your vantage ground. Your broken  
hopes, your thwarted purposes, your de-  
feated aspirations become a staff of  
strength with which to mount to sub-  
limar heights. With self-possession and  
self-command return the possession and  
command of all things. The title-deed  
of creation is reclaimed. The king has  
come to his own again. Earth and sea  
and sky pour out their largeness of  
love. All the Past crowds down to lay  
its treasures at your feet.—Scrapbook.

Dr. Johnson said: "If possible have  
an orchard. I knew a clergyman of  
small income who brought up a family  
very respectably which he fed chiefly  
on apple dumplings."

"You should pay the debt," said the  
editor, "you owe it to yourself." "Owe  
it to myself, do I? Well, in that case I  
am willing to let it stand awhile longer."

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.  
SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls,  
with a full corps of teachers for all de-  
partments in the English branches, Latin,  
Greek, and the Modern Languages, also  
accredited by the University of Califor-  
nia, Leland Stanford Junior University,  
and by Eastern Colleges.

Special attention is given to lessons in  
elocution, singing, the violin, the piano,  
and to drawing and painting.

Lectures are given by professors from  
the University of California, and a course  
of study for High School graduates and  
for young women who have left school, is  
also offered.

Second semester opens January 4, 1909.  
For further particulars address

**Miss Sarah D. Hamlin,**  
2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

**TOWER'S**  
**FISH BRAND**  
The cleanest, lightest  
and most comfortable  
**POMMEL**  
**SLICKER**  
At the same time  
cheapest in the  
end because it  
wears longest  
\$3.50 Everywhere  
Every garment  
guaranteed  
waterproof Catalog free 308  
A. J. TOWER CO. BOSTON U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO CAN.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and  
Lassen Counties.

These lands were acquired by the late John  
Crouch of Butte County. They now belong to  
the John Crouch Land Company, a corporation  
having its principal place of business at Chico.

That corporation now offers for sale these ex-  
tensive holdings.

The agricultural lands in Butte and Glenn  
Counties are in the richest part of northern  
California and are all highly improved and will  
be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged  
in stock raising, devoting his attention to high  
class sheep and cattle.

This sale offers the greatest advantages to  
persons desiring to purchase stock properties,  
which are now exceedingly scarce.

The corporation owns in the foothills east of  
Chico some 25,000 acres of land, all under fence  
and with ample barns and improvements. It is  
the finest winter range in the Sacramento  
Valley. It would be sold as a whole or cut up, as  
it can well be naturally, into three ranges.

It offers a tract of some 3,500 acres in Glenn  
and Colusa Counties, extending for a number of  
miles along Butte Creek, including the rich bot-  
tom lands of that stream, upon which feed of all  
kinds grows luxuriantly. This place would  
make a magnificent stock ranch.

It also offers large tracts of land in Glenn  
County a little northeast of Butte City, fenced  
and improved, which could be most admirably  
utilized for stock purposes and other rich lands  
in the same vicinity for agricultural purposes.

The properties offered include the celebrated  
Bowers Ranch on the Sacramento River in Butte  
County, composed of the richest river bottom  
agricultural land and upon which alfalfa grows  
most luxuriantly. This ranch is improved with  
a fine residence, many barns, good fences and is  
the best high class stock and agricultural ranch  
for sale along the Sacramento River. The soil is  
adapted not only to alfalfa, but to beets and all  
the grains.

The Home Ranch of the late Mr. Crouch, near  
Chico, is so well known as not to require any  
description. It will be mostly sold in small  
subdivisions. It can be irrigated by a ditch  
from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest  
mountain ranches in the Sierra Nevada—the  
Crouch lands in Mountain Meadows, comprising  
some 15,000 acres, and upon which an enormous  
tonnage of hay can be cut. This property is  
also highly improved with barns conveniently  
located for the storage of hay for winter pur-  
poses. It is sufficiently timbered to make it  
attractive from that point of view and possesses  
great value for the storage of water thereon  
for power purposes. The Feather River runs  
through it and the topography of the ground  
admits of great reservoir sites.

Purchasers desiring information about any of  
these properties, or to examine the same, will  
apply to the undersigned personally, or by  
letter, at the Bank of Butte County in Chico,  
California.

**JOHN R. ROBINSON,**  
President John Crouch Land Company

6 beautiful post-cards tinselled in  
gold, silver, blue, green and red.  
Views, scenes, flowers, birthdays,  
etc. Agents wanted. Art Post Card  
Co., 466 W. Huron St., Chicago, Ill. **10c**

### LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.  
You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.

POSITIONS SECURED. WRITE FOR FREE CATALOGUE.

**COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.**



## OUR HOUSEHOLD.

Conducted by MRS. M. R. JAMES.

(To OUR READERS: Helps and Hints in all matters relating to the Home are here given and asked. Send all communications to "Our Household," PACIFIC RURAL PRESS, 667 Howard St., San Francisco.)

### The Home Circle Chat.

APPLE TIME. — "Now is the season to place our orders for winter apples," suggested the Good Housekeeper.

"If a part of the expense of preserving and canning was put in to a store of winter apples it would be a gain all around," remarked the Wise Woman. "The virtues of this fruit cannot be too highly extolled. It is good for the brain worker and the brawn worker; for the delicate and the vigorous — for dyspepsia, liver complaint, insomnia, throat troubles; and it sweetens the breath and beautifies the complexion. No other fruit can be kept in its natural state so long or so easily; nor used in so many ways. In fact, the apple has no peer among fruits."

"Though apples are largely used in every family," resumed the Good Housekeeper, "but few families lay in a store for winter use. Even those who raise them are apt to sell off the sound, marketable ones; and, in the spring of the year when their wholesome action upon the system is especially needed and prices are prohibitive, they find themselves short along with the town folks who usually buy but a small quantity, or at most a box, at a time. By purchasing direct from the producer, Newtown pippins and other good winter apples may be bought for from 75 cents to \$1.25 per box when gathered. The shipping rates are low and one may lay in a bountiful supply of this delicious fruit at a comparatively small outlay, and, as our friend has just said, it would be wise to put up less preserves and spend more in this direction. By placing the apples in a cool storeroom and constantly picking out and using the specked and mellowing ones we may have apples until berries are plentiful in the spring—that is if we have laid in a sufficient supply."

"Housekeepers in the East have a little the advantage of us," remarked the New Member. "There the humblest dwelling has a good cellar where all such things may be securely kept. To be sure a cellar is not a necessity (as it is there) in this climate with no extreme of temperature; still every housekeeper needs a storeroom so protected that an even temperature may be maintained, and so arranged that it may be darkened and securely locked. Of course, many of us have such a storeroom, but many others, especially renters, have not; and this is a frightful cause of loss in more ways than one in household supplies."

"There is no excuse for the property owner not having such a storeroom," said the Wise Woman decidedly. "Rough lumber to build a room some 8 or 10 feet square costs but a few dollars and any man should be able to put it up at odd times. It should be well battened and have a good shingled roof and tight floor, the latter set well up from the ground; a tier of shelves at the back; small windows on opposite sides, protected on the outside by wire screens and inside by sliding sashes, with black calico curtains hung on a piece of wire to be easily drawn aside; then a strong lock—and there you are with a room that answers every purpose for fruit, vegetables, preserves, jellies and canned articles; a storeroom that is cool, dry and dark and safe from all intruders from the small fly to the big boy."

The Circle agreed that this was a model storeroom; and then the Good Housekeeper started to take up the subject of the members' favorite ways of serving apples.

"First allow me to say a word in relation to the apple and the small child," requested the Experienced Mother.

"Many mothers are afraid to let their little ones eat freely of apples. As a matter of fact, small children do not masticate their food (nor do large ones overly much) and continual nagging only makes matters worse. Chunks of hard apple, or any other food, are likely to cause bowel trouble and spasms in young children, and their food should be so prepared as to prevent this danger. Many of our apples are hard and tough, especially early in the season, and in all cases the better for cooking. If given to the small child raw they should always be scraped unless very mellow. With proper attention to this point, mothers need not hesitate to let their little ones eat freely of this wholesome fruit."

"That is an important point," acknowledged the Good Housekeeper. "One of the best ways to cook apples for children and invalids is by baking them, indeed, baked apples is an appetizing dish for any one — but they must be well-baked with no hard, half-raw portions, and this requires from forty minutes to an hour or more, according to the size and sweetness of the fruit and in a moderately hot oven. If the heat goes down in the oven before they are thoroughly done, they may be finished off on the top of the stove by turning a plate over them and taking care to have juice in the pan; a little boiling water may be added if necessary. Apples should be eaten the same day they are cooked as they become flat by long standing."

"PLAIN BAKED APPLES. — Wash carefully and dry; cut out the ends; pour a little water in the pan (which should be a rather deep granite one as iron or old tin will turn the fruit black) and bake till tender all the way through. Sprinkle thickly with white sugar and a dusting of cinnamon or nutmeg if liked, and serve either hot or cold."

"A DAINY DISH. — Take large apples of a uniform size and first core with an apple corer (there is less risk of breaking crisp apples before paring); then peel very thin with a sharp knife; place in a granite dish with a little water and a lump of sugar in each center, and bake carefully so that they will be thoroughly cooked but not broken; when cool put one in each sauce dish, which should be of glass or dainty china, sprinkle thickly with powdered sugar; then put a large spoonful of whipped cream on each apple and a half teaspoonful currant jelly or strawberry jam in the middle and serve at once."

"BAKED APPLES AND TAPIOCA. — Cook slowly till clear one half teacup tapioca in a pint and a half of water; sweeten and flavor with wine and nutmeg, or some red jelly may take the place of the wine. Prepare the apples as above by coring and peeling; place them in deep granite dish and pour the tapioca over them and bake till apples are tender; when cold serve with cream."

"GLACED APPLES. — Wash smooth apples, of even size and large, carefully and stew until partly done in a little water; then remove to baking dish and finish in the oven. Put a cup of white sugar into the water in which they were stewed and stir constantly until it is of the consistency of soft candy when cool. When tender remove the apples carefully to the dish in which they are to be served and pour the glaze over them. A coating will form about each apple and make an attractive dish."

"APPLE CREAM. — Stew a half dozen large tart apples in a very little water; when soft, beat into them a coffee cup of white sugar and the whipped whites of four eggs. Let cool and serve with cream flavored with lemon or vanilla. Resembles ice cream and is delicious with a nice cake. Or the yolks of four eggs may be made into a boiled custard and the apple cream dropped upon it in large flakes."

"Aunt Elspeth pins her faith to the old fashioned apple dumpling boiled in a cloth," put in the Young Housekeeper. "She says that in the days when her grandmother was young every girl had a dozen dumpling cloths

with her marriage outfit of household linen. It seems in those days a girl's trousseau consisted chiefly of household linen, feather beds, etc. My! but the women of that age must have led a life of Rooseveltian strenuousness. They spun and wove; baked and brewed; made their own soap and candles—and never missed a long-winded sermon on Sundays."

"Yes," laughed the New Member, "and they even braided the straw to make their spring bonnets and the hats of their men folks and children as well." "Whew! I'm glad my time didn't come then," returned the Young Housekeeper. "This is the recipe for aunt's pet dumpling:"

"BOILED APPLE DUMPLINGS. — Use well-shortened dough made with buttermilk or yeast; in the latter case it must be allowed to raise again after the dumpling is made. Roll out enough each time to cover a large apple, pared and cored; put a lump of sugar in the center and fashion the dough smoothly about it; then place it in a square cloth which has been dampened and dusted with flour; give it plenty of room to swell and tie securely; put it in a kettle of boiling slightly salted water, enough to cover the dumplings and boil steadily until the apples are tender when tried with a straw. Serve hot with butter and maple sugar (the old way) or cream and sugar."

"And truly a delicious dish," said the Good Housekeeper. "The objections are that it is rather hearty for our sedentary class and it is considerable work to prepare properly. Here is a dish which might take its place and which meets those objections, as it is easily prepared and may be indulged in freely by the most delicate:

"THE HOME CIRCLE'S APPLE PUDDING. — For a family of four or five, pare, core and quarter six large, tart apples; place them in a two quart granite pan with a half cup of cold water and a light sifting of sugar and flour. Make a stiff batter with a half pint of sweet milk and a heaping teaspoon of baking powder sifted in the flour; beat into the batter a large spoonful of melted butter; pour over the apples and smooth by dipping the mixing spoon into some milk. Bake until apples are tender. When the crust is light brown, slip a plate over the dish to keep the pudding from drying out. Serve warm with hard sauce, made by creaming a half teacup of fresh butter with a cup of white sugar and flavoring with lemon or vanilla."

"Then what is more simple and delicious than

"BROWN BETTY. — Take eight or a dozen nice, tart apples; pare, core and slice thin; place a layer of these in the bottom of a granite pudding dish with a slight dusting of sugar; then a layer of bread or cracker crumbs; and so on till the dish is full with a layer of crumbs on top. Pour a scant cup of water (less if the apples are very juicy) evenly over it and press down smoothly; put bits of butter on top and sprinkle with sugar and cinnamon. Put a plate over the dish and bake till the apples are done; serve warm with

"WINE SAUCE. — Sift together a teaspoonful of flour and a large cup of granulated sugar (the light brown is the best for this purpose); stir a pint of boiling water into this and let cook ten minutes or more, continuing to stir in meantime; then grate in part of a nutmeg and add a large spoonful of fresh butter and a half cup of wine. Red jelly may take the place of the wine."

"Our time for this chat is up and we have made but a beginning in the delicious ways in which apples may be served. There are apple jellies in different forms; the wholesome apple sauces, the unexcelled apple pie, and many other appetizing dishes into which this peerless fruit may be turned."

To rise early requires quickness of decision; it is one of those subjects which admit of no turning over.

Conscience is the voice of the soul; the passions are the voice of the body.

## TALKS ON TEETH

BY

## The Rex Dental Co.

(INCORPORATED)

### Plain Talk to Skeptics

An honest skeptic is one who investigates.

The man who says, "I don't believe it," and then crawls into his shell and refuses to be convinced by argument or demonstration, is not playing fair. He is not only a skeptic, but a dog-in-the-manger.

Are you skeptical about whether or not this great dental company, the largest in the world, with offices in San Francisco, Oakland and Los Angeles, can fulfill its promises when it says it can restore missing teeth with Alveolar teeth? That it can place these teeth in the mouth and anchor them there, so that you won't know where your natural teeth leave off and the Alveolar teeth begin, in the jaws?

Do you believe these things, or don't you?

That is a plain question.

We have been in business now for the past five years. In that time we have successfully treated thousands, yes, tens of thousands of patients, and have a multitude of testimonial letters saying we worked wonders.

Here is one as a sample. You will note that Mr. Thurston was a skeptic.

OAKLAND, Cal., 22, '08.

Rex Dental Co.—

After having thoroughly investigated the different methods of putting in teeth, I made up my mind the Alveolar Method was the best, and it gives me much pleasure in writing you to state that the 28 Alveolar teeth that you inserted in my upper and lower jaw give me the greatest satisfaction, and I cannot tell them from my own natural teeth, as they are perfectly comfortable and are as solid as rocks. I have the satisfaction of knowing that I will never have any more trouble with them.

I will be only too glad at any time to answer all questions put to me by anyone who is skeptical about the work, and will take pleasure in showing the work you have done for me.

I also want to thank you for your courteous treatment of me in your office, and under the operation you never caused me one bit of pain during the entire treatment of the Alveolar Method.

Thanking you again, I remain,  
Yours very truly,

J. R. THURSTON.

1024 Union St., Oakland.

Won't you give us the benefit of the doubt?

Come in and see us, and form your own conclusions after our expert examining dentist has looked your mouth over. That is a fair proposition.

You don't commit yourself in any way, shape or manner. You are the sole judge of whether or not the work we promise to do can be done, unless you will take the testimony of others who have come before you.

Any plan you choose to adopt will be satisfactory to us, if it is fair. But don't criticize us at long range. Don't say, "I don't believe it." Don't take the word of a rival dentist, who has his own little axe to grind.

Give us a square deal. No more and no less.

If you are interested, but can't call, send for our book, "Alveolar Dentistry," and read it. We send it free.

It's a great book on the teeth.

NOTE—Make a note of our name and addresses, to be on the safe side. There are imitators abroad who make false claims.

## REX DENTAL CO.

DENTISTS

SAN FRANCISCO:

228 Pacific Building  
Fourth and Market Streets.

OAKLAND:

81 and 83 Bacon Building,  
Twelfth and Washington Streets.

LOS ANGELES:

201 Severance Building.

Hours—8:30 to 5:30; Sundays, 10 to 12

### LADIES, USE LUSTRO



It will remove scratches and will polish your piano, furniture and all finished wood work. The best made. Try it. Full size 8 oz. can, express prepaid, 50c.

AGENTS WANTED.

Lustro Specialty Co.,  
Oakland, Cal.

10-Acre Fruit and Poultry Ranch—Apples, pears, prunes, 3 acres vineyard, completely equipped poultry plant, house, water piped over place—\$2500. H. F. BLUHER, Novato, Cal.



## THE MARKETS.

San Francisco, Oct. 28, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

There is comparatively little movement in the local wheat market, and the feeling is a little easier than it has been for some time. Stocks on hand are plentiful, as liberal shipments have been coming in from the north, but the local buyers are not taking on any large quantities at present, and northern bluestem shows a slight decline. Other grades are still held at former prices.

California White Australian	\$1.75 @ 1.80
California Club	1.67½ @ 1.70
California Milling	1.70 @ 1.72½
California lower grades	1.45 @ 1.60
Northern Club	1.65 @ 1.67½
Northern Bluestem	1.72½ @ 1.77½
Northern Red	1.62½ @ 1.65
Turkey Red	1.75 @ 1.80

## BARLEY.

Barley is quite strong in this market. Shipping grain is moving freely and in good demand at higher prices. A cargo of 139,584 cents left early in the week. Brewing is in only moderate demand, but is now quite firm as to price, choice lots being held at \$1.45. The movement of feed is about as usual, prices being firmly maintained at the recent advance. Chevalier is a little easier.

Brewing	\$1.42½ @ 1.45
Shipping	1.42½ @ 1.45
Chevalier	1.52½ @ 1.60
Good to Choice Feed, per ctt.	1.37½ @ 1.40
Common feed	1.30 @ 1.35

## OATS.

Choice white, per ctt.	\$1.70 @ 1.75
No. 1, white	1.65 @ 1.67½
Gray	1.65 @ 1.70
Red, seed	1.75 @ 1.80
Feed	1.50 @ 1.70
Black, seed	2.45 @ 2.65

The principal business at present is on red oats, which are offered in larger quantities than other varieties. The price is quite firm, low-grade stock being held for higher prices. Gray are very scarce and higher, and whites are also in small supply. No black oats are now offered for feed, and everything of the seed grade is held at the high price formerly quoted.

## CORN.

California Small Round Yellow, per ctt.	Nominal
Large Yellow	\$1.85 @ 1.90
White	Nominal
Western State Yellow	1.90
White, in bulk	1.75
Mixed, in bulk	1.72

The quotations on corn are still practically nominal in this market, as there is very little moving and scarcely any is being offered. The market shows less firmness than for some time past, however, Western yellow and mixed being quoted lower.

## RYE.

Rye	\$1.45 @ 1.50
-----	---------------

There has been a little more movement in rye during the past week, though the market is still quiet. A sale has been made at \$1.50, which is now the top price.

## BEANS.

During the week arrivals of beans have been very heavy and shipments have been equally so, as the demand is very good and prices seem satisfactory to buyers. There is some doubt as to the possibility of maintaining high prices for white beans, but they seem justified at present, and after orders on hand have been filled stocks held in the State will be light. The crop of large whites is larger than was formerly estimated. There is a very good demand for small white beans, and it is likely that they will rule considerably higher. Pinks and bayos are steady with a good inquiry, though there is some question of their prices keeping up. Lima beans show very little change, and the present prices are considered well established. Garvanzos are very strong and there has been a good inquiry for the large size. The market as a whole is steady, and the volume of business is very good.

Bayos, per ctt.	\$2.50 @ 2.65
Blackeyes	3.10 @ 3.25
Cranberry Beans	2.50
Garvanzos	2.10 @ 2.15
Horse Beans	1.75

Small White	4.25 @ 4.50
Large White	3.40 @ 3.65
Limas	4.25 @ 4.55
Pea	4.50
Pink	2.50 @ 2.65
Red	3.35 @ 3.50
Red Kidneys	3.50

## SEEDS.

Seeds are beginning to move a little more actively than for several months past, though the market is still rather quiet. There is some demand for alfalfa seed at present, but with liberal supplies on hand the price shows a little reduction. Canary seed is also slightly easier.

Alfalfa, per lb.	14½ @ 17½ c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3½ @ 3½ c
Canary	4½ c
Flaxseed	3 c
Hemp	4½ @ 4½ c
Millet	2½ @ 3½ c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

There is a fair amount of export business in the north at present, but the demand in this market is limited entirely to local requirements. The movement is about as usual, and prices are steady as formerly quoted.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

## HAY.

Receipts of hay on the San Francisco market during the week have amounted to 2,250 tons, which is the smallest amount received during any week this season. As a result, prices are materially higher, especially as trade continues to be about the same here and more active through the country. The difficulty in securing cars for the shipment of hay continues, and only the fact that considerable hay is stored at water points prevents a serious hay famine in the city. Most of the arrivals are of the better class, and though this is higher the greatest advance is on the poorer grades, which are largely used in times of high prices. Alfalfa has been arriving very freely, mostly by water, as the season for marketing river alfalfa is about closed, and holders are anxious to market their hay before it is damaged by rain. In spite of the increased receipts of this variety the market is firm, the consumption being increased both for dairy purposes and horse feed, owing to the difference in value between alfalfa and grain hay.

Choice Wheat, per ton	\$19.00 @ 21.40
Other Grades Wheat	16.00 @ 18.50
Wheat and Oat	14.00 @ 17.50
Tame Oat	13.50 @ 18.50
Wild Oat	13.50 @ 17.50
Alfalfa	11.00 @ 15.00
Stock	9.50 @ 10.50
Straw, per bale	55 @ 85c

## MILLSTUFFS.

The top quotation for white bran is a little lower than last quoted, but in general all millstuffs remain very firm, with stocks in this market limited, and no large surplus in the north. Oil cake meal shows a further advance.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Broom Corn Feed, per ctt.	1.25 @ 1.30
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.00
Jobbing	26.00
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	23.00 @ 28.00
Oil Cake Meal, per ton	38.00 @ 39.50
Rolled Barley	29.00 @ 30.00
Shorts	33.00 @ 33.50

## VEGETABLES.

The first frost of the season appeared last week, and as a result prices on miscellaneous vegetables show considerable change, many of the growers having rushed their stock into the market in anticipation of more cold weather. Tomatoes are lower than last week for general offerings, though good lots bring 50 cents a box. Cucumbers, egg plant and summer squash are also considerably lower. String beans, cauliflower and okra are higher. There has been considerable speculative

buying of onions during the week, keeping down the supply for current demands, and the price is higher and quite firm.

Garlic, per lb.	8c
Green Peas, lb.	6 @ 8c
String beans, lb.	3 @ 6c
Cabbage, per ctt.	60 @ 75c
Onions	70 @ 75c
Summer Squash, large box	75 @ \$1.00
Marrowfat Squash, ton	\$10.00 @ 15.00
Tomatoes, box	15 @ 50c
Turnips, sack	75c
Green Peppers, box	50 @ 85c
Cucumbers, box	75 @ 1.00
Egg Plant, box	80 @ 75c
Cauliflower, doz	75 @ 1.00
Okra, box	85 @ 90c

## POULTRY.

Arrivals of Eastern poultry are still liberal, two cars coming into the market at the opening, but comparatively little California stock has been received, and offerings of young chickens are well taken, especially young roosters and fryers. These lines, as well as large broilers and hens, are quoted at higher prices, but the demand for hens is limited. Some domestic poultry was held over from last week, but this stock does not move off readily. Turkeys are more plentiful, with some reduction in price.

Broilers	\$4.00 @ 4.50
Small Broilers	3.00 @ 3.50
Fryers	5.00 @ 5.50
Hens, extra	7.00 @ 9.00
Hens, per doz.	5.00 @ 6.50
Small Hens	3.50 @ 4.00
Old Roosters	3.50 @ 4.00
Young Roosters	5.50 @ 6.00
Young Roosters, full grown	6.50 @ 7.50
Pigeons	1.00 @ 1.25
Squabs	2.00 @ 2.50
Ducks	4.00 @ 7.00
Geese	2.00 @ 2.50
Spring Turkey, lb.	22 @ 23c
Gobblers, live	22 @ 23c
Hen Turkeys, live	22 @ 23c

## BUTTER.

Business in butter has continued fairly active this week, particularly on the extra grade. Supplies, however, have been ample most of the time, and prices show very little change, only extras being ½ cent higher. There is little movement of storage goods at present, but other grades are steady.

Cal. (extras) per lb.	31½ c
Firsts	28 c
Seconds	23 c
Thirds	20 c
Eastern extras	27 c
Ladies, extra	22 c
Cal. Storage, extras	26½ c
Pickled Butter	23½ c

## EGGS.

The advance in eggs still continues, nearly all grades being again higher. Extras are now quoted at 55 cents, with very few coming in. The current prices, however, tend to curtail the demand, which runs more to the lower grades and Eastern stock. Fresh Eastern selected are now in good demand at 27 cents. The following prices are quoted by the San Francisco Dairy Exchange:

California (extra) per doz.	55 c
Firsts	47 c
Seconds	27½ c
Thirds	23 c
Eastern Selected	27 c
Eastern firsts	25 c
Storage, Cal., extras	31 c
Storage Eastern, extra	26½ c

## CHEESE.

Cheese continues to move freely, but the high prices recently prevailing have brought out larger supplies, and new fancy flats are weaker. California storage flats are a cent lower, but N. Y. cheddars have advanced. Other lines are steady to firm at former prices. The following figures are quoted by the San Francisco Dairy Exchange:

Fancy California Flats, per lb.	12½ c
Firsts	12 c
New Young Americas, fancy	14½ c
Oregon Flats	18 c
Oregon Y. A.	14½ c
Storage, Cal. Flats	12 c
N. Y. cheddars	17 c

## POTATOES.

The market has been well cleaned up of river stock most of the week, and with a good demand prices have advanced. Supplies are now fairly plentiful, but the quotations have so far been maintained. Oregon and Salinas stock is held at former prices.

River Whites, fancy, ctt.	75 @ 85c
Common	55 @ 65c

Salinas Burbank, ctt.	\$1.25 @ 1.60
Oregon Burbanks	1.25 @ 1.35
Sweet Potatoes, ctt.	1.50 @ 1.65

## FRESH FRUITS.

Business in fresh fruits is rather slow this week, but prices on most lines are fairly well sustained, as receipts are beginning to decrease. Grapes are more plentiful than anything else, and meet with a fair demand, keeping up prices on all desirable stock. Apples remain steady and are moved without difficulty. Good pears are also in fair demand. Few peaches are now coming in, and cold storage stock moves better than before. Nutmeg melons are lower. Berries are becoming scarce and show some advance.

Apples, fancy	65c @ \$1.00
Apples, common	40 @ 75c
Strawberries—	
Chest	\$5.00 @ 6.00
Raspberries	6.00 @ 7.00
Huckleberries, lb.	12½ @ 15 c
Cranberries—	
Cape Cod, bbl.	10.50 @ 13.50
Coos Bay, box	@ 4.00
Plums, crate	35 @ 50c
Peaches, box	50 @ 60c
Nutmeg Melons, box	40 @ 75c
Grapes, crate, Seedless	75 @ 90c
Muscats	40 @ 65c
Cornichon	60 @ 75c
Tokays	40 @ 65c
Pears, Bartlett, box	1.00 @ 1.50
Winter Nellis	75 @ 1.25
Other Varieties	40 @ 75c
Quinces, box	50 @ 75c
Pomegranates, box	65 @ 75c
Persimmons, box	50 @ 85c

## CITRUS FRUITS.

More interest is now being taken in this market, though business at present is quiet. There have been several arrivals of new crop navel oranges and grape fruit, but as most of this stock is green it finds little demand, and prices are largely nominal. Some old crop grape fruit is offered at the prices quoted.

Choice Lemons	\$2.00 @ 2.50
Fancy Lemons	3.00 @ 3.50
Standard	1.25 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	3.50 @ 4.00
Navels	2.50 @ 3.00
Grape Fruit	4.00 @ 5.00

## DRIED FRUITS.

There is a little more tendency to buy in the East, though buyers here are taking on only small quantities. A larger movement is looked for shortly, owing to the cold weather in the Middle West. Apricots are now well cleaned up, and while there is not much movement in this line at present, stocks are held for firm prices. Peaches are easy as before, and find very little demand East. Growers are now marketing their prunes and there is some complaint in certain districts owing to the defective quality of many offerings. There is a fair demand for prunes, both for the East and export, and holders are firm in their ideas as to prices, though there has so far been no change. The statistical position of this article is very strong. Packers show a general tendency to limit their purchases of both fruits and raisins to actual requirements. Raisins are not yet moving freely, and the prices at which growers can move their crops are low. A number of Fresno growers have pooled their crops and fixed a schedule of prices, demanding 4 cents for loose muscatsels.

Evaporated Apples	5 @ 6 c
Figs, black	2½ @ 3 c
Figs, white	3 @ 4c
Apricots, new crop	7 @ 10½ c
Peaches, new crop	4 @ 5½ c
Prunes, 4-size basis	3½ @ 3½ c
Pears, new crop	5 @ 7 c

## RAISINS.

2 Crown	4 c
3 Crown	4½ c
4 Crown	5 c
Seeded, per lb.	7 c
Seedless Sultanias	4½ c

## NEW CROP.

Loose Muscatsels, 4 crown	5½ c
3 Crown	4½ c
2 Crown	4½ c
Thompson seedless	4½ c
Seedless	4½ c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

Walnut shipments are rapidly coming forward from the growing centers, and offerings in this market are well received. There is also a fair Eastern demand. There are still a good many



small lots of almonds in the hands of growers, but these are gradually being bought up. Prices remain as last quoted.

Almonds, Nonpareils.....	11½ @ 12c
IX L.....	10½ @ 11c
Ne Plus Ultra.....	10 c
Drakes.....	9½c
Languedoc.....	8½ @ 9 c

## WALNUTS.

Softshell, No. 1.....	12½c
Softshell, No. 2.....	8½c
Hardshells.....	less ½c
California Chestnuts.....	12½ @ 17½c

## HONEY.

Considerable quantities of honey are still coming in, and the crop is said to be larger than was expected in some sections. The market is not especially active at present, even the better grades being a little quiet, and while prices show no change they are lower than some handlers had looked for. The following figures are quoted by local packers:

Water White, Comb lb.....	16 @ 17c
White.....	15c
Water-white, extracted.....	8 @ 8½c
Light Amber.....	7 @ 7½c
Dark Amber.....	5½ @ 5½c
Candied.....	5½ @ 5½c

## HOPS.

Prices offered for California hops are as formerly quoted, and all offerings at these figures are easily moved. A good many growers, however, show a disposition to hold their crops for better prices.

Hops, per lb.....	7 @ 9 c
-------------------	---------

## WOOL.

Wool remains rather dull, and local dealers are still quoting the prices formerly given. Good sized shipments of the fall clip are being made on consignment, though occasional lots are sold locally at current prices. The Eastern market still shows little demand for California clips.

Red Bluff (f. o. b. Red Bluff) free..	6 @ 7½c
Defective.....	less 2c
San Joaquin (at S. F.) free.....	5 @ 6½c
Defective.....	4 @ 5 c
Mendocino, free.....	7 @ 9 c
Defective.....	5 @ 7 c

## MEAT.

All prices remain as last quoted, with continued easiness on pork, beef and mutton, supplies being fully ample for the requirements of this market.

Beef: Steers, per lb.....	6 @ 6½c
Cows.....	5 @ 6 c
Heifers.....	5 @ 6 c
Veal: Large.....	6 @ 7½c
Small.....	8 @ 9 c
Mutton: Wethers.....	7 c
Ewes.....	6 c
Lambs.....	8 @ 9 c
Hogs, dressed.....	8 @ 9½c

## LIVESTOCK

Steers, No. 1.....	3½c
No. 2.....	3½c
No. 3.....	2 @ 3 c
Cows and Heifers, No. 1.....	2½ @ 3 c
No. 2.....	2½c
Bulls and Stags.....	1½ @ 1½c
Calves, Light.....	4½ @ 4½c
Medium.....	4 c
Heavy.....	3½c
Sheep, Wethers.....	3½c
Ewes.....	3½c
Lambs, lb.....	4 @ 4½c
Hogs, 100 to 150 lbs.....	6 c
150 to 250 lbs.....	6 c
250 to 325 lb.....	5½ @ 5½c

Boars 50%, stags 30% to 40%, and sows 10% to 20% off from above quotations.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Oct. 27.—The orange shipping season in Tulare county commenced on Wednesday of last week when the Citrus Union and the Randolph Fruit Co. each shipped a car, the first from the Merryman orchard at Bonnie Brae, near Lemon Cove, and the other from the orchard of Frank W. Young of Lindsay, other cars being billed to Winnipeg.

To this date the only house to pack at Lindsay is the Randolph Fruit Co., but all the other factors will have fruit in their houses by the latter part of this week and shipments will begin in earnest by the first of the month.

At Exeter the Randolph people are the only ones packing oranges, but all the others will get to it this week. The Stewart Fruit Co. are running on Emperor grapes from the ranch of A. R. Carney, and a force is getting the orange machinery into shape.

Porterville, Lemon Cove and every other citrus producing section in the north will be shipping by the end of this week, and before November 10 the output will run to 100 cars a day.

The growers in general are showing a disposition to accept lower prices than the opening figures for last year and a shipper states that he can buy all the oranges he wants at \$1.15 per packed box, delivered at the packing house. This means about \$1.50 f. o. b. California, and at this price the fruit should go into consumption very quickly and result in an active market. So far the shippers state that buying orders are not very liberal.

## SPECIAL DECIDUOUS MARKET REPORT.

By T. C. TUCKER.

Sacramento, Cal., Oct. 27.—The Eastern market is somewhat higher the past week on account of the light supply of California grapes, and it has also been reported that the Almeria grape crop is considerably short as compared with former years. California fruit is arriving in a fairly sound condition. Florin Tokays are averaging \$1.30 to \$1.50. Lodi Tokays, \$1.05 to \$1.35. Florin is through shipping. Lodi is averaging about ten cars daily. Some of these are going out on orders on a basis of 75 to 80 cents f. o. b. The fruit is of fair quality. There are a few Emperors going out from this district in cars on order, and these are selling at about \$1 f. o. b. There will probably be about an average of ten cars shipped daily from Lodi until the end of this week.

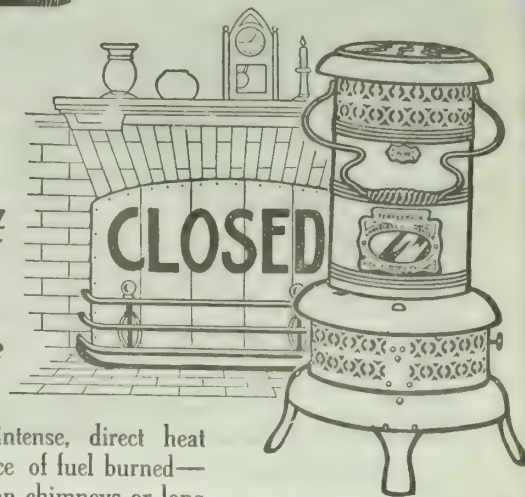
There are a few Malagas leaving Fresno at the present time and the quality is only fair. Good prices are expected for this variety, inasmuch as the supply is light.

Emperors are now going forward from the Fresno district. Several cars are going out on order on a basis of 90 cents to \$1 f. o. b. It was reported that there was a frost on the 21st, and this has cut down the supply. However, shipments of this variety will be at full blast by the end of this week. A higher market is expected on all varieties of grapes.

The last two cars of Levi clings from Placer county were sold yesterday and averaged \$1.10 delivered.

Comparative shipments for seasons 1907 to 1908 to October 21: 1907, 6,614 care; 1908, 11,244 cars.

*The Heat that Doesn't go up the Flue*



You receive intense, direct heat from every ounce of fuel burned—there are no damp chimneys or long pipes to waste the heat from a

## PERFECTION Oil Heater

(Equipped with Smokeless Device)

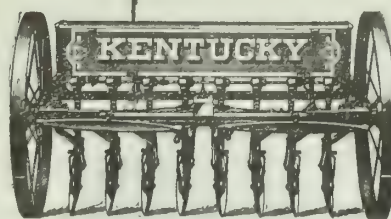
Carry it from room to room. Turn the wick high or low—no bother—no smoke—no smell—automatic smokeless device prevents. Brass font holds 4 quarts, burns 9 hours. Beautifully finished in nickel or japan. Every heater warranted.

The *Rayo Lamp* gives a bright, steady light to read by—just what you want for the long evenings. Made of brass, nickel plated—latest improved central draft burner. Every lamp warranted. If your dealer cannot supply the Perfection Oil Heater or Rayo Lamp write our nearest agency.

STANDARD OIL COMPANY  
(Incorporated)



## Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

## PACIFIC IMPLEMENT COMPANY

135 Kansas St., San Francisco.

As the leaves of autumn fall from the deciduous trees, the orchardist should get busy clearing his orchard from diseased leaves and immediately spray with a spray that will destroy the mites and parasites which harbor during the winter on the host plant or tree. For the past three years lime and sulphur has come into prominence for a spray to be used early in the season and also just before the buds appear in the spring. Two sprays are better than one, but on the peach tree where there is danger of blight an early spraying is by far the most effective. Most of the orchardists over the country are now using instead of the home-made preparation a solution prepared for commercial purposes and applied with little difficulty. Prominently among the manufacturers of this stock solution is the California Rex Spray Company, a branch of the Rex Company of Omaha, Neb., which has a large and extensive plant at Benicia, Cal., where it is prepared to furnish the solution in any quantity at short notice either to the consumer direct or to dealers throughout the State and on the Pacific coast. The motto among the fruit growers is "Spray or Surrender." Trees sprayed yield well; trees not sprayed are a failure.

OF VALUE TO HORSEMEN.—Do you turn your horses out for the winter? If so, we want to call your attention to a very important matter. Horses which have been used steadily at work, either on the farm or road, have quite likely had some strains whereby lameness or enlargements have been caused. Or perhaps new life is needed to be infused into their legs. Gombault's Caustic Balsam applied as per directions, just as you are turning the horse out, will be of great benefit; and this is the time when it can be used very successfully. One great advantage in using this remedy is that after it is applied it needs no care or attention, but does its work well and at a time when the horse is having a rest. Of course it can be used with equal success while horses are in the stable, but many people in turning their horses out would use Caustic Balsam if they were reminded of it, and this article is given as a reminder.

## PATENTS

Write for our Guide to Inventors, sent free on request, containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

## MILL

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.

Hawaiian Fertilizer Company, Ltd.

Works  
Honolulu and San Francisco



## MAN

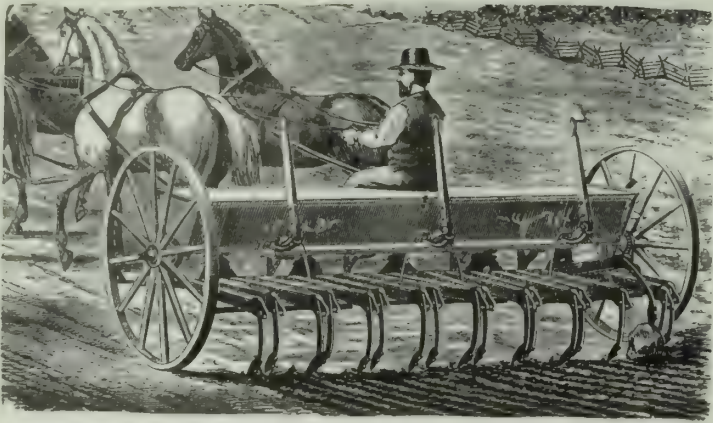
IMPORTERS  
of

Nitrate of Soda  
Sul. Ammonia  
Sul. Potash  
Muricate Potash

Double Manure Salts  
Superphosphates  
Thomas Phosphates

224 California Street  
San Francisco





THE GENUINE GORHAM SEEDER AND CULTIVATOR

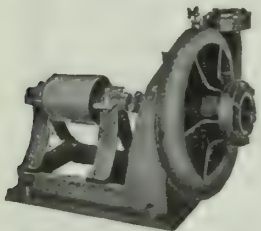
## Something New? No

USED WITH UNQUALIFIED SUCCESS HERE  
FOR 30 YEARS

WE FURNISH IT ALSO AS SEEDER ONLY WITHOUT CULTIVATING ATTACHMENT

There is nothing like it for hilly lands, summer fallowed lands, for seeding in the winds. The seed is evenly distributed in the quantity you measure and you get RESULTS. Prices are lower than ever. Write

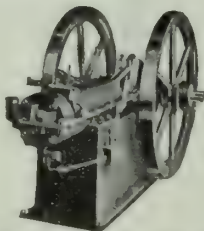
**THE H. C. SHAW CO., Stockton, Cal.**



**Gould's Centrifugal Pump**  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust.



**Stover Gasoline Engines**  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

**PUMPS FOR EVERY SERVICE AND USE.**

### WOODIN & LITTLE PUMP HOUSE

70-72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings. Send for Catalogue.

TELL THE FOLK AT HOME

THERE WILL BE

## Homeseekers' Rates

in effect daily from Eastern points during  
September and October, 1908.

### SOME RATES:

Sioux City	\$31.95	New Orleans	\$35.50
Council Bluffs	30.00	Peoria	36.75
Omaha	30.00	Pittsburg	47.00
St. Joseph	30.00	Memphis	36.70
Kansas City	30.00	Bloomington	36.75
Leavenworth	30.00	St. Paul	36.75
Denver	30.00	Minneapolis	36.75
Houston	30.00	Chicago	38.00
St. Louis	35.50	New York	55.00

Many more from other points on application. Long time-limits on tickets, and choice of routes. Write to Dept. Ad. 948 Flood Building for literature and details about California and the personally conducted parties coming from Chicago, Cincinnati, St. Louis, New Orleans and Washington.

# Southern Pacific

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution. Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

**THE PACIFIC GUANO & FERTILIZER COMPANY**  
268E Market St., San Francisco, Cal.

## WOOD PIPE

Made from California Redwood  
or Selected Washington Douglas  
Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## PIPE

### PRICE LIST.

Second Hand Pipe—Merchantable Lengths. Standard Threads and New Standard Couplings. Dipped in a solution of hot Asphaltum, maintained at a temperature of over 300 Degrees. Closely Inspected and fully Guaranteed. All prices F.O.B., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1/2 inch	.84 lb.	\$2.50
3/4 "	1.12 "	3.85
1 "	1.67 "	4.50
1 1/4 "	2.24 "	6.25
1 1/2 "	2.68 "	7.25
2 "	3.61 "	10.00
2 1/2 "	5.74 "	16.00
3 "	7.54 "	19.75
4 "	10.66 "	30.00
5 "	14.50 "	42.50
6 "	18.76 "	50.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.

**Blake, Moffitt & Towne**  
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 19.

SAN FRANCISCO, SATURDAY, NOVEMBER 7, 1908.

Thirty-eighth Year.

## Causes of Failure of Prune Crops.

Written for the PACIFIC RURAL PRESS  
By LEONARD COATES, of Morganhill.

Looking back over a series of fifteen or twenty years, and the record of the annual prune crop, one is led very naturally to enquire, "Wherefore this great falling off in the output?"

The prune crop of California has reached a total of 200,000,000 pounds or more, while this year it will be about 40,000,000 pounds. Santa Clara valley alone used to produce 100,000,000 pounds annually; this year, less than 20,000,000 pounds. During the past three seasons, including the present one, has this shortage been the most startling.

It was during the production of the 200,000,000 pound crops that the Dried Fruit Association was organized, but which did not last, for various reasons. Showing the fallibility of estimates made on future crops, using the simple rules of multiplication as a basis, one has but to compare the many hundreds of millions of pounds which alarmists said we would have at this time, with the figures above given. It was stated, and with a measure of sound reasoning, that the trees being planted every year, and those not then in bearing, would make up for partial failures of crop, lessening of production from old orchards, etc. All this has been disproved, however, and the question still remains, "Why this falling off?"

**Reasons for Reduced Production.**—There are several causes which have combined to bring about this condition, which might have been prevented to some extent at least. Among these causes are:

1. Close planting.
2. Unsuitable soils.
3. Insect pests.
4. Fungus diseases.
5. Poor, or no pruning.
6. Impoverishing of soil.
7. Unsuitable root stock.

8. Indifference to propagation from selected or pedigreed trees.

All this comes within the realm of a scientific understanding and knowledge of the art of horticulture, as applied particularly to the growing and maintaining of a prune orchard.

The encouragement to plant prune trees so extensively fifteen or twenty years ago was based on the general too willing belief that a prune orchard would very nearly take care of itself. This belief is still paramount in the minds of most planters, although few will admit it.

Everyone "knew how"; the farmer from his hay field or grain ranch; the banker from his counting-house; the merchant from his store; and all, in the early days of their first prune crops, pointed with pride to their thrifty trees loaded with fruit as proof positive of the correctness of their theories. But other forces were at work, unknown and unseen.

Where the conditions as they exist in California are more favorable to the production of good, regular crops of fruit than perhaps anywhere else in the world, it does not redound to our credit as horticulturists that the facts can be as stated.

I will refer briefly to the "causes" as enumerated, suggesting remedies in passing.

**1. Close Planting.**—Trees planted too close together, whose mission is to produce fruit, not timber, will fail much sooner than those which are given more room. Prune trees should always be allowed 24 feet each way, and in rich land 30 by

30 is not too much. By this I would not let it be inferred that I recommend that fruit trees should ever be permitted to grow out of reasonable reach; the diameter or spread of a tree may be increased, while the top is kept within bounds.

Note the outside rows of a prune orchard. How much stronger are those trees than the others!

**2. Unsuitable Soils.**—The prune, as with all the plum family, requires a rich, moderately heavy soil, not necessarily very deep, if the subsoil is clayey, and if the tree is on plum root. In the Santa Clara valley are thousands of acres in prunes on land of a gravelly nature, which should have been planted with peaches, preferably. Neither are the sandy soils of Fresno and Tulare suitable to prune culture.

**3. Insect Pests.**—At the time of the great scare over the so-called San Jose scale (*Aspidiotus perniciosus*), which was when the prune yield was at its height, prune orchards were sprayed regularly with lye, or with lime, sulphur, salt solution. For many years past it has been unusual to see prune trees



Good Form of Young Prune Tree With Green Stuff to Plow Under.



Prune Trees Gone to the Bad From Wrong Start.

(Continued on Page 292.)



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor

FRANK HONEYWELL - - - - - Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., November 3, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.34	5.22	4.28
Red Bluff.....	.12	.19	2.57
Sacramento.....	.06	.29	1.54
Mt. Tamalpais.....	.27	1.78	1.91
San Francisco.....	.08	.77	1.71
San Jose.....	.04	.27	1.74
Fresno.....	.00	.18	1.02
Independence.....	.00	1.60	.99
San Luis Obispo.....	.00	1.44	1.91
Los Angeles.....	.00	1.55	.86
San Diego.....	.00	.99	.55

The Week.

Correspondence with Prof. L. H. Bailey, chairman of the Commission on Country Life, recently appointed by President Roosevelt, indicates that California is to have the share of a most favored State in this unique and significant presidential inquiry, and we haste to enlist the attention and interest of our readers, in order that California may make due reciprocation of the appreciative disposition of the commission toward the phases of rural life which have developed in this State. It is the plan of the commission to secure detailed information by schedules of inquiry which have been sent to more than six thousand Californians by the use of such lists of names as were available, and we trust all our readers who receive them will promptly return a frank expression of their views and observations of fact, which the commission desires as a basis of its report. In addition to this systematic inquiry, the commission will literally extend its ear to hear and direct its eye to observe in all parts of the United States, for it will start out from Washington about November 18, proceeding toward the South and West, expecting to reach California at the close of the month or early in December, and to complete the circuit of the country during that month, so that their report can serve as the basis of a message to Congress by President Roosevelt as soon as possible after the holiday recess. Professor Bailey writes that the commission plans to hold three conferences in California, each of one day's duration, hoping, however, that discussion may proceed longer, and the results be reported to them afterward. Three formal hearings in different parts of California is certainly a liberal allowance to a single State, even though it be a very large one, and it seems to us that California ought to make every effort to make the hearings widely representative of California, and thus show its appreciation of the generous consideration of the commission.

It is of course desirable first of all that Californians should have a clear idea of the scope of the inquiry which President Roosevelt has intrusted to this "Commission on Country Life." The very name gives a clew to the purpose. Professor Bailey in his letter says: "We are not investigating agriculture, but the general economic, social, and sanitary conditions of the country." This makes it clear that the hearing will not relate to resources, adaptations and achievements in production as they are usually set forth, although such things may be naturally involved in the economic aspects of production, which have direct bearing upon income and the sty of rural life, which is conditioned upon it. The situation and the motive cannot be more clearly stated than they were by President Roosevelt in his letter to the commission which he selected, in these words:

"The great rural interests are human interests and good crops are of little value to the farmer unless they open the door to a good kind of life on the farm. It is especially important that whatever will serve to prepare country children for life on the farm, and whatever will brighten home life in the country and make it richer and more attractive for the mothers, wives and daughters of farmers, should be done promptly, thoroughly and gladly. . . . The farmers have hitherto had less than their full share of public attention along the lines of business and social life. There is too much belief among all our people that the prizes of life lie away from the farm. I am therefore anxious to bring before the people of the United States the question of securing better business and better living on the farm, . . . to make country life more gainful, more attractive and fuller of opportunities, pleasures and rewards for the men, women and children of the farms."

Next to the purpose of the inquiry naturally comes the personnel of the commission to which it is entrusted. The body consists of Prof. L. H. Bailey, head of the department of agriculture of Cornell University, Ithaca, New York; Mr. Henry Wallace, publisher of an agricultural journal, Des Moines, Iowa; President K. L. Butterfield of the Massachusetts Agricultural College, Amherst, Mass.; Mr. Walter H. Page, editor of magazines, New York City; Mr. Gifford Pinchot, head of the Forestry Service of the United States. All these men are distinguished, not alone for the wisdom they possess, but for their attitude toward new truth and their penetration and discrimination in the search for it.

As already suggested, the inquiry will be limited and with his genius for directing and regulating currents of real public interest, we expect Chairman Bailey will keep the hot-air damper rather rigidly closed during the hearing. We are therefore disposed to respectfully suggest that those selecting people to give the commission information in the different parts of California shall retire all leather-lunged resource-and-climate spielers and high-temperature artists generally from service during the sittings of the commission, and invite to the front, rather, those who have deep knowledge of the conditions of rural life and activity in California, and are able to present in compact form significant facts and logical deductions therefrom. Along this line Professor Bailey, in the personal letter from which we are making several quotations, says: "We desire to get in touch with farmers, business men, ministers, physicians and others who are directly concerned in the problems of country life." This means, we take it, those who are living the life, or those who, by frequent entry into rural homes, or by wide business experience with rural people, have had good opportunity to study the quality of rural life

and have thought much upon its condition and amelioration. So far as we can judge, the commission has oriented itself very successfully.

In order that it may appear a little more definitely what particular experiences are considered by the commission germane to its inquiry, we take from the schedules which have been circulated for written responses, the following questions:

1. Are the farm homes in your neighborhood as good as they should be under existing conditions?
2. Are the schools of your neighborhood training boys and girls satisfactorily for life on the farm?
3. Do the farmers in your neighborhood get the returns they reasonably should from the sale of their products?
4. Do the farmers in your neighborhood receive from the railroads, trolley lines, etc., the service they reasonably should have?
5. Do the farmers in your neighborhood receive from the United States postal service, rural telephone, etc., the service they reasonably should expect?
6. Are the farmers and their wives in your neighborhood satisfactorily organized to promote their mutual interest?
7. Are the renters in your neighborhood making a satisfactory living?
8. Is the supply of farm labor in your neighborhood satisfactory?
9. Are the conditions surrounding hired labor on the farms in your neighborhood satisfactory to the hired men?
10. Have the farmers in your neighborhood satisfactory facilities for doing their business in banking, credit, insurance, etc.?
11. Are the sanitary conditions of the farms in your neighborhood satisfactory?
12. Do the farmers and their wives and families in your neighborhood get together for mutual improvement, entertainment and social intercourse as they should?
13. What, in your judgment, is the most important single thing to be done for the general betterment of country life?

The reader will be struck with two things which are emphasized by reiteration in these questions. First, the words, "in your neighborhood," occur in all but one of them. This means, we take it, that the respondent is not desired to generalize on any question but the last. The commission can do its own generalization afterward. What it desires is simple, rough stones of fact or philosophy which it can work into its own construction. Therefore each should write of what he has really seen and what he thinks of what he has seen or experienced. The other repetition is found in the words "satisfactory" and "reasonable." This means that extremes in fact and in view are to be guarded against. The commission certainly does not desire to round up all the cranks and faddists in the country, but wants to know what is satisfactory or unsatisfactory to reasonable men. We have emphasized these characters of the schedule because it is fair to assume that the commission will endeavor to restrict statements made at its hearings to similar exactness and definiteness of fact and reasoning, though possibly the words, "in your neighborhood," may be given a broader geographical range, and may even include a State or a region. There is of course greater danger of such testimony becoming too broad than too narrow.

The commission has made a fortunate choice of an executive secretary in the person of Dr. E. W. Allen, Assistant Director of the Office of Experi-



ment Stations of the U. S. Department of Agriculture, Washington, who has been a close observer of social and economic phenomena connected with agriculture for many years, and has become, through wide travel, familiar with local conditions in all parts of the United States. All communications for the commission may be addressed to him, and all readers are invited to address him upon the subjects cited above, even if they are not reached by the printed schedule. In the nature of things, no list of names can include all interested in a subject, and it is more than likely that some of the best sources of information may not be thus approached. Therefore all our readers are invited to proceed upon their own initiative with this important work. Wide notice of the dates and places of the California hearings will no doubt be given.

Since our last issue rains have fallen in the valleys north of the bay, and in the upper part of the Sacramento valley, in sufficient quantity to start the grass and fit the soil for fall work, and in these regions all the signs are set as usual for a heavy winter, according to those who take their auguries from birds and small beasties, which are often credited with a keener prophetic eye than the larger animals. Solomon advised going to the ant for an impulse to industry: some moderns have outdone Solomon, for they go to various bugs for various manifestations of wisdom, frequently in weather lines. It is some satisfaction therefore to know that all creeping things, so far as consulted, have declared for an ample rainfall in California this year. The greater part of the State is still waiting for water enough to stop the stock from eating their heads off and to keep the hands from too much poker, now that politics are over for a while.

An inquiry into the proletarianism of prunes, as conducted in this issue by Mr. Leonard Coates, is of wide interest, and should be carefully studied. His claim that people erred in the belief that the prune would grow itself and cure itself and creep into the sack or box for shipment, is certainly well established in the experience of those who promoted prunes along such lines, or rather, perhaps, in the experience of those who listened and blew in money on the basis of such promotion. It is undoubtedly true that we shall do better when we treat the prune more rationally. Just what that consists in depends upon conditions. If you can plead not guilty to all of Mr. Coates' indictments, think about it yourself and perhaps you will discover other things which you have not done, or have not done aright.

## Queries and Replies.

### Hit the Low Places.

To the Editor: I have been farming 50-odd acres for the past five years. The land lies in the swamp, as we call it, but has to be irrigated to grow alfalfa and late Egyptian corn. Now the land lies in ridges and low passes across the ranch. The ridges are not very high, nor the passes very low; but the water always follows the low passes if the ground is not checked up well. Since here I have been very careful in irrigating to prevent too much water getting onto the low places, thinking the soil has been water-killed. This year I have a field planted to Egyptian corn. On the higher ground there is good corn, while on the lower the stalk is waist high and still green; but little or no grain, and never will be. The same is true when sown to barley. I would like to have the two soils examined and learn what can be done to reclaim the soil in the low passes.—Farmer, Tulare County.

It does not seem to be necessary to make an analysis of the soil, except perhaps to make an alkali test to see if that trouble is present. The soil in the low places has probably been compacted too much by the standing water, and possibly has been rendered sour, owing to the exclusion of the air, etc. If it is not possible for you to grade the land so that it will take water more equally, you can improve the low places by the application of lime (providing it is not already alkaline) or by the plowing in of stable manure. The lower land would be improved by under-drainage, if you can undertake the expense which is necessary. We should try at first the application of air-slaked lime on a small piece at the rate of 1000 pounds to the acre, plowing deeply, and see if that does not bring these places into better condition. Application of stable manure with deep plowing on another piece would give you a chance for comparative observation. You can also get a suggestion from digging down in such places to the depth of two or three feet, to see if you encounter standing water. If so, it is rather hopeless to think of getting the piece into good condition without under-drainage and grading to bring the surface to a more uniform condition would help you to get back the cost of the improvements sooner.

### Pits for Planting.

To the Editor: Can you tell me where I can procure olive, peach, and apricot pits for planting? Is it a good plan to bud apricot onto peach stock, and peach onto peach? I can procure some peach pits in Los Angeles, but the figure is so high as to be almost prohibitive: 65 cents per 100 pits. The others are unobtainable down here at any price.—Lionel Hawtrey, Holtville, Imperial County.

Olive growers in southern California can furnish you ripe olives at current rates, and you can take out the pits for yourself, or you may possibly hear from someone who is using a French machine for punching out the seeds before making the pulp for oil, but little is done in that line in this State. Do not take Mission olives, however, as they have few kernels in the pits. Besides, you do not need olive pits unless you are going to work for new varieties or wish to test the European practice of grafting on seedling roots. That is not done to any extent in this State; practically all our olive trees are from the cuttings, even when grafted afterward. Some of our readers may have peach or apricot pits to spare, and we print your full address, so that they can write to you about them. Arrangements for such pits should have been made before the fruit was gathered, and it is very difficult at this time of the year to find supplies, except as they have been

reserved by nurserymen and others for planting purposes. The apricot does well on the peach stock, and the peach itself is almost exclusively propagated upon peach seedlings.

### Plants for Salt Marsh Again.

To the Editor: In answering my question about plants for an estero which is flooded with sea and rain water during the winter season, you restricted your comments to plants which might be of some economic account. I did not intend to confine myself to useful vegetation. Salt bush, palms, mandrakes and smaller things would answer. Is there any reading matter that covers the question? The Bon Jardinier of '92 mentions statice and other plants whose names I have forgotten as standing seashore conditions.—Amateur, Santa Barbara.

We have no broader information on the success of plants on salty soils than that outlined in our previous answer. We know, however, that salt bush will not stand salt, although its name would seem to indicate it. It is far more tolerant of alkali than of common salt, and all the tests which we have made on salt marsh have been sad failures. There may, however, be some species not yet tried which would be more likely to succeed. If you will apply to the Bureau of Plant Industry, United States Department of Agriculture, Washington, D. C., for their publications on plants for the reclaiming of sand dunes, there may be something mentioned of plants tolerating salt which would be suggestive to you.

### We Do Not Figure on Eucalyptus Returns.

To the Editor: Can you give an estimate of income to be expected from *E. rostrata* in seven, eight, or ten years, under good conditions?—Intending Planter, Los Angeles.

The eucalytus statisticians have gone so far beyond us that our figures seem ridiculous, and we have concluded not to figure any more. All we have to say with reference to the chances to put money into the planting schemes is: *caveat emptor!* One reason why we cannot undertake to estimate income from eucalytus planting is that so much depends upon the soil, moisture supply, temperature conditions and the management of the plantation itself, that the outcome is altogether problematical. If everything is right and goes right, the current publications of what has been secured in the way of growth furnish ample data with which anyone can do his own figuring, and if his own figures do not come true he has only himself to kick. We are playing for safety in this game: at the same time, we are sure that the truth about the eucalytus outlook is good enough for any reasonable man.

### What Is a Good Stand of Alfalfa?

To the Editor: What, in your opinion, would be the required number of sprouts that would be considered a good stand of alfalfa, say on one square foot of ground, or how many sprouts should there be to, say, one square yard? I have been told that a spear every nine inches would be considered a good stand, but I am not positive whether they mean one in every nine inches square or in every nine square inches. Any information you can give me on this line will be thankfully received.—Investor, San Francisco.

Certainly a good sprout of alfalfa to every nine inches square on a field must be considered a good stand. The plant enlarges its root and broadens its root crown, so that the shoots on the surface beginning in that way would soon completely occupy the space. If you are getting one shoot to every square foot you would be doing far better than alfalfa planters usually do. Of course, very much depends upon an even distribution as being much better than an irregular patchiness of the field.

## CALIFORNIA FRUITS: FOURTH EDITION.

The publishers of "California Fruits," by Prof. Wickson, have to announce an increase in price of the Fourth Edition, which is about ready to appear. The book is much larger than expected, because of the great increase in contents which the author found desirable, and because of the multiplication of striking and significant engravings which the publishers thought the enriched and extended text demanded to fitly assist the grower in his work and to represent the present notable expansion of the industry. The new edition has a page one-third larger than its predecessors, and the illustrations are increased four fold, including a multitude of full-page plates, some in colors, all of which make it imperative that the price be advanced to \$3 per copy, to cover the increased cost of the work.



## Horticulture.

### CAUSES OF FAILURE OF PRUNE CROPS.

*Continued from Page 289.*

sprayed, although it would seem that most orchards are badly infested with the black scale or with the brown apricot scale. The black smut, which covers the trees as with a pall finds a suitable condition in which to grow in the "honeydew," a sweet exudation from the scale, which drops all over the trees and to the ground. All these evils weaken a tree, and the weaker it is the more liable to be injured by the next "pestilence that walketh in darkness." Thrips seems to be the next, and, so far, unconquered. Why not go back to spraying the prune trees, and regularly, in the fall or early winter, with the Bordeaux mixture, and about February with the lime and sulphur spray, or, if only one, use the latter.

**4. Fungus Diseases.**—This has been touched upon under "Insect Pests," but apart from the black smut, is it not likely that a regular Bordeaux spray would, by destroying the spores of fungi, which are everywhere present, keep the buds in a healthier condition, that they may have a better chance to set fruit? Brown rot, too, has been found. Is not an "ounce of prevention" cheaper than "a pound of cure"?

**5. Poor or No Pruning.**—This is fatal. With what glee prune growers used to plant to their seven year old prune orchards: beautiful trees, loaded with fruit! And they kept it up for a while, the land being rich and the pests not so numerous. That hard-to-kill horticultural faker who says "Nature never prunes a tree," had time to boast, "I told you so." Nature does not grow the fruit that satisfies; she grows timber, and seed to reproduce its kind, with an intimation in the wild fruits of the forest of what we may do, and have done, by a knowledge of the art of horticulture. A fruit tree, as we know it, is, from Nature's viewpoint, an ungraceful thing, butchered by man, and far removed from all semblance of its original conception.

The prune tree should not be arbitrarily cut back to 16 inches, but from 16 to 30 inches, according to size of tree and prominence of the wood buds. In one year three limbs should be selected as foundation for the future tree, and as far apart as possible, thus avoiding sharp angles or Vs. Start right, and then, with the exercise of common sense, one should be able to shape the tree properly. Keep all small lateral shoots well shortened in annually, except where they may be too thick, when some may be cut out. The fruit then may be kept well in and close to main branches.

Look at the average prune tree today. A live brush pile! Think of the waste of energy for sap to be pumped up to keep alive all those thousands of feet of branch and lateral before the fruit is reached! Of course the cry now would be, it wouldn't pay to shorten all those spurs; it would take too much time. Does the treatment of the past pay? There are times when a bearing prune tree must be cut back; there is no need to chop the top off blindly, which would result in the growth of a forest of sprouts, but cut with a smooth, sloping cut, close to a strong lateral branch, as the individual case requires.

**6. Impoverishing of Soil.**—This everyone admits, continues in the old way, and puts off till next year the hauling of manure or purchasing of fertilizer.

**7. Unsuitable Root Stock.**—The nurseryman is often to blame here, for he must know more than the average planter about these things. Myrobalan root is good for a heavy, moist soil, or shallow, clayey soils, but not for deep, gravelly loams or where trees may suffer in a dry season. The almond root is better in deep, dry soils, and the apricot root perhaps better still, although the prune sometimes breaks off on this stock; it should be set deeper. We find a very varying experience on this subject, especially as regards the prune on apricot root.

**8. Indifference to Propagation from Selected or Pedigreed Trees.**—There is an awakening in this regard. It is no uncommon thing now for growers to come to the nurseryman and arrange to have trees budded from some particular tree

which had made a reputation for vigor, productiveness and quality of fruit. Such trees constitute pedigreed stock, as much so as when a similar method is employed in breeding up a flock of poultry by selecting only the finest fowls from which to raise others. Not scientifically, of course, nor actually, for the analogy barely exists in this case. But it answers all practical purposes as an illustration, and the results are equally sure and satisfying. Sure, because a bud or graft must reproduce its kind in every particular, while a seedling, having known parents on both sides, and so on as far back as the patient scientist may care to have gone, is still an unknown quantity, and may reproduce the failings of an ancestor, instead of the good qualities. Such a seedling, however, with known parentage on both sides, is a scientific pedigreed plant, although it may be worthless, compared with other fruits.

The logical conclusion is, then, that even with a scientific pedigreed plant, or fowl, selection must also be employed. With our fruits, nature has often done the preliminary so-called scientific work and the practical horticulturist has attended to selection.

Morganhill, October 20, 1908.

[This is a masterly review, which it will be well to ponder and discuss in our columns.—EDITOR.]

### CALIFORNIA SWEET WINES IN MEDICINES.

The Federal regulations in their existing forms have been in effect a discrimination against California sweet wines, as imported medicines were not subject to this restriction. French wine enters into the composition of foreign medicines, and when these were brought into this country they were subject only to the pure food regulations. Under the internal revenue laws, California sweet wines were practically barred.

The modification of the Federal regulations follows an appeal to the president of the Trans-Mississippi Congress, which recently held its session here, as well as from the commercial organizations of this city. The change will work to the advantage of the wine industry throughout the State.

The announcement of this change came in the form of a telegram from William R. Wheeler, Assistant Secretary of Commerce and Labor, to P. C. Rossi, president of the Italian-Swiss Colony. The telegram read:

"Regulation will be materially modified, and furnish practically relief desired. You may publish this."

### RAISIN MEETING AT FRESNO.

To the Editor: An extremely fine meeting of raisin-growers, filled with the co-operative spirit, convened at Fresno October 31 and adjourned until the following Saturday.

Sturdy John Fairworthy presided, inspiring confidence by his earnest and conservative example. Colonel Forsythe, Mrs. Mowat and others led the discussion, and harmony prevailed. Reports from a canvass of school districts for securing signatures to a pooling agreement fixing a minimum of four cents as the selling price, were received, and these aggregated 12,000 tons, exclusive of large lots confidently relied upon that would bring the tonnage up to 15,000.

Volunteers, with autos, agreed to spend a week in a thorough canvass for signatures for report at next meeting. When control of the situation is secured, a selling committee will be appointed, with a larger advisory committee from different districts. There was a feeling that without this control and a basis to be fixed by growers, that 2½ cents would be the average price for the crop. Mrs. Mowat clearly demonstrated that the policy of packers is to take enough of the finest layers at 3¾ cents for immediate needs, and then successively shade prices a quarter of a cent until the lower grades would reach 2½ cents, and form the basis for the bulk of the crop. Inside information led her to believe that the condition of the market warranted 4 cents as the minimum.

Mr. Fairworthy stated that a royalty of one cent had been agreed upon for the seeding process, and that growers would have to pay this unless they would co-operate in the present movement.

It was impressed upon the growers that any

reasonable price would be accepted by buyers, and when this is fixed, trading would at once begin. Eastern dealers have no basis, and the uncertainty of the market price retards holiday business until an absolute basis is reached.

A stirring address was made by Rev. Geo. H. Filian of Parlier. He had confidence in his fellow growers that they would act the part of men in this crisis in raisin growing by standing together for a fair deal. He described the vineyard situation in Armenia, his native country. He sincerely hoped to see the wine industry replaced by special manufactures that had enriched his own countrymen, in the way of confections from grape juice, samples of which he exhibited, these supporting entire districts and establishing immense exports therefrom. With raisins, this trade established here, would use the best and inferior crops, and he confidently expected stable prices for the future, through control of growers and such outlets, without fear of over-production.

In adjourning it was felt that by next Saturday enough raisins would be signed up to give producers control, through the pooling of interests. The chairman said that they would make haste slowly and not jeopardize the movement by fatal errors, chiefly to be avoided.

S. E. WATSON.

## Citrus Fruits.

### THE ORANGE GROWER'S TROUBLES.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

**Fertilizing Methods.**—The next point for consideration in this inquiry is the feeding or so-called fertilizing of the trees. This is delicate ground to approach, as there are several varieties of fertilizers, for which almost magic influence is claimed, and which have their advocates among the growers as well as the salesmen, and there are scores who condemn all but stable manures. It is not the intention to discuss any of these things, but to speak only of the methods of using fertilizers, both natural and artificial, as they appear to affect the production of fruit. We have seen that the usual method of irrigation in shallow furrows washes the plant food to the lower part of the orchard, and in case of any run-off of water the fertility is even carried away in the road ditch, or perhaps to a neighbor's land. The waste of organic fertilizers by turning the soil up to the surface and burning them out in an arid climate has also received attention. The conditions necessary to the application of fertilizers so as to get their value in feeding the trees is that the soil shall be free and open to allow of air circulation, and the moisture must be so conserved as to keep the fertilizers continually moist. The loam must be rich enough in organic matter to keep alive and active the soil bacteria, and to forward the chemical changes that convert material to plant food.

**Deep and Shallow Drilling.**—While such materials as bone, which supplies phosphates, must be put in deep enough to protect it from being constantly disturbed by the cultivator, such materials as principally contain nitrogen give better results just under the mulch, as the nitrifying bacteria seem to do their best work with a freer supply of air. The fine rootlets from the lateral roots fasten to the bone particles, and should not be disturbed while they are thus feeding. Bone seems to supply food directly to the plant, and evidently does not need soil combination to become a food supply to the rootlets. It must, however, be in an organic loam to promote the chemical action necessary to the prompt solvent action of the collagen or glutinous structure of the bone which renders the phosphate available. If bone is left too near the surface the phosphate value to the tree is lost, and instead the small ammonia content is prepared for food, while the phosphates are set free in the soil, to lie perhaps for years before being brought to an assimilable condition for the roots. This may sound like theory, as it is hard to prove, but in no other way can the valuable action of the phosphates of bone be explained. That much of the value of bone fertilizer is wasted by not heeding this theory seems very evident to those who have watched and studied the action of bone meal in the soil. It places strong doubt upon the plan



of mixing bone with blood, tankage, and nitrates, as these nitrogenous materials require such different conditions for their reduction to plant food through the separation of the ammonia and nitrates from the impurities in which they exist in combination. Commercial fertilizer materials should be used to supplement the stable manures and the cover crops. The roughage materials promote bacterial growth and supply the humus to loam the soil and bring mineral matter to conditions of salts for absorption by the rootlets of the plants. An idea that the commercial fertilizers are so cunningly prepared that they supply direct food for root absorption is most mischievous. A study of the methods of using fertilizers, in the light of these contentions, emphasizes that the waste is so great that the trees fail to receive the needed food for full crop production. The fertilizer problem must always be progressive, and it is not possible to lay down a method either for constant use in any particular soil or suitable to a specific crop in all soils. The use of fertilizers, to be economical, must be preceded by and accompanied with cultural methods suited to the particular soil. That the ingredients of specific materials act favorably or detrimentally to certain plants must receive careful consideration. As, for instance, the effect of chlorine on tobacco, of excessive nitrogen on hard grains and juice fruits, of excessive lime on fresh fruits, and to abundant potash on hull grains. The fertilization of the orange, a fleshy fruit, calls for very different procedure from the feeding of the lemon, which is essentially a juice fruit, with strong fibre to support juice.

There are undoubtedly fundamental laws governing these matters, many, perhaps, of which are unknown to science and practical agriculture, but the surety we feel that we do not know it all should be no bar to making use of what is known to the best advantage. Although we have much information and light on the subject of fertilizers for plant feeding, it must be admitted that our knowledge is by no means perfect, but a similar confession may surely be made in references to any of the sciences without diminishing them in importance or causing them to be cast aside as valueless. Human science is progressive, and we should no more refuse to follow the indications of such knowledge as exists because it is to some extent uncertain, than we should neglect to avail ourselves of the morning's light because it did not equal that of the midday sun.

**The Importance of Nitrogen.**—A study of the natural conditions for the orange shows that it flourishes in rich humus soils, that while it will grow and produce on shallow loam, it will use up the fertility of such very fast. It, of course, is understood that the systems of culture necessary to a dry climate cause rapid destruction of the loam, so that it is not all destroyed by the ravenous appetite of the trees. A rich organic loam is an essential to abundant nitrogen food for the tree, and so we find that the most important food of the orange tree is nitrogen, which it seeks in the surface layers of the soil, into which it throws up myriads of fine rootlets as feeders. Plant studies have shown that nitrogen is a very stimulating element, particularly in the form of soluble nitrates, so that, notwithstanding that it is such an important food for the orange, it must be used with some caution as to the time of application. For instance, if the tree gets nitrate in abundance during the late summer and fall, the stimulating effect causes an active production of fresh cellular growth that cannot reach maturity and hardening by the time the cold winds, and even frosts, of winter strike it. The result is severe on the tender cells, and the shock is often so great that they even die from the tips back to the more mature wood. But it is not only in die-back that the evil effects of over-stimulation shows itself. The producing wood of the tree may not be harmed enough to cause it to die, yet may be so weakened as to become sluggish, and instead of the full cellular action only part of the cells act. It seems to be a law of nature that excessive attempts at reproduction follow as a result of weakened tissue, so that a heavy strain is cast upon the tree to reproduce, with the result that either the blossom aborts or the wood fails to carry the load imposed upon it by a heavy setting of fruit. The natural time for a tree to use the abundant nitrogen it demands is

in the spring, when all nature awakens and plants call for food while they put forth their efforts at renewal and production. In the spring the tree has a good long season ahead of it to utilize its nitrogenous food and mature its new formation in wood and fruit. As the orange tree is evergreen, and as such will feed any time of year when it is not too cold, it is necessary to use judgment in giving it food. It must not be inferred that nitrogen is merely a stimulant and expander of growth. Nitrogen is as important to the fruiting as to the growing of a tree, and without it production of fruit is not possible. It is indeed the king-pin of the feeding table, and next to water the most important element of production.

**Manures and Nitrogen.**—Stable manures and cover crops make a good soil condition for the application of commercial materials, and they both supply some food from their own decomposition. Stable manure, from being partly decomposed when applied to the soil, acts more rapidly than green stuff. They both warm up the soil and make a home for bacteria to convert raw materials to plant food, so that nitrogen is given up to nourish the trees. If no vegetable matter is used in the soil, the results obtained from commercial materials are of course uncertain, except that they are of too little importance to call for serious consideration. That rich ammoniacal materials placed about the tender rootlets of a tree in the late spring in a soil devoid of vegetable humus matter may do harm, is quite within reason, and can be explained, but as no orange soil should be in such a position, it is not worth serious attempt at elucidation, apart from the fact that such materials should be applied early, to avoid such harm as well as to get valuable results. Some growers claim to have received excellent results from the direct application of nitrate as sodium and potassium nitrates which are soluble in pure water, while others pronounce it as useless. There are still other growers who record bad effects from the continued use of nitrate of soda. The good effects of soluble nitrates are observable on mineral soils poor in decomposing manures or vegetable matter, but as well the harmful effects are recorded in just such soils. The want of effect of soluble nitrates seems confined to the orchards where recent application had been made of horse manure or general strawey manures. This is also noticeable, but to a much less extent, where the application of nitrates had followed the plowing down or working in of leguminous cover crops. The cause of this apparent want of action is no doubt due to the denitrifying bacteria which are common to horse manure, and seemingly follow all kinds of decomposing vegetation, and some of which are beneficent in that they save in less destructible form the nitrogen materials they attack, while others evolve nitrogen and ammonia gasses, which under favorable circumstances escape into the air. In any case, they are apt to attack the applied nitrate and change it to temporarily useless forms which chemists have classed as unavailable, and which must await the action of the welcome nitrifiers to make available for plant food. We see from this that the method employed in applying even such simple materials as stable manures and nitrates is of such importance that not only to avoid waste but to judge fairly of effects, all these matters must have attention.

**Soil Warmth.**—Again, consideration should be given to the soil temperature at the season when the trees most hunger for nitrogen. If at that time the soils are too cold for nitrification bacteria to work, and no available condition of nitrogen is present, the suffering of the tree may be so severe as to cause it to fail either to produce or to carry a full crop. A grower writing recently to one of the papers advised that to guard against such a result, nitrates should be applied to the soil, but a wiser of more natural method would be to maintain such a rich loam that the general decomposition of organic matter would generate the necessary heat in the soil. A mineral soil poor in vegetable matter will always be cold, except in hot weather, while a rich organic loam will keep up warmth through the decay of the organic substance in it. And this serves a double purpose, for it will save the tree from considerable frost damage, not only by keeping the roots warm, but as well by sending warm instead of cold water up through the wood of the trees, and even radiate warmth in the air of the grove. Instances

are quite common in which no other cause could be assigned for the saving of young trees from frost but the deposit of long manure placed in the hole when setting out. As well, records are not wanting to prove that heavily manured orchards show a higher temperature, both in the soil below and the air about the trees. Keeping up such a condition of soil is more natural than resorting to soluble soda compounds of nitrogen for their forcing action, which is scarcely in keeping with the life processes of such a continuous and sedate moving tree as the evergreen orange.

**Applying Phosphates.**—As regards the application of bone and superphosphates, there is no ground whatever for the statements sometimes put forward by fertilizer agents and others, that either of these substances work any damage to the trees or the soils. There are, however, conditions under which their commercial values are lost to the grower. The advisability of putting bone deep into the soil, below the likelihood of disturbance by the cultivator, has already been urged, and this is of such importance that the further emphasizing of the point may be pardoned. Bone meal should be as finely prepared as possible, and it is worth while to put forth extra effort to distribute it as thoroughly as possible through the soil masses, but it is of comparatively little value in the upper soil, which in our arid climate is under such frequent cultivation. It is not that any direct action is sought by the deep soil on the bone, but it is important to remove the bone as far as practical from the action of nitrifying bacteria, so that that the nitrification of its proteid substance may be slow. It has been noted that the action of bone meal is short lived if distributed in the surface layers of a warm soil, and this is ascribed to the development of nitrates from the organic matter of the bone which are absorbed with avidity by the tree, leaving the phosphate in a less available form. One object, then, of putting the bone meal deep is to cause slower and more continued decomposition of the organic matter which produces acids which engage so much of the lime of the bone as to leave the phosphate more easily assimilable to the plant, and thus serve two purposes, in suiting the phosphate to the slow feeding of the plant, and in preserving it from insolubility. The crop stimulating action of nitrogen in any form results in mere abortion if phosphoric acid has not found storage in the plant in advance of the absorption of nitrogen by the rootlets, and it is for this reason that the application of bone and superphosphate is recommended a season in advance of the expected crop. This is meant particularly to apply to evergreen trees, some of the deciduous trees, and perennial plants that carry their foliage late into the fall.

**Commercial Potash.**—As regards the use of commercial potash, there seems to be no time when the tree is active that it does not use it advantageously, unless the soils are very rich in potash and it is brought into action by proper soil culture. It seems to assist the circulation of the sap, and though this is thought to be of most importance to the starches, yet we know that the starches are the principal compounds of the organism when quantity is considered, and that proteids do not move by any known distinct process. There is a theory in the use of potash which seems worthy of attention. Potash is the opposite of stimulating in its action, and seems to retard the processes of growth so that ripening is earlier for its use, and in consequence the cellular development of the fruit and wood being thus kept down a closer grained product results. It is not possible to induce all plants to freely use potash unless by a very expensive method of forcing in liquid, but the orange tree will apparently take it very freely, and there is even a possible danger of over-hardening the wood by its too liberal use. This latter is, however, a rather remote possibility, and does not in any reasonable likelihood deserve a place in the array of causes which tend to the reduction of crop bearing by the trees.

**The Use of Lime.**—While lime is a most important factor in the preservation of healthy soil and firm wood, and contributes importantly to the keeping quality of a deeply ripening of fruit, it does not appear as an important factor in this investigation. It takes a good deal of organic material to cause sourness in our alkaline soils, and no evidence of such a condition looms up at present.



This, however, does not argue against the use of lime on many soils to obtain the best results from rich manuring, with either stable manure or cover crops. If the lime used is not in a caustic form it will not destroy the humus of the soil, as some think, but will sweeten it; but fresh burned or caustic lime will surely burn the organic matter out of the soil. In using lime there are but two forms advisable, one, gypsum, and the other, carbonate of lime. Any slaked lime, whether from sugar refineries or waste lime dumps, will do.

In some groves the condition of wood growth has become a serious impediment to their renewal, the soil not having been kept up to the expensive demands of the wood and fruit. This brings us to pruning, which seems to have received but little thought in California orange districts.

## Agricultural Science.

### FERTILIZERS FOR CALIFORNIA FRUITS.

To the Editor: In your issue of October 31, Mr. D. I. Duncan published an article which, in general, contains very correct and judicious statements and recommendations. If, however, I can count myself among "California scientists," his statement that I have preached that the great need of the orange groves of California is phosphoric acid, omitting the nitrogen, I must say that the statement is wholly erroneous, as the record will clearly show.

The extreme poverty of many California soils in phosphoric acid naturally suggests that, without respect to the question of availability, such soils require for fertilization a supply of phosphoric acid above all things; and this has proved almost universally true in practice outside of the fertile valleys of the State, where fertilizers have hardly yet become needful. But I have always added that "nitrogen comes second, and frequently first." Considering that in California soils the supply of humus, which is the carrier of nitrogen, is usually quite small, I have, from the beginning, considered the supplying of nitrogen very necessary. It is true that in the small proportion of humus contained in the orange soils, e.g., of Riverside, the nitrogen-content is very high; but it will take but a few years to so far diminish that supply that it will be practically exhausted; hence to supply Chile saltpeter or some other nitrogenous fertilizer, notably tankage, has been my steady prescription.

Furthermore, as regards potash, the statement of Mr. Duncan that possibly the potash in the waters may have been derived from small particles of mica, is hardly to the point, inasmuch as in water analysis only what is actually dissolved is taken into consideration; neither is mica a likely source of potash in our soils, which mostly obtain it from the feldspars of granite and other rocks. It is hardly questionable that so long as potash circulates liberally, both in irrigation and soil waters, to supply potash is at least of questionable value; the more as pure water dissolves potash abundantly out of soils containing such high percentages as are found in California soils generally. This is a fact abundantly verified by actual experiments, and hence I have maintained that, as a rule, contrary to the contentions of the fertilizer manufacturers from the East, potash fertilization is *not* among the first to be practiced in California; except in case of very intense cultures, like that of vegetables, of which several crops are harvested during the season, and of which many are unable to utilize with sufficient rapidity, during the growing

season, even the loosely combined potash of the soil.

The so-called "experiments" so far made to prove that potash is highly profitable for fertilizing in southern California orange orchards, have been so loosely made and observed that they carry no weight whatever.

It is quite probable that in orange orchards which are to be pushed to their utmost production, and are liberally supplied with phosphoric acid and nitrogen, a small proportion of potash may profitably be added; but it is certainly not true, as has been pretended by those who go by Eastern experience, that potash fertilization is among the first needs of the orange grower or the farmer anywhere in California; and that he is justified in paying for 12% of potash in a fertilizer when what he needs is perhaps 2 or 3%. The rest of the money should go to nitrogen and phosphoric acid.

But it must be remembered that the question of fertilization is in California inextricably complicated with that of proper tillage, and deep-furrow irrigation. Shallow plowing and shallow irrigation, by tending to form a plowsole (irrigation hardpan), serve also to deprive the farmer of the natural advantages offered by the deep soils of the State, in which roots can penetrate to depths unheard-of in the East; obtaining there both plant food and moisture. The orange tree will do the same thing, as was definitely proved in experiments made at the South California substation near Pomona. When this advantage is thrown away by shallow culture and shallow irrigation, so that only a foot or eighteen inches of the surface layer can be utilized by the tree, naturally, heavy manuring, as in the East, and fortnightly irrigation is called for. Irrational culture can make fertilizer "experiments" prove anything and nothing. Hence most of the confusion which reigns among orange growers in regard to this matter.

E. W. HILGARD.

University of California, Berkeley.

### A FARMER UP TO DATE AND A HUSTLER

wants place as foreman or superintendent. Is thorough in general farming, irrigation, vine and deciduous fruit growing. Experienced in working all kinds of labor, both tenant and wage systems. Address Box 37, PACIFIC RURAL PRESS.

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.

HANDSOMELY ILLUSTRATED.

Price \$3 per copy, postpaid.

READY FOR NOVEMBER DELIVERY.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO

PACIFIC RURAL PRESS, Publisher,  
667 HOWARD STREET,  
San Francisco, Cal.

## MILL

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



## MAN

IMPORTERS

of  
Nitrate of Soda  
Sul. Ammonia  
Sul. Potash  
Muriate Potash

Double Manure Salts  
Superphosphates  
Thomas Phosphates

Hawaiian Fertilizer Company, Ltd.

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

### SOW GOOD SEEDS

Largest Seed House in the West

# Lilly's BEST



Established 1885

Send Now  
For Free  
Catalog

# SEEDS

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.

## SEED

TREES

PLANTS

BULBS

If you are interested in the **best seed**, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you **Free**.

**Trumbull Seed Company**

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - San Francisco.

Please mention this paper.

Plants

# SEEDS BULBS

Trees

WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of **Alfalfa**, **Clovers**, and **Grasses** are requested to write us before planting.

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

44 Jackson St. Also Market St. San Francisco, Cal.



### 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman, Petaluma, Cal.**

## EUCALYPTUS

Growers of commercial and ornamental Eucalypti.  
EKSTEIN & EKSTEIN,  
Modesto Euc. Nursery  
Modesto, Cal.  
EKSTEIN BROS.,  
Vignolo Euc. Co.,  
Anaheim, Cal.



# TREES

SEASON 1908-9.

ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$ 200,000.00

## FANCHER CREEK NURSERIES

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, USA

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPP" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock; grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

## LEONARD COATES NURSERY CO., Inc.

ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$8 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
J. B. WAGNER, Pasadena, Cal.  
The Rhubarb and Berry Specialist. Dept. I.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

The orange growers of Lindsay have agreed to have their picking done by the hour, at the rate of 25 cents.

Ten tons of walnuts were shipped last week from the Vrooman orchard, near Santa Rosa, to Tacoma, Washington.

Watsonville has decided to send a carload of apples to the Alaska-Yukon Exposition at Seattle, for exhibition purposes.

The rain at Lodi last week practically wound up the work of gathering Tokays. Cornichons and Empress grapes were not damaged.

The Ojai Orange Association was organized at Nordhoff, Ventura county, last week. The intention is to build a new packing house at once.

Orange growers of Fair Oaks are receiving good prices for their new crop of oranges. One grower, who sold five cars, received \$3 per box, f.o.b.

The apples in the Watsonville district are being shipped to market very rapidly these days. One day last week 8000 boxes were received by one packing company.

The Bostonia ranch, in the Cajon valley, has 20,000 crates of raisins drying, which, owing to the good weather they have had in that locality, will make a first-class product.

C. M. Gifford of San Diego intends setting out ten acres of young olives in the Imperial valley early next spring. The ten acres is but a beginning, as Mr. Gifford expects to ultimately have a grove of 160 acres of olives.

The late grape shipments from Lodi are bringing good money. As high as \$1650 per car net has been received. The growers who took the chances and held their grapes are reaping good results.

J. W. Phillipi, a nurseryman of Acampo, has produced a new grape, called the Phillipi grape, which is a cross between the Flame Tokay and the Purple Damascus. Grape growers declare it is the best that can be marketed.

The grape growers around College City, Colusa county, will have about 500 tons of raisins for their season's work. This is about two-thirds of a crop. The average price paid there is \$85 per ton for seedless and \$65 for muscats.

Howard Reed of Marysville, one of the big pear growers, intends increasing his acreage of pears the coming season. In spite of the blight, he raised a larger crop the past season than ever before, and sold them for \$40 a ton.

Geo. C. Hussman, pomologist in charge of the viticultural investigations of the United States, while at Lodi last week made the following statement: "Resistant vines are the only kind of grape vines to plant. A resistant vine has an eye to the future, because it is long-lived."

Government Expert Hosford, who worked with Professor Steubenrauch at Lodi the past summer in their experiments with shipping grapes, has gone to New York, where he will be stationed next summer to watch the grapes when they arrive, and to carry on further experiments at that end.

The acreage planted to grapes in San Joaquin county is given as 36,326; in the Turlock and Modesto districts, 8,134 acres; in the Galt district, 4,000, making a total in the Stockton district of 48,460 acres. Of this total, 27,000 acres are young vineyards and 21,000 acres full bearing. Last year the yield was estimated at 60,000 tons, which within three years will average 130,000 tons annually.

Lodi grape growers will receive from \$12 to \$16 a ton for their grapes which

they sold to the Lodi Fruit Product Co. The management of the Lodi grape juice factory states that it will pay \$12 to \$16 a ton for the grapes it has used. Grape growers are receiving better prices for their unfermented grape juice than for the fermented juice.

The San Fernando Press states that 50 acres of land near the old Mission west of town is to be planted to orange trees this season. It is to be hoped that the Mission Land Co., which owns a good many thousand acres of the best citrus land in southern California, will soon set out all of their available land, and then divide and sell it to homeseekers.

From the famous Whitney orange groves adjoining Penryn, Loomis, and Rocklin, in Placer county, the first shipment of the season, 1500 boxes of oranges, went by the Australian steamer of October 23. For several years in the month of October this Australian demand has been supplied from the Whitney groves. This early shipment to a distant port is likened by a writer in the Placer County Republican to the practice in Smyrna and Palermo and certain other Asiatic shipping regions of citrus fruits, whence large amounts of green oranges and lemons are boxed for different ports, which were expected to ripen on the voyage and become presentable for eating when marketed.

### AGRICULTURE.

A 160-acre alfalfa tract just north of Dixon will be planted at once.

The sugar campaign of the Spreckels factory will be completed next week. The yield of beets is reported to be good, and percentage of sugar high.

A carload of spineless cactus is being shipped to the San Joaquin valley, where it will be planted for cattle food. It was raised by Luther Burbank at Santa Rosa.

The grain farmers near Red Bluff had a short crop the past season, but the advance in price has helped them out. One farmer claims that his 6000 sacks made as much money this year as his 11,000 sacks raised in 1907.

President Roosevelt's Farmers' Uplift Commission will visit California the latter part of this month, on a trip through the Southern States, investigating rural conditions, and make its final report at Washington next month.

California can raise potatoes. Listen of these two stories: A sweet potato weighing 17½ pounds was recently given to the Chamber of Commerce at San Bernardino. The grower claims that his entire crop averaged from 14 to 15 pounds each. Not to be outdone, the Chamber of Commerce at San Jose has recently received an Irish potato, of the Salinas Burbank variety, grown near there, which weighs 7 pounds.

### LIVE STOCK.

The creamery at Sutter, the pioneer in that locality, is gaining in patronage and output very rapidly.

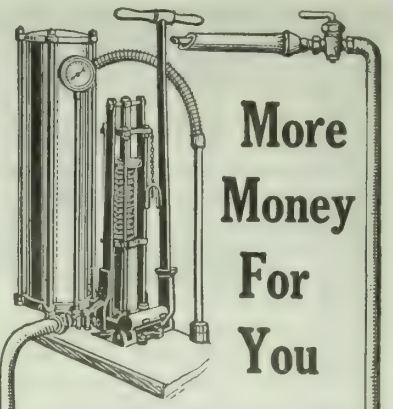
A band of 7500 sheep is being driven from Oregon to Corning, where they will be kept through the winter.

Dr. L. H. Mathers made a tuberculin test of forty-one dairy cows near Santa Rosa last week. Twenty-nine of the cows showed tubercular reaction and will be destroyed.

State Dairy Inspector J. L. Starr has had warrants issued for a number of the dairymen about San Luis Obispo, charging them with conducting their dairies in a filthy manner.

It is stated that the Western Creameries Co. of San Francisco and the American Creamery of Oakland have combined interests. This will save maintaining separate receiving stations, buyers, haulers and manufacturing plants.

Dr. McClure, the Government sheep in-



More  
Money  
For  
You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magic a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.  
211 West Julian Street  
San Jose, Cal.

## 300,000 BERRY PLANTS

Trees, Roses, Oranges  
Lemons, Etc., Etc., Etc.

Send for Catalogue, now ready.

A. MITTING, SANTA CRUZ, CALIFORNIA.

Lock Box 380.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

FOWLER NURSERY CO.,  
Fowler, Cal.

### MODESTO NURSERY.

Complete Line of Citrus and Deciduous TREES,

BERRIES, VINES AND ORNAMENTAL STOCK.

Write for PRICES NOW.

SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

### CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

### CHICO NURSERY COMPANY

Office: Cor. Third and Walnut Sts. Phone: Red 1241.



spector, will soon commence the work of dipping 21,000 sheep owned by Campbell & Peterson, of Colusa. A new dip is being used, and the results thoroughly inspected.

A reduction of 10 to 15 per cent in the rates for sheep grazing on the National Forests of the West has just been announced by Gifford Pinchot, forester, and A. F. Potter, assistant forester, who are in charge of forest grazing in the United States forest service.

The ninth annual convention of the California Creamery Operators' Association will be held in San Francisco, in the Ferry building, commencing November 12 and continuing on the 13th and 14th. The local Dairy Produce Exchange will give the visitors a banquet at the close of the sessions, Saturday night.

#### MISCELLANEOUS.

Negotiations are pending for the establishment of a cannery at Vacaville next spring.

It is stated by the railway companies that 19,287 people came into the State between September 1 and October 28, on the special colonist rates.

The Harriman roads have recently acquired two double blocks of land at Tacoma, on which to erect large storehouses for California fruit, which will be used as a general distributing center.

The Government distributing car is on the way from the East with crappie or calico bass, which will be placed in the Feather river, in the vicinity of Marysville, to stock that stream.

Ten thousand cedar and pine trees were shipped from the Government nursery in Lytle Creek canyon, in San Bernardino county, last week, to be planted on Government reserves near Banning and Mill Creek canyons.

## Winegrowers, Take Notice

I am now receiving orders for

### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

## IMPROVED BERRY PLANTS BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalog tells the rest.

G. H. HOPKINS & SON  
BURBANK, CAL.

## TREES STANISLAUS NURSERY

Formerly Anny Nursery, of Sebastopol.

T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

### EUCALYPTUS TREES

Eucalyptus Globulus (Blue Gum).  
Eucalyptus Rostrata } (Red Gum).  
Eucalyptus Viminalis }

#### MONTEREY CYPRESS.

Transplanted in flats 100 each.

W. A. REINHOLDT  
Main Street Nursery, - - - Petaluma, Cal.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnock's Remedy cures blight and all the tree diseases. Send for booklet.

GOLDEN RULE NURSERIES

Loomis, Cal.  
AGENTS WANTED.

The railroads have announced a raise in freight rates from California east, amounting to about 10 per cent, on all commodity rates. In this raise dried fruits and nearly all of the California products are included.

The Pajaro Valley Packers' Association is taking steps toward lodging a complaint with the U. S. Interstate Commerce Commission, against the present excessive freight rates charged by the railroads on apples to Eastern points.

The Sacramento Valley Improvement Co. has purchased 723 acres at Webster Station, in Yolo county, from H. S. Kirk. The land will be prepared by the company for eucalyptus planting, and the trees will be set out next spring.

One thousand barrels of wine will be shipped by William Lehn, a winemaker of Forestville, over the electric road to San Francisco, and from there on to New York by steamer. A large shipment of hops will be carried on the same steamer.

L. L. Crocker, of Loomis, died suddenly last week from heart failure. Mr. Crocker was the owner of one of the largest fruit farms in Placer county, having over 400 acres in bearing fruit, besides being the owner of the Golden Rule Nursery.

Articles of incorporation have been filed by the Pacific Fruit Express Co. in Sacramento and Oroville, and its stock is stated to be \$12,000,000. It will work throughout northern California, and possibly the whole State. The company is owned by Salt Lake parties.

A new corporation at Sacramento, formed to grow eucalyptus trees, is building a great conservatory for the growth of the plants. The plant will cover more than an acre, and 20,000 boxes will be installed this season, and 2,000,000 young trees will be raised.

A real estate deal of about \$60,000 was closed at Winters last week. Walter Gannon, member of the firm of Gannon Bros., and S. C. Sanborn being the purchasers, of the greater part of P. H. Johnson's orchard, located at the south end of the Wolfskill tract, in Solano county.

The Imperial Valley Producers' Exchange has been incorporated, with a capital stock of \$25,000. The new organization is one of growers who will market their own melon crop next year. The shares are placed at \$1, and each grower joining must hold shares in the Exchange. The headquarters will be located at Brawley.

One day last week the PACIFIC RURAL PRESS enjoyed an hour's conversation with that grand old grizzled veteran, the superintendent of Golden Gate Park, Jno. McLaren, in his tree-embowered office. That the feast of reason and flow of soul was tinged with "nature stories" that are real, and hence ring true, goes without saying. Mr. McLaren was at times reminiscent, touching the great work he has accomplished (which is soon to see permanent form in a book on landscape gardening to be brought out by Roberson, our local publisher), at other times his conversation touched on later phases of horticultural development. He was especially sanguine over the present interest in eucalyptus planting, and predicted a healthy future for the gums as eventual sources of hardwood lumber. Two cases of interest, based on personal experience, were cited: one where gums and pines had been planted on the sand dunes adjacent to the park, in which case the pines "came through," while the gums perished; the other was more favorable to the gums, though planted in a soil so rocky that plowing was difficult; yet the trees all flourished without attention other than good cultivating, followed by the winter rains.

# TRUE TO NAME

AND

Propagated from the Best  
Specimens of Their Kind

TWO IMPORTANT FACTORS

# PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches  
Plums  
Pears

Apricots  
Almonds  
Cherries

Apples  
Persimmons  
Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

ORDER NOW

WRITE US

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

### TREES

### GRAPE VINES

YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES,  
ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

### THE FRESNO NURSERY

F. H. Wilson, Proprietor, - - - Fresno, Cal., Box 615.

## SMYRNA PARK NURSERIES

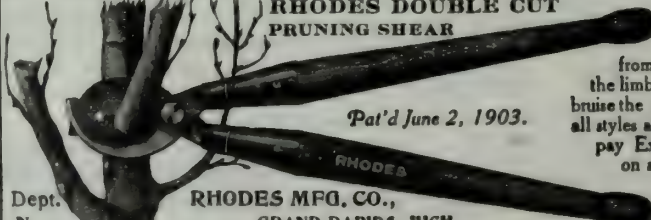
Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

CAMPIN & MOFFET - - - - - Ceres, Cal.

## EUCALYPTUS

Large Assortment—All Varieties  
Hardy and Selected Rapid Growers  
Write for prices, giving amount wanted  
LLOYD R. TAYLOR, Modesto, Cal.



**RHODES DOUBLE CUT  
PRUNING SHEAR**

Pat'd June 2, 1903.

**RHODES MFG. CO.,**  
GRAND RAPIDS, MICH.

THE only  
pruner  
made that cuts  
from both sides of  
the limb and does not  
bruise the bark. Made in  
all styles and sizes. We  
pay Express charges  
on all orders.  
Write for  
circular and  
prices.



## YELLOW MONEY —AND— YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor  
SAN DIMAS, - - - CALIFORNIA

## RESISTANT GRAPE VINES

I am extensively engaged in the importing of resistant grape vines. I inform the parties intending to plant new vineyard that they have to send their order as soon as possible, so as to have the vines here before the first of February and to be sure to get the varieties wanted. My French grafted resistant vines are the best. They have stood the test. Ask any of the growers who have bought from me during the past seven years. I guarantee them to be of first quality, true to name as to the resistant stocks and variety of grapes. My vines are specially ordered to suit the climatic conditions of this State. Write me for further particulars and state variety desired.

F. B. VADON,  
Cloverdale, Sonoma Co., Cal.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

SEED GRAIN BLACK and  
RED OATS,  
WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1856. Correspondence invited.

## Live Stock and Dairy.

### SHELTERING DAIRY COWS.

Written for the PACIFIC RURAL PRESS  
By SAM'L E. WATSON.

It is a tradition that dairy cows on the island of Jersey are in the care of women, and that implies shelter and protection from inclement weather. Prof. Henry of Wisconsin, in traveling through Europe, noted especially that the cows are blanketed on cold summer nights and housed in winter, and that this was the custom in dairy countries he observed.

The picture of the dairymaid leading a pair of Alderney cows has always been a favorite, and caps the climax of ideal dairying the world over. The proper care of dairy cows seems to go with civilization, and in the United States we can measure this by the care given milking stock. Our cattle originated in Europe, and in adapting the various types to our conditions it ought to be remembered that the finest dairy breeds came from the lowlands, where holdings are small and the cattle were brought up as important members of the family. The breeds as we import them are a result of elimination of the unfit and unprofitable under fixed conditions for centuries. In selecting our stock a little thought should be given along this line.

CALIFORNIA STANDARDS.—Short-horns, or the English Durhams, represent the Swiss-Italian idea of dairying in the highlands of California, if we may take what we know of their actual practice here and of their native stock as a basis of calculation. At the recent Fresno fair a little band of Brown Swiss was exhibited, and the general comment was that they were typical beef stock with but little udder development. The bull was a noble and massive animal, weighing probably 1600 pounds, remarkably docile and intelligent of aspect. The cows were small, square and heavily blanketed with fat and flesh. They looked equal to any Alpine storm, and evidently no maiden ever fondled this breed for a minute. It is too evident that it took pretty good men, and not maids, to handle this kind of a bull and his husky mates. They represent one kind of dairying, and the pictures on the wall another.

When the Alpine milker reached California the headlands and mountains facing the ocean came near to his dairy ideals. His cherished Swiss cattle were not available, but the larger and fleshy Short-horns seemed fitted to cope with the ocean gales and climb the dizzy summits in search of feed, from Sonoma down to Santa Barbara, on the bleak slopes looking seaward. Horses and dogs for rounding them up daily from the gullies and canyons for the night and morning milking were easily found. The Swiss-Italian idea has for many years influenced the development of California dairying, the Short-horn bull has dominated the herds, and Swiss milkers on every large dairy directed their conduct. In years of drouth, when it did not "pay" to buy feed, that the scrub stock might survive for a possible good season, they were allowed to die by thousands on our lower coast dairies, through the Swiss-Italian system.

There is no room for sentiment in this style of dairying. Shelter is never considered. "Stock thrives better without it." "Jerseys are too delicate." The value of the veal is most important, and the carcass of the old cow 15 years hence is figured. The cow only yields for a few months, while feed lasts, and during that time she requires no shelter. Cannot afford to buy shelter of any kind. Manure is washed away by the winter

storms: "it poisons the land." If one range fails, can lease a better one somewhere.

SHELTER IS NECESSARY.—California is drifting into good dairying on the plains of the San Joaquin and Sacramento. A decided step toward improvement is the almost universal use of a Holstein bull, and now the prevailing coloring of our valley herds is black and white. However, many poor bulls have been sold to our dairymen, and it is generally realized that this is true. The type of Holstein in use is an improvement on the Short-horn preceding them, and there is general desire for higher grading of the herds.

The idea of shelter has not yet taken hold, and it will depend on introduction of the true dairy type of Holstein and Jersey. Keen disputes as to comparative butter value of these breeds are easily aroused, and we may look for warm shelter the nearer our dairymen get to the real dairy cow. In our alfalfa districts very heavy feeding is practiced, and the aim is to get the stock fat—a persistence of the Short-horn idea that the cow does better in the open, day and night.

If the man who believes in out-of-doors for the cow will spend a frosty night along with his herd, he will be converted to the shelter idea. If he happens to own a real good Jersey, properly thin and at her best, let him stand all night without his coat, observing how extremely comfortable his unblanketed cow appears,

## MAKING AND SELLING A MILLION CREAM SEPARATORS AND THE KNOWLEDGE GAINED.

Thirty years ago Dr. De Laval invented the first practical centrifugal cream separator. Since that time the De Laval Separator Company has manufactured and sold one million DE LAVAL machines. These separators are today in use in every civilized country in the world. They have been operated and criticized everywhere. Through all these years suggestions for their improvement have come by the thousands from every quarter of the globe. These have been investigated and tried out from time to time. The best have been adopted. The 1908 improved DE LAVAL cream separators represent the thirty years accumulation of such ideas and experiences. They represent the knowledge and experience gained through the manufacture and sale of one million machines. If in your lifetime you had milked one million cows, wouldn't you feel that you knew how to milk a cow just a little bit better than someone who had milked but one thousand? That's the way we feel about the cream separator. Our knowledge of its manufacture and practical use is many times greater than anyone else's. If you are thinking of buying a separator, can you afford to ignore the knowledge gained by making and selling a million separators? We don't believe you can. We offer you the 1908 DE LAVAL for your most critical examination. An illustrated catalogue will be mailed for the asking. Write for it today.

### DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK.

#### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

PACIFIC OIL & LEAD WORKS, - - SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, - - PORTLAND, ORE.

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes.

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide  
French Merino Sheep.

Glide Grades seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
RAMS FOR SALE AT ALL TIMES

P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.



with a keen wind on a rainy night, playing the tune on her frame that the "old cow died on."

California needs the enforcement of laws to protect live stock from cruelty. We see instances on every hand that the inhumanity that makes countless thousands mourn includes the brutes as well as mankind. Can we think of anything more cruel than enclosing a delicate mother and her calf, sometimes on short rations, exposed to the hot sun and cold nights of California in our great valleys, close by snow-capped mountains that send a chill over everything when the sun goes down? No trees or thickets to hide in, no roof to shelter from extremes of day and night; yet most of our dairymen fool themselves to believe that cattle do better out of doors.

It would be a very good thing to give the women an interest in the dairy herds, and let them have full charge of their comfortable housing when the cold nights come on. They will not allow them to suffer, even if nothing but old gunny sacks could be found to make blankets for them. And they would finally get them indoors.

### THE COMING CREAMERY OPERATORS' CONVENTION.

The next convention of the C. C. O. A. will be held in San Francisco, November 12, 13, and 14. The sessions will be held in the assembly room of the California State Board of Trade in the Union Ferry building. The program is a good one, the effort of the committee in getting it up being to make it of as much practical value as possible. Chief Edw. H. Webster of the United States Dairy Division will

also be on hand and participate in the proceedings.

A butter contest will be held in connection with the convention. The judges will be Mr. C. L. Mitchell, the California inspector for the Federal dairy division, and Mr. W. H. Roussel, who has served satisfactorily as a judge in contests for many years. After the official judging is performed, an entire session will be given over to a discussion of the butter exhibit and the result of the scores. All entries of butter must be on hand by November 4.

The program for the sessions is as given below:

THURSDAY, 2 P. M.—Second and final scorings of butter. Criticism and comments by judges, participated in by E. H. Webster, chief of the United States Dairy Division. Announcement of scores and prizes.

FRIDAY, 9 A. M.—Address of welcome, Mr. Arthur R. Briggs, chairman California State Board of Trade. Response for the association, Mr. E. B. Stowe, Stockton. President's address, A. Jensen, Ferndale. Address, Prof. H. A. Hopper, University of California. Benefits of Market Inspection, C. L. Mitchell, United States Inspector. Testing Associations, Prof. E. W. Major, University of California.

FRIDAY, 2 P. M.—Value of Pasteurization as Applied to Buttermaking, C. E. Gray, Eureka. Address, E. H. Webster, Chief U. S. Dairy Division, Washington, D. C. Checking Creamery Tests, Frank Hyde, Tulare. Status of State Dairy and Creamery Inspection, Wm. H. Saylor, Secretary State Dairy Bureau.

SATURDAY, 2 P. M.—Whole Milk and Gathered Cream in Relation to Quality in Butter, John R. Murphy, Fresno. The Advantages of the Local Creamery, E. H. Zimmerman, Watsonville. The Advantages of Centralized Creameries, A. L. Lundy, San Francisco. Official business, reports of committees, election of officers.

SATURDAY EVENING.—Banquet tendered members by the San Francisco Wholesale Dairy Produce Exchange.

### HOGS AND ALFALFA.

California growers of this combination will be interested in some conclusions from Colorado experience which are given in the Denver Field and Farm, and which are particularly suggestive in California:

Colorado people years ago came to the understanding that there is no better forage crop for hogs than alfalfa. Estimates vary considerably as to the amount of pasture or the number of hogs alfalfa will carry on an acre without injury to the crop. It depends largely on the kind of soil, the fertility of the land and the size of the hogs pastured. The following however is a safe estimate, as given by conservative men who have had much experience. River valley and creek bottom land well set in alfalfa will carry from 15 to 20 head to the acre of 50 to 125 pound hogs. Upland of fair average fertility will support from 8 to 10 of the same kind of hogs. There are irrigated fields that have supported 25 head all through the season for a number of years and are still in good condition, while there are others that will not furnish pasture for more than five head to the acre; but these are extremes.

HANDLING FIELDS.—When a field is used only for pasture, it is better to divide it into several lots, and move the hogs from one to the other as occasion requires. Those who have failed with it as pasture owe their failure to two causes: The first is that the alfalfa has been pastured before it has become well rooted. Young alfalfa is too tender a plant to stand severe treatment except under favorable circumstances. Few farmers have pastured it the same year it was sown and

the alfalfa has survived, but this was on rich heavy loam soil, usually creek bottom or river valley land, with water not far below the surface, and the season was quite favorable. Ordinarily alfalfa should not be pastured until the second year, and better still, not until the third year, if it is desired to keep the field as permanent pasture. The second cause of failure with alfalfa is heavy pasturing and lack of judgment in keeping the pigs on it in unfavorable seasons. A good many farmers have sown a small piece of alfalfa, and then, because it has grown rapidly and all kinds of stock are fond of it, they have turned all the stock on the farm on it, and have wondered why their alfalfa was killed out. Others pasture regardless of whether the ground is muddy or whether the season is dry and hot. In either case heavy pasturing is likely to cause the alfalfa to be killed out.

THE USE OF GRAIN.—It is economy to furnish a grain ration with the pasture, as it results in better gains and a finer product. One man estimates that it takes from one-third to one-half less corn on alfalfa pasture than on a straight grain ration to make a hog ready for market. Many farmers let the hogs run on alfalfa until they are six months old, by which time they reach a weight of 75 to 125 pounds, feeding just a little grain; then they feed heavily for about two months, and sell the hogs at eight months old, weighing 200 to 225 pounds. One farmer who raises about a thousand hogs annually, and who in one year sold \$11,200 worth of hogs, makes a practice of raising his swine on alfalfa pasture until about eight months old, feeding one ear of corn a head daily. He then feeds corn heavily for a month or two, and sells at an average weight of 200 to 225 pounds. Another man feeds all the corn and slop the pigs will clean up, all the while running them on alfalfa pasture, and sells at six to eight months old at weights of 250 to 300 pounds. Another, who raises about a thousand head a year, feeds all the corn the pigs will eat, beginning shortly after weaning and continuing until the pigs are sold, at 10 or 11 months old, averaging 275 pounds. Still another farmer, from weaning time—two months old—until eight months old, feeds the pigs nothing but dry corn on alfalfa pasture, averaging about 3½ pounds a day per head. At the end of eight months he sells, at an average weight of 250 pounds. The quantity of corn fed is about 11 bushels for each head.

HOGS AND ALFALFA HAY.—While alfalfa pasture has been found very valuable for hogs, the hay as a part ration for winter is scarcely less important. Throughout this whole western region the farmers make a practice of feeding hay to hogs throughout the winter. The hay has been found especially valuable for brood sows before farrowing. When fed during winter only a small ration of grain is necessary to keep the sows in good flesh and in healthy condition. Sows thus fed also farrow good litters of strong, healthy pigs. Many feed the hay by throwing it on the ground in forkfuls; others have made low racks, in which the hay is placed, from which the hogs can feed like cattle or sheep. The hay is usually fed dry. The leaves are more readily eaten by the hogs than the stems, and they contain more of the nutritive value of the plant. For these reasons some farmers save the last cutting of hay for the hogs, because it is more relished. It is eaten up cleaner, as the stems are not so woody. Sometimes the hay is cut up fine, wet and mixed with other feed, and sometimes it is fed ground, as there are now alfalfa mills scattered throughout the alfalfa regions. But it is doubtful whether this extra expense will pay, unless it is as a

## Dairy Hints

To produce that high scoring butter—you must insist on cleanliness; the proper care of your herd; and that the cream be in the best possible condition.



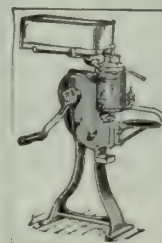
## Tubular Separators

will assist you in your enterprise because they are easy to clean, due to their simplicity; and they produce a rich velvety cream in an unwhipped and unchurned condition.

Their simplicity, durability, efficiency and originality of design are recognized everywhere, by everyone.

Catalog 131 describes them fully, sent free upon request.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.  
Toronto, Can. San Francisco, Calif. Chicago, Ill.



U S  
The 1908 Improved  
**U. S.  
CREAM  
SEPARATOR**

Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 148 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.  
Prompt deliveries from 16 distributing warehouses in the U. S. and Canada.

Prompt Delivery Assured Call on customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

## Stickney Gasoline Engines

ARE THE BEST  
The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine Stationary and Portable 1¼ to 16 h. p.

We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

De Laval Dairy Supply Co.  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

ration for young pigs. To avoid the expense of cutting or grinding, some farmers, in order to get the hay all eaten, soak it in water and feed it. This has proved satisfactory wherever tried. One farmer down in Pueblo county carried his hogs through a winter by feeding them alfalfa leaves soaked in hot water for one day and the next day shorts mixed with the pulp and water. He feeds much alfalfa hay to his hogs, and is quite successful with them. He puts the last cutting in

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## FOR SALE

FOUR THOROUGHbred AYRSHIRE BULLS, Aged 12 to 20 Months.

If you don't want tuberculosis, breed the Ayrshires.

J. W. & J. D. McCORD,  
Hanford, Cal.  
Phone Red 123.



shock as soon as wilted and thus cures it without bleaching, and feeds it to the hogs. Another farmer carried his entire herd of hogs through the winter by feeding them the pulp of alfalfa hay after soaking it in water over night, and he also gave them the water to drink. This was all the feed they had during the winter, and they were in good flesh in the spring, with smooth, glossy coats of hair. Another farmer was feeding a bunch of 50 pigs on corn. During the winter they got off feed and were not thrifty. He reduced the corn and gave a ration of two-thirds chopped alfalfa hay and one-third corn meal, the two soaked together. The hogs began to do better, and a little later he changed the ration to one-third alfalfa and two-thirds corn. The results were very satisfactory, and the cost of feed was reduced from \$15 a month to \$9 a month on alfalfa and corn. So alfalfa hay, as well as pasture, has a very important use on a big farm.

## Apiculture.

### WHERE THE PURE FOOD LAW IS NOT NEEDED.

The shameless manner in which articles of food have been adulterated has called forth the stringent regulations of our national pure food law. General satisfaction with the provisions of the law has been expressed by the public, but that satisfaction is tempered somewhat by the knowledge that the best legal talent and the keenest qualities of human ingenuity are exercised in these days in finding ways to evade the law. What the ultimate result of the pure food law will be cannot now be known. Time alone will tell.

It is interesting in this connection to note the fact that in the case of comb honey the provisions of the pure food law do not and, in the very nature of the case can not, apply. The fact that honey is stored and sealed in honey comb is in itself a sufficient guarantee of its purity. This statement is made all the more interesting in view of the fact that it is very generally believed that comb honey can be adulterated.

Comb honey is the product of the hive bee under human direction and management. The little cells in which honey is stored are built up by the bees themselves of pure white wax. This wax is a secretion of special glands in the body of the bee. By skillful handling in the "pinchers" located in the lower part of the bee's head, this wax is drawn out to the thinness of fine tissue paper. The cells are six-sided in shape and in the majority of cases are about one-fifth of an inch in diameter. They fit so compactly together that but a single thickness of wax is needed at sides or bottom, thus economizing both space and material.

Man's care and intelligence in the management of bees is rewarded in the finished product of the hive, pure comb honey. It will add much to the enjoyment of the one who eats comb honey to know that when once the seal has been placed on the cell by the bees, it is beyond the power of man to modify the

contents without breaking the seal. The seal once broken, it is beyond his power to replace or counterfeit it.

With comb honey before him, the seal of the bees intact, the lover of nature's choicest sweet may eat to the fill. He knows that upon his food he has the seal of authority higher and more binding than could be placed there by any human legislation.

## The Poultry Yard.

### WINTER EGGS.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

With eggs up in the 50s and still soaring, this is a live subject with the poultry keeper, and how to get them becomes of absorbing interest. It is too late to go to the root of the matter and provide the fowls to lay them, but something may be done toward that end with the material on hand. Poultry raisers complain that many of their fowls are through the moult and yet they won't lay. Experienced poultrymen know that just after the moult is apt to be a barren time with hens. Usually they will lay through the beginning and sometimes far into the moult, but they are pretty sure to rest at its completion until they feel the vivifying forces of the springtime. Plainly the poultryman must supply these forces himself by surrounding his hens with favorable conditions and giving them springtime diet. The food of fowls at this season consists chiefly of grain; a good feed in its way, but needing to be supplemented by an abundance of fresh greens and considerable meat to give the necessary material and stimulus for egg production. We cannot ring the changes too often on the importance of fresh green feed—not tough, stringy grasses and half-rotted cabbage leaves and the like, but crisp growing things fed in such a way that the fowls can eat them without a dressing of filth. Few flocks, either large or small, get a sufficiency of this feed, and in just that measure are their profits curtailed. With plenty of this class of food, hens require less grain and meat, keep in better condition and lay better than when on half rations of this variety of food even if fed plenty of others. Yard the hens which are through the moult by themselves in flocks of some 25 each; house and care for them properly and feed as indicated. In rainy and stormy spells of weather have a clean dry scratching place, protected from the force of the winds, and several inches of clean litter with small grains, cracked corn, etc., hid among it, where the hens may scratch and sing while the rain falls and the chill winds blow, instead of standing humped up in the corners of fences and dirty, drafty houses. About noon encourage them with a generous warm mash made by boiling in salted water vegetables, rolled barley, fresh bones, meat scraps, etc., and mixed dry with shorts. Chop fine a few red peppers and mix with it—real pods, not the commercial cayenne. This is nature's tonic for the bird kind. In the Southwest grows wild the chili pepper, which looks like a small cranberry and bites like a live coal. The mocking birds, which also grow in that section, are very fond of it in moderation, and people who cage them have found that it is well to have chili accessible to their pets; it tends to keep them in condition and voice. Its seed, and that of larger peppers, are good to mix in the seed cups of the canary bird. Pepper pods and seeds being a natural tonic, may be fed to fowls with no bad after effects, and are excellent to start the moulted hens on the egg route—but don't overdo the matter. Put in just enough of the

finely chopped pods to make the mash palatable if you were preparing it for your own consumption. I have seen mashes made red with the commercial cayenne. What but failure can result from such utter lack of gumption.

To repeat: Yard the moulted hens by themselves; give them proper housing, proper care and proper feed—and lots of fresh greens; and shortly you will be rewarded by the cheering cackle which heralds the winter egg.

MARKETING THE WINTER EGG.—The first thing is getting the winter egg; the next thing is marketing it. In small towns there is little demand for eggs at a nickle apiece. Poultry raisers must look farther for a market. Of course, there is always the commission man in the city; but the egg farmer who is alive to his business and turns out a first-class product may do much better than with him. While in Oakland last week the writer looked up this matter a little. Oakland is not considered "the city," but all the same it has a lively trade in first-class products. At the Washington Market the proprietor smiled broadly and expressed his incredulity in the brisk movement of eggs at 65 cents per dozen retail—he handles only the storage article, at 40 cents per dozen. But a few blocks away we heard a different story: "Yes, we are glad to engage regular shipments of first-class eggs. We have trouble in securing strictly fresh ones." Another, who is at the head of one of the largest fancy groceries in Oakland, said: "Yes, yes; we want eggs of the right sort—we want 'em fresh, white, and a fair size—and we want 'em bad; and will pay the highest quotations spot cash for all we can get." Which proves there is always a first-class market for a first-class product. This kind of trade opens an opportunity for the egg-farmer who is ambitious to excel in his line. By furnishing the best of its kind in the most attractive way, he might make his brand noted. He could put up clean fresh eggs in neat cartons, holding a dozen each with his name or that of his yards stenciled or printed upon it, and some such catchy legend as "A dollar for any off egg in this collection." In time his brand of eggs would become widely known and command a premium; the housewives would call for them, and "the children cry for them."

NOTES.—There is a poultry ranch close under the Arctic Circle at Baker Hot Springs, Alaska. Its hen fruit brings \$3 a dozen in the winter months and its market fowls 75 cents per pound most any time; but then feed costs from \$80 to \$100 per ton.

The time is fast approaching when the highest grade of eggs for the best markets must be infertile as well as strictly fresh, large, well-filled, free from blood spots and of uniform color. It is of course known that in fertile eggs the process of incubation begins at once when the eggs are exposed to a high temperature; but a French veterinarian asserts that there is a further cause of their not keeping; in short that the fertilized eggs contain bacteria when they are first laid, while the non-fertilized ones are perfectly

free from all such unless the hen's intestinal organs are diseased.

The Atlantic duck farm on Long Island, N. Y., is the largest in the world. Some 70,000 ducklings are turned out each season. They are hatched in the largest incubator in the world, Cypher's Mammoth, which has a capacity at one filling of 36,000 duck eggs or nearly 50,000 hen eggs. The big machine has four double tiers with twelve compartments to each tier. It is a coal-heated, hot-water, self-regulating machine.

A Houdan poultry farm, with 500 birds to start with, has been opened at Hessel station, Sonoma county.

"THE OLD RELIABLE"

**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons....	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons....	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons....	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

## E. F. Adams

364 Main St. Petaluma, Cal.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you Free the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our FREE Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

### COULSON POULTRY AND STOCK FOOD CO.

PETALUMA, CAL.



## The Home Circle.

### A Mother's "If."

If, sitting with this little worn out shoe  
And scarlet stocking lying on my knee,  
I knew the little feet had pattered  
through

The pearl-set gates that lie 'twixt  
Heaven and me,  
I could be reconciled, and happy, too,  
And look with glad eyes toward the  
lisper Sea.

If, in the morning, when the song of birds  
Reminds me of a music far more sweet,  
I listen for his pretty, broken words  
And for the patter of his dimpled feet,  
I could be almost happy, though I heard  
No answer, and saw only his vacant  
seat.

I could be glad if, when the day is done  
And all its cares and heartaches laid  
away,  
I could look westward to the hidden sun,  
And, with a heart full of yearnings,  
say:

"Tonight I'm nearer my little one  
By just the travel of one earthly day."

If I could know those little feet were shod  
In sandals wrought of light in better  
lands,

And that the footprints of a tender God  
Ran side by side with his in golden  
sands;

I could bow cheerfully and kiss the rod,  
Since Benny was in wiser, safer hands.

If he were dead, I would not sit today  
And stain with tears the wee sock on  
my knee;

I would not kiss the tiny shoe and say,  
"Bring back again my little boy to me!"  
I would be patient, knowing it was God's  
way.

But, oh, to know the feet once pure and  
white

The haunts of vice had boldly ven-  
tured in!

The hands, that should have battled for  
the right,

Had been wrung crimson in the clasp  
of sin!

And, should he knock at Heaven's gate  
tonight,

To fear my boy could hardly enter in.

### The Blue-Back Speller.

Written for the PACIFIC RURAL PRESS.

The 16th of October last was the 150th birthday anniversary of Noah Webster, the author of that famous book, the blue-back speller. It was the "best seller," with few exceptions, ever produced among books, and it long held its own—in fact, nearly a hundred years, from some-time in the '80s of the 18th century down into the '70s of the 19th. The New York Tribune says: "When Noah Webster received his degree from Yale, in 1778, his father, who was a farmer, gave him an \$8 note in Continental currency, worth about \$4 in silver, and told him that was all he could do for him. There being little hope for him in the practice of law at that time, he taught school and mapped out a series of text-books for children. He got out a spelling book, an English grammar and a reader. They were the first books of the kind published in the United States. The spelling book proved to be a bonanza. The sales down to the year 1847 were 24,000,000 copies, and for a period of years averaged 1,000,000 copies a year. In the twenty years he was engaged on the compilation of the dictionary the

income from this book supported his family, notwithstanding the fact that the royalty was less than a cent a copy. Sixty years ago the uniformity of pronunciation which prevailed throughout the country was credited to the wide use of Webster's speller."

Its plain blue color and formidable columns of words are unknown to the present generation of children, for whom even the road to learning is made easy; but to the idle and the dullard among the youngsters of past generations it was indeed a blue book in more than one sense; for, as the Tribune further says, "it was no labor saver for the children; its author believed that the best way to obtain an education was to earn it by hard labor. He did not believe in 'predigested' text-books." And results proved his wisdom. There were spellers in the days of the blue back, plenty of them, who could successfully wrestle with any combination of letters from "a to izzard." Correct spelling is an accomplishment, and one not quite as common in these days of "improved" educational methods. It carries with it correct pronunciation and accent the subtle test of culture. There was inspiration between the dull colors of the old speller, for those were the days of "leaving off head" and of the spelling match. Time and again the bit of a lassie walked shyly but proudly to the head of a long line of "great" boys and girls, amid the smothered titter of those not in line. No wonder she held the blue-back speller in her mittened hands intent on study as she trudged over the snowy miles between her home and the schoolhouse. Children walked some in those days. And there were the "choosing sides" and the final "spelling down," when the master stood braced against the farther wall and fired words from behind those blue covers which brought down the urchins like shot among a covey of quail, until the best speller stood alone facing the master, and often downed him. Then there were the big spelling matches, when rival districts met and wrestled valiantly for a championship more worthy than any football game can boast.

Yes, the old blue-back speller had its inspirations, and it still has its memories. Again the tow-headed idler sits imprisoned in his seat, with the dog-eared pages open on the rough desk before him, when the shouts of the snow battle are in the winter air, or when his longing eyes catch glimpses of kites riding high on the March winds, or perhaps it is when the buzzing of bumblebees over fields of clover fill the air with drowsy music and a crack of the master's ruler arouses the unfortunate urchin from a dream where the ie's and the ei's dance with circling butterflies on summer breezes.

And the years dance by as lightly as the circling butterflies. He is a "great" boy now. It is evening; the wintry landscape is glimmering in the last sun-ray. He is setting out for the big spelling match in the adjoining district, where he hopes to uphold the credit of his own. To the jingle of sleighbells the farm horse skims over the glassy roads like a winged steed of the gods. The youth checks up at a low-browed farmhouse, and a sudden flush creeps clear up under his cap brim; but it is not caused by the red glow of the west. The "prettiest girl" in the district is waiting for him at the

bars. There are no hothouse flowers at her belt, but on her cheek is a rose—the true American Beauty rose! Shyly he helps her into the rough sleigh, and as he awkwardly tucks the buffalo robe about her (he has not yet shed the roughness of boyhood), he timidly presses the plump little hand which holds the blue-back speller.

A hint of the old speller runs all through Whittier's beautiful poem,

### IN SCHOOL DAYS.

Still sits the schoolhouse by the road,  
A ragged beggar sunning;  
Around it still the sumacs grow,  
And blackberry vines are running.

Within the master's desk is seen,  
Deep scarred by raps official;  
The warping floor, the battered seats,  
The jack-knife's carved initial;

The charcoal frescoes on the wall;  
Its door's worn sill, betraying  
The feet that, creeping slow to school,  
Went storming out to playing.

Long years ago a winter sun  
Shone over it at setting;  
Lit up its western window panes  
And low eaves' icy fretting.

It touched the tangled golden curls  
And brown eyes full of grieving  
Of one who still her steps delayed  
When all the school was leaving.

For near her stood the little boy  
Her childish favor singled;  
His cap pulled low upon a face  
Where pride and shame were mingled.

Pushing with restless feet the snow  
To right and left, he lingered,  
As restlessly her tiny hands  
The blue checked apron fingered.

He saw her lift her eyes; he felt  
The soft hand's light caressing,  
And heard the trembling of her voice,  
As if a fault confessing.

"I'm sorry that I spelt the word;  
I hate to go above you,  
Because"—the brown eyes lower fell—  
"Because, you see, I love you!"

—M. R. J.

### A Story of Millions.

A story is told of how the reluctant giving of a promissory note by a penniless New York lawyer brought a fortune into his pocket amounting to several millions. The man referred to, John M. Bixby, went to New York in 1830 from a backwoods district as a half starved lawyer. To pay \$4 a week for board and washing kept him on the verge of bankruptcy. He struggled on for a year or two and was constantly seeking odd jobs outside of the law to enable him to exist when a friendly lawyer in whose office he had desk room called him aside one day.

"Here is a chance for you, Bixby," said the lawyer. "I have an estate to settle and must get rid of the farm on the north side of the city. It is appraised at \$200. You can have it at that figure."

"I have not a dollar to my name," exclaimed Bixby.

"You can give me your note, and I will renew it until you get ready to pay it," replied the lawyer.

The young man hesitated for some time. He was very nervous about placing himself under obligation for so large a sum, but finally consented. Young Bixby had to ask for the renewal of his note two or three times, had to deprive himself of the necessities of life to hold the farm until the opening of the Erie canal and the first lighting of the city by gas gave the metropolis a new birth and his farm was quickly swallowed in the growth. At the time of his death Bixby's property was worth \$7,000,000. Today its market value is more than \$13,000,000. — National Magazine.



**TOWER'S FISH BRAND**

The cleanest, — lightest, — and most comfortable

**SLICKER**

at the same time cheapest in the end because it wears longest

\*300 Everywhere

Every garment guaranteed waterproof Catalog free

A. J. TOWER & CO. BOSTON, U.S.A. TOWER CANNING CO. LIMITED TORONTO, CAN.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce. The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

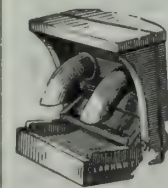
The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.

6 beautiful post-cards illustrated in gold, silver, blue, green and red. Views, scenes, flowers, birthdays, etc. Agents wanted. Art Post Card Co., 466 W. Huron St., Chicago, Ill. 10c



## Fashion's Wheel.

Stripes are popular.

Buttons are a factor in trimming.

Neck-ruffs in a combination of white, grey and black are chic.

Lace blouses are growing in popularity.

A new color combination is white and mole color.

The tunic skirt in three tiers is popular but can be worn by only tall, slender women.

Knitted girdles in cross stripes are worn with kimonos, breakfast jackets and house gowns.

A pretty fashion for late Autumn is the skirt of plain material with a small coat of checked or plaided goods combining two or more shades of the skirt.

The newest collars and ties are made of colored linen with borders of checks of self color with white; or of white with the checked borders in shades of matching the color of the dress.

Large bows made of white illusion are worn under the chin with the high, stiff collars which extend only to the ears.

Aprons have come around again and will be welcomed by women. They are as useful as well as attractive article of apparel from the big gingham to a bit of Swiss and lace. Paris Modes says: "The apron has always been in use but now it is in fashion. Its revival is in order like the revival of all manner of by-gone things. In the sixties and seventies no lady was without her dainty silk or Swiss apron when she dressed for tea or callers. The apron is dainty and feminine and that is the sort of accessory that fashion calls for at present. Nothing could be more charming than these scraps of lace and organdie that smart women attach to the front of their gowns. Some of these have apologies for pockets and nearly all have bibs—bibs are so ensnaring! They are usually very much betrimmed with frills and bows and tucks and insertions. They are fluffy and fascinating and men think them altogether adorable. A woman in an apron seems always to appeal to some latent ideal in a man. This sudden craze about aprons makes a rare opportunity for Christmas that no woman should lose sight of. She can commence now to make such pretty ones with little frills and tiny pockets and dainty bows — such pretty appearing presents as they lie folded neatly and sweetly in a box. An apron is one of the best gifts this season offers."

The Directoire and Empire styles have met with a tardy acceptance but are now being followed in their modified forms. They represent the modes in which the women beplumed themselves during those days of blood-red war from 1795 to 1814 which saw the rise and fall of Napoleon Bonaparte. The gowns of both periods were clinging and sheath-like; the distinctive feature of the Directoire was the slit down the side.

## Strong Cement.

The following cement is said to stick on anything: Take of clear gum arabic two ounces, of fine starch 1½ ounces and of white sugar half an ounce. Reduce the gum arabic to powder and dissolve it in as much water as a laundress would use to render 1½ ounces of starch fit for use. Dissolve the starch and sugar in the gum solution. Then place the mixture in a vessel and plunge the vessel itself into boiling water, and let it remain there until the starch becomes clear. The cement should be as thick as tar and remain so. It can be kept from spoiling by dropping in a lump of gum camphor or a little oil of cloves or saffras. This cement is said to be very strong indeed, and will cause glazed surfaces to adhere perfectly. It is useful for repairing specimens of rocks, minerals or fossils that may have been accidentally broken.

"Sekretz," says Josh Billings, "is a bad investment—if you pass it you lose the principal and if you keep it you lose the interest."

## Household Hints.

**STRETCH CURTAINS ON COUCH.**—Extend couch full width, cover with sheet or newspapers. Then stretch your curtain on the couch. If you find that the couch is not long enough, take the part of the curtain that hangs over and pin it back on the couch.

**CONVENIENT MATCH HOLDER.**—Take an empty tin lard pail; pull out handle on one side; slip in open work on side of gas stove, and push handle in again. This will be found a convenient place to drop burnt matches, which constantly are accumulating around a gas stove.

**KID GLOVES PREVENT CALLOUSES.**—Keep old kid gloves for ironing day. Sew a pad of kid from the left glove in the palm of the right one. The protection from the heat and weight of the iron will do much to keep the ironer's hands from becoming calloused.

**INK ON CLOTHING.**—Saturate the spots with spirits of turpentine and let it remain several hours; then rub between the hands. They will crumble away without injuring the color or texture of the fabric. Then wash off with warm water with a little ammonia in it.

**DON'T LET BREAD BURN.**—Put two or three bricks in the oven and let them heat thoroughly. Then bake your bread or cake upon them. Or when baking ginger bread or loaf cake, instead of going to the trouble of putting paper on the bottom of the pan put your cake in the greased pan and then put it in a larger uncovered roasting pan, and you will find that your cake never will be burned at the bottom.

**PEAS WITH SOUR SAUCE.**—For dressing use two eggs well beaten, with one scant cup of vinegar. Next mix one-half cup of sugar, one teaspoon of salt, and one of flour, and one tablespoon of dry mustard and one of butter. Add the above mixture and cook in a double boiler. Set in a cool place until ready to serve; then open one can of peas, draining off all the liquid. Rinse well and empty into a deep dish. Pour over the dressing, adding English walnuts and a little chopped celery. Serve on small plates or a lettuce leaf with salted wafers.

**ASBESTOS IN HOUSEHOLD.**—When baking fruit cake or any other ordinary production which requires several hours cooking, if a piece of asbestos is laid over the dishes the contents will not be scorched. A square of asbestos kept for a rest and also to rub off the flatiron when in use prevents all scorching of the ironing sheet. When the range or any other heating apparatus comes too close to the wall and there is danger from fire a strip of the material placed between will remove all cause of anxiety. In place of the ready-made pad for protecting a polished table a strip of asbestos, bought by the yard and cut the proper length, makes an excellent covering.

## Florence Nightingale's Advice to Girls.

I would say to all young women who are called to any particular vocation, qualify yourselves for it as a man does for his work. Don't think you can undertake it otherwise. And if you are called to a man's work do not exact a woman's privileges — the privileges of inaccuracy and weakness.

## LEARN

## Plumbing, Electricity, Bricklaying or Plastering

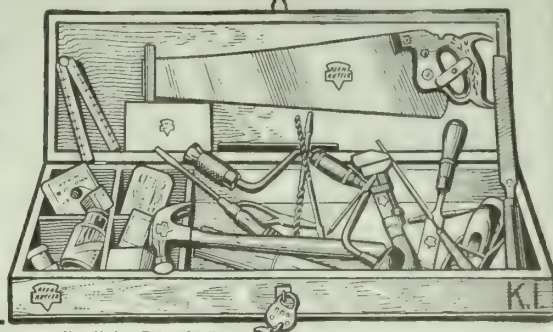
NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions. You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required. POSITIONS SECURED. WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.

## The Only Line of High Grade Tools Under One Name and TRADE MARK



No. K-1. Price \$8.50



# KEEN KUTTER

## TOOL CABINETS

are the only ones made containing a complete set of high grade tools under one name and trademark. Every tool is a KEEN KUTTER, which means it is the highest grade and fully guaranteed. No cheap tools.

Ask us to send you handsomely illustrated Catalog showing our complete line of KEEN KUTTER Cabinets; then select the cabinet containing the assortment of tools you want and your dealer will supply you. If not, write us and give us your dealer's name.

This booklet contains cabinets from \$8.50 to \$125.00, according to assortment of tools. A postal will bring it.

SIMMONS HARDWARE COMPANY (Inc.), St. Louis and New York, U. S. A.

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also

2117-2119 Broadway St.

SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909. For further particulars address

Miss Sarah D. Hamlin,

2230 Pacific Avenue,

SAN FRANCISCO, CALIFORNIA.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

San Francisco Business College

733 Fillmore St., San Francisco, Cal.

## FURNITURE LUSTRO.

The best article on the market for polishing and removing scratches from pianos, furniture and all finished woodwork is LUSTRO. If your grocer does not keep it, we will send you a full-size 8-ounce can for 50 cents, express prepaid. Every lady ordering before Dec. 1 receives free a handsome package of our sachet powder.

LUSTRO SPECIALTY CO.

Agents Wanted. Oakland, Cal.

## THE RETURN OF SAN FRANCISCO

With 16 pages of colored illustrations showing how San Francisco is rapidly moving down town again. By Earle Walcott, author of "Blind-folded."

## THE TALE OF THE SCARLET BUTTERFLIES

One of Beatrice Crimshaw's stories of Vaiti, that fascinating woman of the South Seas.

## MODERN FIJI

The commercial civilization of a lovely land, where the cannibal has become a tradition. By Oscar L. Triggs, late of the University of Chicago. Illustrated profusely with fine photographs.

## GAME BIRDS OF THE PACIFIC

A timely paper on the bay and sea ducks of this region. By H. T. Payne, former president of the California Game and Fish Protective Association.

## LIN McLEAN

Owen Wister's strong story of a Western cow-puncher.

## RUGBY, 1908

The game as it is on the Pacific Coast, with photographs of the captains of the California and Stanford fifteens. By Wm. Umack.

## THE PEARL

A notable poem of the South Seas, by Henry Anderson LaFler.

POEMS and STORIES, all of the Far West and the lands of the Pacific.

## SUNSET MAGAZINE

November

Now on Sale

15 Cents



## THE MARKETS.

San Francisco, Nov. 4, 1908

(Unless otherwise noted, quotations represent prices paid to the growers.)

## WHEAT.

The local market is only moderately active, and the volume of business is hardly as large as was expected. Shipments from the north are moderate at present, and the former quotations have been steadily maintained. More buying of northern grain for this market is expected from now on. The northern market is also rather quiet, with the growers holding firmly in expectation of higher prices.

California White Australian	\$1.75 @ 1.80
California Club	1.67 1/2 @ 1.70
California Milling	1.70 @ 1.72 1/2
California lower grades	1.45 @ 1.60
Northern Club	1.65 @ 1.67 1/2
Northern Bluestem	1.72 1/2 @ 1.77 1/2
Northern Red	1.62 1/4 @ 1.65
Turkey Red	1.75 @ 1.80

## BARLEY.

Barley continues very firm, and with liberal receipts is moving freely. All grades of this grain have advanced, brewing and shipping being held at \$1.45, while no feed barley is to be had under \$1.32 1/2, and anything of choice quality brings \$1.40 or better. Chevallier is also considerably higher, and futures are very strong. Shipping grain is quiet here, but is still moving in the interior.

Brewing	\$1.45
Shipping	1.45
Chevallier	\$1.57 1/2 @ 1.62 1/2
Good to Choice Feed, per cwt	1.40 @ 1.42 1/2
Common Feed	1.32 1/2 @ 1.37 1/2

## OATS.

Oats continue quite firm, with prices as formerly quoted. The movement is hardly as great as was expected on seed grades, but a little rain is expected to stimulate the demand in a short time. Stocks of reds are liberal, but other grades, especially white and gray, are scarce.

Choice White, per cwt	\$1.70 @ 1.75
No. 1, White	1.65 @ 1.67 1/2
Gray	1.65 @ 1.70
Red, seed	1.75 @ 1.80
Feed	1.50 @ 1.70
Black, seed	2.45 @ 2.65

## CORN.

The former prices are still quoted on this grain, and there is a little movement, one car coming in during the week. The market, however, is practically bare, only an occasional carload coming in, and local buyers are inclined to keep their stocks as light as possible.

California Small Round Yellow, per cwt	Nominal
Large Yellow	\$1.85 @ 1.90
White	Nominal
Western State Yellow	1.90
White, in bulk	1.75
Mixed, in bulk	1.72

## RYE.

The advanced quotations established last week are maintained, and stocks are firmly held. There is very little demand, however, and sales are small.

Rye	\$1.45 @ 1.50
-----	---------------

## BEANS.

Arrivals of beans have continued large throughout the week. The harvest in the southern growing districts is practically over, as most of the crop has been thrashed, and is rapidly being sold to the local buyers. The shipping demand is very good, showing no particular falling off from previous reports, and prices on most varieties are strongly held. The present demand runs largely to pinks and bayos for shipment, though the prices for these varieties have been slightly reduced. Limas and reds are also a little lower. The high prices for white beans have so far been firmly held, and large white are considerably higher this week, with a slight advance on small whites. Both varieties continue to move off freely. Garvanzos show a wider range of prices, the large size being in strong demand.

Bayos, per cwt	\$2.50 @ 2.60
Blackeyes	3.10 @ 3.25
Cranberry Beans	2.45 @ 2.60
Garvanzos	1.50 @ 2.50
Horse Beans	1.50 @ 2.00
Small White	4.30 @ 4.50
Large White	3.60 @ 3.75
Limas	4.20 @ 4.30
Pea	4.50
Pink	2.10 @ 2.25
Red	3.25 @ 3.50
Red Kidneys	3.25 @ 3.50

## SEEDS.

There has not yet been enough rain to start the heavy movement of seeds, and quietness still prevails in most lines. There is, however, a little more inquiry. Alfalfa seed is being harvested, and large quantities have come into the market, causing some weakness, though somewhat stronger prices may prevail when the demand improves.

Alfalfa, per lb.	14 1/2 @ 17 1/2 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	11 1/2 c
Flaxseed	3 c
Hemp	4 1/4 @ 4 1/2 c
Millet	2 1/4 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

Quotations in this market show no change and the market remains in about the usual condition, with the routine local business and a slight shipping movement. There is considerable more activity at the northern mills, however, as the export business there is increasing.

California Family Extra, per bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington, Family	4.90 @ 5.40

## HAY.

Arrivals of hay in this market, while slightly in excess of last week, have been small, and the market continues very firm, with a prospect for high prices. Considerable of the present arrivals consists of alfalfa, which is being rapidly cleaned up in the river districts. Fancy lots have arrived in moderate quantity, and sell readily at top quotations. Staple grades are in strong demand, though the local movement has been a little smaller than last week. The market for alfalfa hay has been favorably affected by the general advance. Stock hay is being eagerly sought and there is very little of this grade offering. Straw continues fairly firm at former prices.

Choice Wheat, per ton	\$19.00 @ 21.00
Other Grades Wheat	15.00 @ 18.50
Wheat and Oat	14.00 @ 17.50
Tame Oat	13.50 @ 18.50
Wild Oat	13.50 @ 17.50
Alfalfa	11.00 @ 15.00
Stock	9.50 @ 10.50
Straw, per bale	55 @ 85 c

## MILLSTUFFS.

The northern mills are running on a rather larger scale than for some time past, owing to an increased demand for flour for export, and the supply of millstuffs available for Coast use is accordingly larger. Millstuffs are noticeably weaker in the northern markets, and this feeling is beginning to be felt here, though little change has yet been made in prices. The lower grades of millstuffs are in good demand and firm, but choice lots, the prices of which have only been maintained by scarcity, are becoming easier. Mixed feeds and cocoanut cake are both slightly higher.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Broom Corn Feed, per cwt	1.20 @ 1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	28.00 @ 32.00
Oil Cake Meal, per ton	38.00 @ 39.50
Roller Barley	29.00 @ 30.00
Shorts	33.00 @ 33.50

## VEGETABLES.

The shipping demand for onions has dropped off in the last few days, and as there has been no speculative movement this week, the market is rather easy, with lower prices. The large oversupply of some vegetables that was on the market last week has been disposed of, and prices show some improvement, especially tomatoes, which are now becoming scarce. Very little okra or summer squash is offered. Other lines, while in small demand, are scarce enough to keep prices up fairly well.

Garlic, per lb.	7c @ 8c
String Beans, lb.	6c @ 9c
Green Peas, lb.	6c @ 8c
Cabbage, per cwt	60 @ 75c
Marrowfat Squash, per ton	\$10.00 @ 15.00
Tomatoes, box	50 @ 85c
Turnips, sack	50 @ 75c
Green Peppers, box	50 @ 75c
Cucumbers, box	75 @ 1.00
Egg Plant, box	65 @ 85c
Cauliflower, doz.	75 @ 1.00

## POULTRY.

While a few varieties are now moving at a little better prices than last week, the market has been in rather a poor condition most of the week. Arrivals of eastern stock have again been large, in addition to some stock carried over from last week. The holiday interfered with business somewhat early in the week, and the demand has been very quiet on most varieties. Young chickens have moved off fairly well. Arrivals of turkeys have been large, and as the demand at present is light the price shows some reduction.

Broilers	\$4.00 @ 4.50
Small Broilers	3.50 @ 4.00
Fryers	5.00 @ 5.50
Hens, extra	7.00 @ 9.00
Hens, per doz.	5.00 @ 6.50
Small Hens	3.50 @ 4.50
Old Roosters	3.50 @ 4.50
Young Roosters	5.50 @ 6.50
Young Roosters, full grown	7.00 @ 8.00
Pigeons	1.00 @ 1.25
Squabs	2.00 @ 2.50
Ducks	4.00 @ 7.00
Geese	2.00 @ 2.50
Turkeys, live	19 @ 21c

## BUTTER.

Business in butter has been very slow during the week, with trade limited to small purchases to fill daily requirements. Supplies have been ample for the demand, and a slight reduction has been necessary on extras and firsts to move the surplus stock. The feeling is now a little firmer, but the prices show no signs of advancing.

Cal. (extras) per lb.	31 1/2 c
Firsts	27 1/2 c
Seconds	23 c
Thirds	20 c
Eastern extras	27 c
Ladies, extra	22 c
Cal. Storage, extras	26 1/2 c
Pickled Butter	23 1/2 c

## EGGS.

Last week's quotation on fresh extras was too high for the current demand, and a slight reduction has been necessary, though the stock is quite firm at present prices. Supplies have been small, but the high prices have curtailed the demand, and the movement is limited. Lower grades, on the other hand, are moving more freely, and fresh seconds are higher as a result. All low grade and eastern stock is firm, though local storage eggs are in less demand.

California (extra), per doz.	52 c
Firsts	47 c
Seconds	40 c

Thirds	23 c
Eastern Selected	27 c
Eastern firsts	25 c
Storage, Cal., extras	31 c
Storage Eastern, extra	26 1/2 c

## CHEESE.

Local flats are arriving in good quantities, and move off fairly well at former prices. New Young Americas are developing firmness, selling on the Exchange at cents a pound. Other lines remain firm as formerly quoted.

Fancy California Flats, per lb.	12 1/2 c
Firsts	12 c
New Young Americas, fancy	15 c
Oregon Flats	13 c
Oregon Y. A.	14 1/2 c
Storage, Cal. Flats	12 c
N. Y. Cheddars	17 c

## POTATOES.

Potatoes have been very quiet for the last few days, with the buyers taking stock only for their immediate requirements. As large shipments of river stock have been arriving, the price is rather weak, though most dealers are holding firmly. Salinas Burbanks are higher, but Oregon stock has declined.

River Whites, fancy, cwt.	75c @ 85c
Common	55 @ 65c
Salinas Burbanks, cwt.	\$1.40 @ 1.60
Oregon Burbanks	1.15 @ 1.30
Sweet Potatoes, cwt.	1.50 @ 1.65

## FRESH FRUITS.

Owing to the increasing interest in citrus fruits, there is little business in the deciduous lines, except in grapes and apples, which are moving fairly well. Nurtured melons are nearly out of the market, and offerings lately have been of poor quality. Peaches and plums are scarce and high. Choice apples are also a little firmer. Bartlett pears are easy. Berries, though most stock is inferior, bring higher prices.

Apples, fancy	65c @ \$1.10
Apples, common	40 @ 75c
Strawberries—	
Chest	\$5.00 @ 8.00
Raspberries	7.00 @ 10.00
Huckleberries, lb.	15c
Cranberries—	
Cape Cod, bbl.	10.50 @ 13.00
Coos Bay, box	4.00
Plums, crate	60 @ 75c
Peaches, box	60 @ 75c
Grapes, crate, Muscats	50 @ 75c
Cornichon	50 @ 75c
Tokays	50 @ 75c
Pears, Bartlett, box	75 @ 1.25
Winter Nellis	75 @ 1.25
Other varieties	40 @ 75c
Quinces, box	50 @ 75c
Pomegranates, box	60 @ 75c
Persimmons, box	50 @ 1.00

## CITRUS FRUITS.

Navel oranges and grapefruit of the new crop are offering more freely, several cars having arrived from the central part of the State. While much that is offered is unripe, prices on well colored lots of oranges are higher. Valencia continue to bring former prices. Grapefruit is now plentiful, and sells at lower prices. Lemons and limes are unchanged.

Choice Lemons	\$2.00 @ 2.50
Fancy Lemons	3.00 @ 3.50
Standard	1.25 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	3.50 @ 4.00
Navels	2.50 @ 3.50
Grape Fruit	2.50 @ 4.00

## DRIED FRUITS.

Dried fruits in general show a slight tendency to firmness, and the condition of the market seems to be improving. While there has been no particular improvement in prices, and the eastern buyers are not taking much stock for future needs, there is a very fair demand for spot goods in small lots, and the shipping movement is gradually increasing. Cooler weather in the East, and the better feeling following the election, are expected to bring a larger demand. Peaches continue weak, while apricots and prunes are slightly firmer, an advance being reported in some quarters. Raisins continue quiet, but there is a stronger feeling in the East, and it is believed that some of the local handlers will be compelled to pay higher prices than those now current to all orders. Local packers quote the following prices:

Evaporated Apples	5 @ 6 c
Figs, black	2 1/2 @ 3 c
Figs, white	3 @ 4 c
Apricots, new crop	7 @ 10 1/4 c
Peaches, new crop	4 @ 5 1/2 c
Prunes, 4-size basis	3 1/4 @ 3 3/4 c
Pears, new crop	5 @ 7 c

## RAISINS.

2 Crown	4 c
3 Crown	4 1/2 c
4 Crown	5 c
Seeded, per lb.	7 c
Seedless Sultanais	1 1/2 c

## NEW CROP.

Loose Muscats, 4 crown	5 1/2 c
3 Crown	4 3/4 c
2 Crown	4 1/4 c
Thompson Seedless	4 1/2 c
Seedless	4 1/4 c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

It is reported that the crop in the southern California walnut district is considerably less than the earlier figures, and that the shipments will be less than last year. Most of the crop has been gathered and will be ready for the market by the middle of the month. Considerable quantities have already been sent East, and the fall distribution will be large. Prices on nuts are unchanged.

Almonds, Nonpareils	11 1/2 @ 12 c
1 X L.	10 1/2 @ 11 c
Ne Plus Ultra	10 c
Drakes	9 1/2 c
Languedoc	8 1/2 @ 9 c

## WALNUTS.

Softshell, No. 1	12 1/2 c
Softshell, No. 2	8 1/2 c
Hardshells	10 @ 12 c
California Chestnuts	12 1/2 @ 17 1/2 c

## THE "SOUTH BEND."



## THE BEST CHILLED PLOW IN THE WORLD.

The great consideration in a walking orchard and vineyard plow is one on which the beam and handles can be so adjusted that they will not rub over and damage the trees and vines. This requirement is fully met in our No. 2-Vineyard Plow, illustrated above, which turns a furrow 9 1/2 to 10 inches. It has swivel handles, which can be thrown either to right or left, as may be desired. The beam is also capable of great adjustment both ways, so that the horse walks free from the branches and vines. The No. 2-V is light, yet strong, and is very popular in the hop fields. Can be furnished with plain chilled or slip nose chilled shares, and with wheel if required. Weight, 70 pounds.

Write us for Catalogue describing the complete South Bend line of Plows.

General Agents.

PACIFIC IMPLEMENT COMPANY  
135 Kansas St. San Francisco.

## HEALD'S BUSINESS COLLEGE

AND

## ENGINEERING SCHOOL

ESTABLISHED IN 1863

Now in its new building at 425 McAllister St., near Van Ness Ave., where it has the finest equipment on the coast for Business Training and Engineering Work. Branch schools at Oakland, Stockton, Los Angeles, Fresno, San Jose, Santa Cruz, Ocean Park, Long Beach, Riverside and Reno. Write for my new catalog; free to all. Address

E. P. HEALD, President,  
San Francisco, Cal.

## HONEY.

While the entire crop of the State is very small this year, a few districts are still shipping. The demand is only moderate in this market, and the price is generally considered lower than it should be, in view of the shortage.

Water White, Comb, lb.	16 @ 17 c
White	15 c
Water White, extracted	8 @ 8 1/2 c
Light Amber	7 @ 7 1/2 c
Dark Amber	5 1/4 @ 5 3/4 c
Candied	5 1/4 @ 5 3/4 c

## HOPS.

Most of the best hops have been moved out of first hands, and the market is quiet at present. Few lots are now bringing over 8 cents, and many of the growers are holding firmly, expecting to get 10 cents before next season.

Hops, per lb.	7 @ 9 c
---------------	---------

## WOOL.

The wool season in Oregon and Washington is practically over, only a small quantity remaining in first hands. Considerable quantities of the California clips are still on hand, though the holdings of growers are gradually being forwarded, largely on consignment. The position of California wool in the East shows no particular improvement.

Red Bluff (f. o. b. Red Bluff)	
Free	6 @ 7 1/2 c
Defective	less 2 c
San Joaquin (at S. F.) free	5 @ 6 1/2 c
Defective	4 @ 5 c
Mendocino, free	7 @ 9 c
Defective	5 @ 7 c

## MEAT.

Dairy calves are now being shipped into this market quite freely, and veal is somewhat lower. The whole market, in fact, is inclined to easiness, as all varieties of stock are now plentiful. Prices are practically the same as last quoted.

Beef: Steers, per lb.	6 @ 6 1/2 c
Cows	5 @ 6 c
Heifers	5 @ 6 c
Veal: Large	5 1/2 @ 7 1/2 c
Small	8 @ 9 c
Mutton: Wethers	7 c
Ewes	6 c
Lambs	8 @ 9 c
Hogs, dressed	8 @ 9 1/2 c

## LIVESTOCK.

Steers, No. 1	3 1/2 c
No. 2	3 1/2 c
No. 3	2 @ 3 c



Cows and Heifers, No. 1.....	2 3/4 @	3 c
No. 2 .....	2 1/2 @	2 1/2 c
Bulls and Stags.....	1 1/2 @	1 3/4 c
Calves, light .....	4 1/2 @	1 3/4 c
Medium .....	4 @	1 c
Heavy .....	3 1/2 @	3 1/2 c
Sheep, Wethers .....	3 3/4 @	3 3/4 c
Ewes .....	3 1/2 @	3 1/2 c
Lambs, lb.....	4 @	4 1/4 c
Hogs, 100 to 150 lbs.....	6 c	6 c
150 to 250 lbs.....	5 1/2 @	5 3/4 c
250 to 325 lbs.....	5 1/2 @	5 3/4 c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.		

### SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Nov. 2.—Today's orange market in the East shows a slight falling off from the prices received at the closing sales on Friday. This is attributed to the amount of imported oranges that are now being offered at low prices. Even with a reduction the Valencias are selling much higher than during the major part of the season and the shippers should be very well satisfied. The fruit is holding up much better than was expected and there is less green fruit in evidence than was predicted for these late shipments. In Monday's New York sale the Old Mission brands was the leader and brought an average of \$7.70 a box, while the Mayflower brands from Fullerton was second with \$7.10, nothing going lower than \$4.50.

Lemons are doing finely and the Eastern markets are demanding lemons as they never did before. This is because the Sicily stock is low and of very poor quality, but 10,000 boxes being available at this date. Good fancy California lemons are bringing upward of \$5 a box, showing the possibilities of these Eastern markets if the cheap Sicily stock could be kept out of the country.

Saturday marked the closing of the old citrus season, though there are still a few cars of Valencias yet to go forward. The total cars shipped were not equal in quantity of the banner year of 1904-5, when there were 29,882 cars shipped, of which 25,608 were oranges and 4,274 were lemons. This year there has been 29,499 cars sent forward, of which 24,540 were oranges and 4,959 were lemons.

In the north the cars are now going out at the rate of 50 a day and will soon increase to 100 cars daily. Reports as to opening prices differ to some extent, those shipping the first cars claiming to have orders at \$2.50 f.o.b., while others say that they are offering fruit at from \$1.50 to \$1.65 cash. Some orchards are being sold outright at \$1.15 per packed box, delivered at the packing house.

The '76 Land and Water Co. is making and laying about 50,000 feet of cement pipe in Clark's valley to convey water two miles to the orange groves at Reedley. The water is pumped from nine wells and is conveyed through cement pipes of 14, 12, 8 and 6 inches in diameter. The work is being pushed rapidly with hopes of completing it before the rainy season sets in.

A new company capitalized at \$50,000 was organized at Brawley in the Imperial valley recently. The purpose of the company is to set a large tract of land to eucalyptus and to proven varieties of date palm. Also a large tract will be seeded to alfalfa, on which will be kept high-grade cattle and hogs.

A car of Lodi Tokays sold at New York Monday for \$2,000. This is the record-breaking car of the season.

The Joseph R. Loftus Co. states that it will plant 40 acres of crimson winter rhabarb soon, near Monrovia.

**BEAN CULTURE.**—A practical treatise on production and marketing of beans. It includes manner of growth, soils, and fertilizers adapted, best varieties, seed selection and breeding, planting, harvesting, insects and fungous pests, composition and feeding value; with a special chapter on markets by Albert W. Fulton. A practical book for the grower and student alike. By Glenn C. Sevey. B.S. Illustrated. 144 pages. 5 by 7 inches. Cloth .....\$0.50

**TOMATO CULTURE.**—The author has rounded up in this book the most complete account of tomato culture in all its phases that has ever been gotten together. It is no second-hand work of reference, but a complete story of the practical experiences of the best posted expert on tomatoes in the world. No gardener or farmer can afford to be without the book. Whether grown for home use or commercial purposes, the reader has here suggestions and information nowhere else available. By Will W. Tracy. Illustrated. 150 pages. 5 by 7 inches. Cloth .....\$0.50

FOR SALE BY PACIFIC RURAL PRESS.

## Patrons of Husbandry.

### TULARE GRANGE MEETING.

To the Editor: At the meeting of this grange on the 17th inst. two applications for membership and one for the degrees were received and referred to committees. After formal opening the Grange was declared an open meeting, applicants and friends being admitted.

In the literary program Brother Frasier of Dinuba Grange, gave an interesting account of his trip to the Irrigation Congress and to the City of Mexico.

Brother F. H. Styles gave an interesting account of the attendance and work of State Grange, lately held in Sacramento, and of the State Farm at Davis.

The attention of the Grange was called to the Agricultural Lecture Train of four cars, two of them exhibit cars, which the Southern Pacific Railroad Co. will, about the middle of next month, send through the Sacramento and San Joaquin valleys. Prof. W. T. Clarke, conductor of Farmers Institutes, and Mr. J. W. Jeffery, State Horticultural Commissioner, will officially accompany the train. By resolution, the worthy master will appoint a committee of three on reception to meet the train at this place—it is taken for granted the train will come here—and a committee of five ladies to decorate the hall.

At the next session of the legislature the State Grange will ask the passage of a law empowering fraternal orders to insure the property of their members against fire on the same basis as fraternal orders are, by law, authorized to insure the lives of their members. The bill will limit the highest risk to \$7,500, to three-fourths the value of the risk and permit no concurrent insurance.

The following resolutions, introduced at a previous meeting, were called up and discussed:

Whereas, This Grange has been advised that Congress, at its next session, will revise the present duties on imports so as to adjust said duties to the economical and ample requirements of the United States revenue, and;

Whereas, Both the great political parties have agreed to this revision of the tariff and to its adjustment to sufficiently meet the necessary requirements of the government, and neither party now advocates free trade, and;

Whereas, Horticulture and viticulture are the leading and most profitable industries of central California, by reason of its geographical location, its climate, soil and labor conditions, and;

Whereas, A reduction of the import duties on the products of horticulture and viticulture will render these industries unprofitable, and only the present duties, or higher ones, will enable the producer to live as an American farmer should, and pay the wages an American laborer should get; therefore be it,

Resolved, This Grange of Patrons of Husbandry declares that in a revision of the duties on imports by Congress a reduction of the present duties on the products of horticulture and viticulture, coming into the United States from countries where the standard and cost of living and where the wages paid for labor is perhaps less than half what is required and paid here, will be destructive of these industries, of the American standard of living and of the wages paid for American labor in California.

Resolved, That our secretary send copies of these resolutions to our representatives in Congress and a copy to the worthy master of the State Grange for presentation to the National Grange for its approval and support.

The resolutions were freely discussed, a resolution offered to lay over the further discussion of the subject until after the election was not favored. It was claimed that these resolutions are in the interest of our home industries, in the interest of the American farmer's standard of living and of the wages paid for American labor, and the advocacy of these American standards of living and wages is in the line of duty of the Patrons of Husbandry, what the order was organized for, what it stands for, what the Grange should never lose sight of or neglect.

A standing vote was taken. The resolutions were carried, members of both political parties advocating and supporting them.

The next Grange meeting will be for conferring degrees and the subject "How to promote the order and get a better attendance at meetings."

Tulare.

## PUBLISHER'S DEPARTMENT.

It was Sydney Smith who said, that to succeed it was not enough to be good, but that one must be good for something. The way our advertising is increasing in these piping time of politics, we are being cajoled into the belief that the PACIFIC RURAL PRESS makes good. It has ever been its aim to serve the tillers of the soil in the way of practical instruction. In this issue we begin the season's announcement of the captain of the industry of producing orange and lemon trees, not only for California orchards, but wherever citrus fruits are a commercial proposition. No man has shown so broad an appreciation of the importance of good orange and lemon trees in the development of a citrus orchard as R. M. Teague. Himself a producer of oranges and lemons, he knows what the essentials are in the development of a tree that shall give results in bounteous crops of beautiful fruit when coming into bearing. Long recognized as the leading grower of citrus trees in the world, he brings to the business of tree growing an experience which places his stock in the first rank—indeed, it is doubtful if there is another establishment which grows a finer stock of orange and lemon trees. Growing oranges is always an alluring branch of California horticulture, but with Teague trees properly planted in the right place and properly cared for, it is also profitable as well as alluring.

The National Wood Pipe Co., with offices at San Francisco, Los Angeles, Olympia and Salt Lake City, announce that they were awarded a diploma from the International Industrial Exposition and Twenty-eighth Annual New Mexico Territorial Fair held at Albuquerque, New Mexico, last month. The diploma was "awarded to the National Wood Pipe Co. for best exhibit of wood pipe for city water works, irrigating systems, mining and power plants." This firm recently secured a contract for over 40,000 feet of 4, 6, 8 and 10 inch machine banded wood pipe for installation in the Teague, Texas, municipal water system.

Our horticultural readers will be particularly interested in the many new announcements appearing in this issue of the PACIFIC RURAL PRESS. It is a source of real pleasure to us to have their an-

nouncements to print, especially as most of them have been old advertisers with us in seasons gone by. Among these advertisers will be noticed such firms as Silva & Bergholdt, Hawaiian Fertilizer Co., Ltd., E. B. Vadon, Fresno Nurseries, W. A. Reinholdt, Bean Spray Pump Co., T. J. True, Sherlock & Caldwell and Trumbull Seed Co.

H. W. Kruckeberg, the "J. Horace McFarland of the Pacific Coast" in the horticultural printing line, who also edits and publishes the Rural Californian, one of the oldest and best agricultural monthlies on the coast, came up from Los Angeles last week and made this office quite an extended visit. Besides his catalogue printing and newspaper publishing, Mr. Kruckeberg has printed the new edition of "California Fruits," and promises them for immediate delivery. Notice of the completion of the book as well as raise of price will be found in another column. Mr. Kruckeberg left with us an advertisement for his catalogue printing, and we desire to say that we have personally known Mr. Kruckeberg for a decade and we advise anyone anticipating getting out a catalogue, and wanting the best in that line, to write him.

On our first page in this issue we have a prune article by Leonard Coates. Next week we will have an article on apples in the Watsonville district by C. R. Rodgers, and we also have in hand a good article by Charles A. Chambers of Fresno on planting in waste places on the farm, which will appear shortly.

A Mitting, the Santa Cruz nurseryman, sends this office his 1909 catalogue, embracing berry plants, bulbs, roses, lemons, etc., which is well worth sending for by all intending planters.

Our subscribers will notice that Francis Smith & Co., pipe and tank manufacturers, have moved their office to 9 Fremont St., San Francisco.

George G. Roeding of the Fancher Creek Nurseries at Fresno has in press a new catalogue for December delivery. The edition will amount to 20,000 copies.

We learn that C. C. Morse & Co. have in press their new catalogue, of which they will get out an edition of 50,000 copies.

## Expert Opinion on Our Horticultural Catalogue Printing and Engraving

**From the Pacific Rural Press:** Another offering of Mr. Burbank's new fruits is just made and heralded in one of the handsomest pieces of horticultural printing ever brought out in California, under the eye, of course, of Henry W. Kruckeberg of Los Angeles, who is one of the most striking geniuses of California, touching neither horticultural literature art or typography without leaving upon it an impress of characteristic adornment.

**From Luther Burbank:** The catalogue of my new fruits is, in my opinion, the best one ever published on this Coast, and would be a credit to any firm anywhere. You cannot do such work without having people find you out sooner or later.

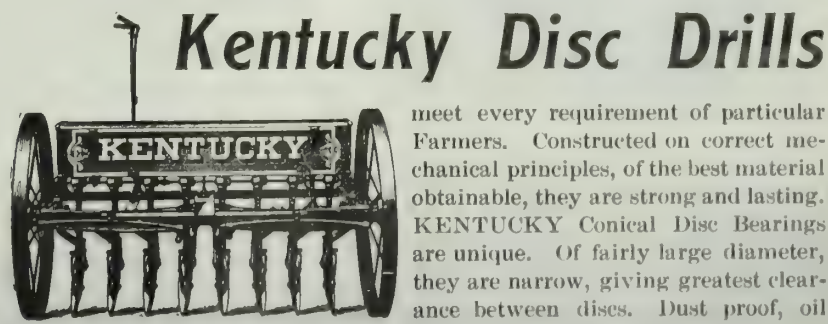
**Interested, are you? Then write us for samples and estimates. We can certainly be of service along lines calculated to make your catalogue making worth while.**

## The Kruckeberg Press Corporation

QUADRI-COLOR PRINTERS  
CATALOGUE MAKERS

On South Los Angeles St. at 1-2-3

Los Angeles, California

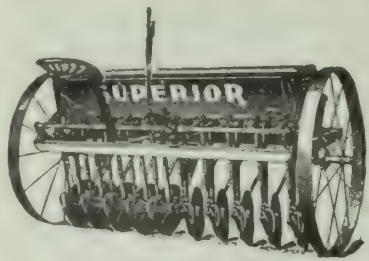


meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

**PACIFIC IMPLEMENT COMPANY**  
135 Kansas St., San Francisco.





## Superior Disc Drills

SUPERIOR IN NAME AND QUALITY.

### No other Drills combine these features:

AXLES—1½ inch diameter. STEEL pipe seed tubes.

STEEL WHEELS—4 inch Tires.

SEED CUPS for all grains.

SOLID GREASE CUPS FOR DISC BEARINGS AND GROUND WHEELS.

RIDING FOOT BOARDS or SEAT ATTACHMENT.

Barley and Oats Agitators. Malleable Boots.

Spring Scrapers. Roller Hitch. Drag Chains.

SEND FOR SPECIAL CATALOGUE.

**THE H. C. SHAW CO., Stockton.**

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

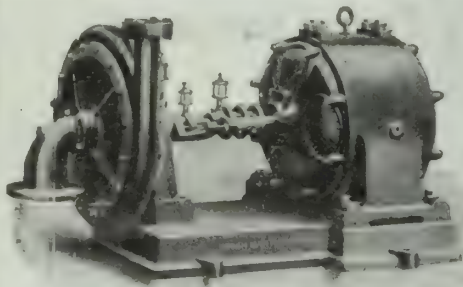
Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.



## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

**Krogh Man'f'g. Co.**

127 to 133 Beale St., San Francisco, Cal.

Send for new catalogue No. 50 just issued.

**FRANCIS SMITH & CO., Manufacturers of**

## SHEET IRON & STEEL PIPE

FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 9 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum

**GREENBANK**

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.



## WOOD PIPE NATIONAL WOOD PIPE COMPANY

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Made from California Redwood or Selected Washington Douglas Fir

Prices, specifications, hydraulic data and general information furnished upon request.

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution. Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.



WINE TANK.

## Tanks Tanks

WINDELER'S PLANING MILL AND COOPERAGE

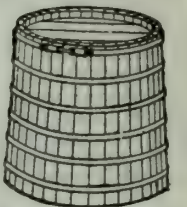
GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully selected stock by careful and experienced workmen. "Tanks that are well made last a long time." It will pay you to get my prices before buying.

GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

**THE PACIFIC GUANO & FERTILIZER COMPANY**  
268E Market St., San Francisco, Cal.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

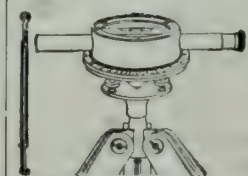
**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

## BOSTROM'S IMPROVED FARM LEVEL



Cheapest and Best Level yet Invented for Farm Use.

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

**Palace Hardware Co..**

581 Market St., San Francisco

Coast Agents.

Send for Circular.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 20.

SAN FRANCISCO, SATURDAY, NOVEMBER 14, 1908.

Thirty-eighth Year.

## Pajaro Valley Apples.

Written for the PACIFIC RURAL PRESS  
By Mr. C. H. RODGERS, of Watsonville.

Of course, everybody likes apples, and if any fail to secure a supply of this most delicious and healthful of fruits, it will be through no fault of the Pajaro orchardists.

In point of apple production this valley is the leading district of the West. This season's shipments will exceed 3500 carloads, or more than 2,300,000 boxes, while fully 750,000 boxes of the inferior grades will be converted into the canned and dried product, apple butter, cider and vinegar.

Pajaro Newtowns, famous for excellence of flavor and keeping qualities, also possess a marked superiority for canning purposes. While the canning of apples is a recent departure here, the output this season will amount to many thousands of cans.

The dried apple output will exceed 2,500,000 pounds, while the quantity of cider and vinegar will amount to upward of 500,000 gallons.

Apple butter is being manufactured in quantities sufficient to meet the growing demand for this delicacy. For this purpose specially selected Bellflowers are used.

The Pajaro district has, in round numbers, 1,000,000 apples trees, planted on 14,000 acres. The varieties mainly raised are Yellow Newtown Pippin and Bellflower. Of the total number of trees fully one-half are of the first and one-third are of the last named variety. The balance is made up of almost every known variety, with Red Pearmain (Pomme de Fer), Missouri Pippin, White Pearmain, Lawver, Langford and Smith Cider predominating, in the order named.

Markets for these apples extend to almost all parts of the globe. The months of September, October and November in Pajaro are busy ones in the orchard, packing-house, cannery, dryer, cider and vinegar works. It requires the services of several thousand men and women to care for the apple crop. From daylight until dark on all roads leading into Watsonville may be heard the rumble of the procession of wagons heavily laden with apples on their way from orchard to packing-house. The orchards present an animated scene with their groups of men who, equipped with ladders and buckets are relieving the trees of their burdens of fruit. In the packing-houses, all is bustle and hurry on the part of the women and men employees, in the sorting, sizing, and packing of apples, nailing of boxes, and loading on cars preparatory to shipment.

The same spirit prevails in the cannery. Here

the activity and energy displayed on the part of the women in preparing the fruit for canning, together with the whirl of machinery, reminds one of an immense beehive. While less life is apparent in the vinegar works, yet with the hum of the desiccator, rattle of pumps and conveyors and groaning of the immense hydraulic press from which rains in great streams the delicious cider, the visitor is fully impressed with the belief that there is "something doing" all the time in these establishments.



Yellow Bellflower Tree in Fruit in Pajaro Valley.

The drying of apples is all done in kilns, and several hundred men are required to manipulate the machines which in one operation peel, core and slice the apple.

With many advantages culturally and commercially, the Pajaro apple grower possesses advantages protectively, surpassing in this respect any apple district anywhere. For this latter condition the growers feel deeply indebted to the Agricultural Department of the State University; and in behalf of the Pajaro orchardists, full acknowledgment and deep appreciation is hereby reiterated

for the great results accomplished by this institution through the codlin moth investigation.

In explanation, at one period it seemed that the codlin moth and other insects would ruin the profitable production of the apple in this locality, and the orchardists, under this discouragement, appealed to the University authorities for scientific aid. In response, skilled men were detailed, and after several years of exhaustive experimentation a remedy was evolved which has proved superior to anything ever placed on the market as a remedy for this insect. This compound is now being manufactured in Watsonville, under the name of ortho arsenate of lead, and, it goes without saying, is used by the growers to the exclusion of all other remedies.

Further, all other spray compounds needed by the grower are being manufactured here. The chief demand, aside from the above named, is for the ortho lime-sulphur solution which is so generally used on account of its fungicidal as well as its insecticidal qualities.

As a still further safeguard to the orchard interests, a skilled entomologist is retained in the district, at public expense, to direct the grower in the work of pest control.

The greatest handicap of the apple industry at present is the exorbitant railroad freight rate. To illustrate, the Southern Pacific railroad charges for hauling a carload of apples to any point outside of the State, more than the grower receives for the fruit.

Yet withal, though the apple-growers, as well as other people, have some hardships to contend with, theirs is a prosperous community; and the spirit of contentment is manifest in many ways, but particularly in the fact that there is absolutely no good orchard-bearing land for sale in Pajaro valley.

## A NEW POTATO DIGGER.

The U. S. Consular reports give the following description of a new potato digger for two horses, made in Germany, quite different from anything made in the United States. It is able to handle heavy crops very easily, and to leave the pota-

atoes all on top of the ground, entirely out of the way of a second round. This is a strongly built two-wheeled truck with a well braced shovel, supported by a shoe which passes under and raises the potatoes. At the rear of this shovel are six revolving arms, driven by a plain bevel wheel and pinion direct from the main axle. These arms have heavy wire ends that, it is claimed, entirely separate the potatoes from the earth without bruising them in the slightest. Its weight is 700 pounds, and it is sold complete, with pole, neckyoke, whiffletrees and all necessary wrenches, at \$84.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - Editor  
FRANK HONEYWELL - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., November 10, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.02	5.24	5.20
Red Bluff .....	.00	.19	3.19
Sacramento .....	.10	.29	1.84
Mt. Tamalpais .....	.00	1.78	2.26
San Francisco .....	T	.77	2.05
San Jose .....	.00	.28	2.09
Fresno .....	.00	.18	1.14
Independence .....	.00	1.60	1.09
San Luis Obispo .....	.00	1.44	2.12
Los Angeles .....	T	1.55	1.07
San Diego .....	.00	.99	.74

## The Week.

For the first time in a third of a century the editor is about to pass beyond the reach of the foreman's copy-ery, and beyond the irritation of the devil's grin of satisfaction that another shares his slavery. For the first time in that period he will slacken his hold upon shears which have never become too dull to appropriate good matter and upon upon paste which has never grown too sour to have a proper attachment for it. For, thirty-three years ago this month, he came to the editorial leadership of the PACIFIC RURAL PRESS, and since then has never been too far away for the mails to carry copy in time for publication day, and directions to indicate contents and arrangement. It is high time such connection should break, for the editor and the journal will both be the better for the seeing and doing of things that must be seen and done beyond the mountains—although the absence may be so brief that it may pass unnoticed except by those who chance to read this paragraph. The break will, however, be wide enough to serve as an outlet for certain things which the writer desires to say as he passes the first third-of-a-century post in his editorial life in connection with this journal. So great have been the changes in the publication under the present ownership, and so rapidly has the circulation increased, that it seems pardonable, and perhaps proper, to indulge in reminiscence, so that new readers may know more of the purposes and the personnel of the enterprise to which they have given their support, and which they are so kind as to praise.

The PACIFIC RURAL PRESS grants long terms to those who serve its modest ends and enjoy a quiet life of effort toward them. On the side of ownership, it has experienced several changes, but fewer, we think, than fall to the lot of other serial publications of similar longevity. Some of these may be outlined later. In the past a number of persons have given a quarter of a century to the

discharge of their relations to the journal, and one, as will be noted below, maintained a silent share in ownership for over a third of a century. At present there are two in the service of the publication who come very close to the editor's record of duration, and have borne the same burdens from their entry to the present. Mr. H. F. Dexter, as head of the accounting department, and Mr. J. J. Young, as head of the mechanical department, have given the best of their lives to their important tasks, and are to be credited with the financial accuracy which has prevailed in the business of the publication, and with the style and beauty of its printing, in which feature the PACIFIC RURAL PRESS has always led its contemporary rural journals. As he indulges in reflections based upon his editorial experience, the writer desires to prominently record the fact that decades of association with these two able and devoted men has been a continued pleasure, and to testify that their share in whatever excellence the journal has attained is large, for they have worked ever as those who had faith in the nobility and usefulness of their calling, and not for the pecuniary product of it. There are three of us, then, who can properly claim share in this third-of-a-century chatter.

There were several breaks at the permanent establishment of an agricultural journal during the first two decades of American occupation of California, but it was hard sledding for an agricultural paper in a new country where scarcely anything learned elsewhere would fit, and where nearly everything which seemed local was a dream of what the country ought to do and a stern resolution that the country should be made to do it. The PACIFIC RURAL PRESS is the only journal undertaken in the early days which has carried over into the present agricultural era, and it is seven years older than its next of kin, the Rural Californian, of Los Angeles. The failure of the journals undertaken in the fifties and sixties induced Messrs. A. T. Dewey and Warren B. Ewer to begin in the latter decade an occasional page of alleged agriculture in the Mining and Scientific Press—a journalistic brother of the PACIFIC RURAL PRESS, somewhat earlier born, and then giving a vigorous youth to the promotion of the mining and mechanical industries of California. Messrs. Dewey and Ewer were both pioneer printers, who combined tastes and ambitions for publishing in the interest of both mining and farming, as the traffic would bear, and they were soon encouraged by the success of their farming page in the mining paper to undertake a separate weekly in the interest of the former industry. Thus arose in 1870 the PACIFIC RURAL PRESS as a graft upon a strong mining publication-business, and there were such business advantages in the association that the two journals continued thus related through several changes in ownership until the spring of the present year. Though joined in ownership, the journals were provided with different editors and contributors, almost from the beginning, and that is probably the reason why both lived and thrive—each in its own line, loyal to its constituency and insistent upon its point of view. Thus arose in these two journals editorial attitude and direction quite independent of the counting-room, and such relation has been unswervingly maintained to this day—a rather unique survival of the old regime during a period notable for editorial control proceeding from the business office.

As soon as a separate journal devoted to agriculture seemed feasible to the pioneer owners of the Mining and Scientific Press, the question of editorship arose, and pending permanent arrange-

ments Mr. Ewer took charge. Naturally there came to him at first those who had laid aside earlier efforts in the same line, including Messrs. Wadsworth, Hoag, Barnum, and others, who served short periods during the first five years of the life of the PACIFIC RURAL PRESS—all doing the best they could under various handicaps of lack of special training and the general confusion which prevailed at the time of what would really be good agricultural practice and purpose in California. At that time the agricultural colleges were being established, education loomed large in the agricultural horizon, and these two pioneer printers, Dewey and Ewer, gazed upon it, listened to the foundation principles of the Grange, and became enthusiastic over them, and concluded, we know not by what process, that their best chance with a new journal which they did not know how to edit was to get a fresh young man from the East who had received training in sciences underlying agriculture and had shown some knack in agricultural writing, and let him work out the editorial side of their problem. This idea they acted upon, and thirty-three years ago this month the writer reached California, under contract to edit the PACIFIC RURAL PRESS, at a stipend which was not large, as we look back upon it, but which was, as the employers claimed, more than they had ever paid before for editorial service, and they were quite willing to be credited with taking no little risk in the importation—as, indeed, they did. So far as we ever heard, however, the arrangement was found satisfactory, and this continued for nearly two decades between the writer and his original employers, and the survivor desires to record, as a tribute to their memories, his most profound gratitude to them for their unbroken confidence and generosity.

The writer sometimes wonders why so gratifying and encouraging measure of success was meted out to him in a country so new and so different from that in which he had grown up. Two qualifications suggest themselves:

First. The quality of youth, for we were only about half through our twenties when we were called hither. Our predecessors were old men who carried their outlooks in their hip pockets. They were heavier at preception than at perception. They exhorted the beginners at California farming in the name of all the agricultural gods from Pliny to Horace Greeley. They proposed to pave the way to success in California farming with planks sawn from the wisdom of the ages.

Second. In addition to the advantage of youth, we differed from the elders in having gained from the schools a glimpse of the modern scientific method of inquiry and deduction, which taught us that under changed conditions old inferences and analogies were more apt to point to folly than to wisdom, and that the way to build up agricultural practice for California was to use the facts of California observation and experience. We still remember our tireless pursuit of men and women who had such facts, and how closely we had to look for the point where their facts ended and their dreaming began. It soon appeared that the pursuit of individuals was a slow movement at best, and with the aid of sympathetic friends, we soon had in active operation two State organizations, drawing membership from long distances, one dealing with dairying and the other with fruit growing. Several farmers' clubs had existed previously, but they had fallen into innocuous desuetude, partly because they too had taken to dreaming. With the revival and extension of California agriculture in the latter seventies, better organizations were secured, and they endured many



years and proved to be treasure-houses of wisdom drawn from collected local experience and observation. From such sources and from the scientific research efforts established by Prof. E. W. Hilgard at the University of California in 1875 came much of the accurate knowledge of California conditions which lies in the foundation of the present agricultural advancement of the State.

We are not undertaking a general statement of the sources of such advancement, but merely the relation of this journal thereto. There was a quick and generous public recognition of such a relation, and the publishers were accordingly gratified. During the eighties the business of the owners on the rural branch was much greater than it was on the mining tree into which it was grafted. Wearying of long active business life, the pioneer owners in the early nineties sold the controlling interest in the PACIFIC RURAL PRESS to Mr. Alfred Holman, and threw the other journal into the bargain. Mr. Holman divided his interest with Mr. J. F. Halloran, who devoted his shrewdness and industry zealously to the building up of the mining journal, which the great increase of interest in that industry quickly reciprocated. Mr. Holman retired after a few years to give his attention to broader lines of journalism, in which he has notably succeeded, and Mr. Halloran continued his work with redoubled energy until he and Mr. Ewer, who had maintained a minor interest, were able to sell out the mining journal for many times their original investment, and threw the other journal into the bargain. This transaction brought both journals into the ownership of Mr. T. Arthur Rickard and Mr. Edgar Rickard, both mining engineers with experience in many countries, who since their beginning with the journal in 1906 have made it a world-beater in mining journalism, in both editorial and business aspects. With their experience and interest thus strongly specialized, they felt that they could not give their agricultural property the attention it deserved, and a transfer was made of the PACIFIC RURAL PRESS to agricultural ownership, participated in and conducted by Mr. Frank Honeywell, as described in our issue of May 23 of the current year. The journal shows upon its face the new life which Mr. Honeywell has thrown into its veins, and the enrollment of new subscribers at the rate of about 100 per week is one of the results of his energetic business administration.

Thus the writer has continued his editorship for a third of a century, through a series of successive owners, all of whom contributed to the prosperity of the journal and to the editor's com-

fort by letting him have his own way. The greatest delight, however, through all these years has flowed unceasingly from the cordial interest and approval which so many thousands who have helped to make California great have always manifested toward a long continued effort which can be modestly claimed to have been earnest and sincere, and which we hope still to pursue as the blessings of life and strength may be vouchsafed to us.

## Queries and Replies.

### Eucalyptus in Butte County.

To the Editor: When I asked you recently about the report of eucalyptus trees being killed by frost near Chico, you advised me in a private letter to interview Col. Royce, manager of the Bidwell estate. I have done so, and have learned that during the winter of either '86 or '87 a number of eucalyptus trees were killed on the Bidwell estate by frosts. The Colonel states that this happened just a year before he came here, and that such a cold snap has never been known, either before or since that time. I have been unable to find out how old these eucalypts were, but the Colonel thinks they were not very old; at any rate they sprouted immediately, and are now from 4 to 4½ feet in diameter. At that time there was only a single row of trees and unprotected.

If you can send me any statistics showing the lowest temperature ever recorded here, I will appreciate it; also if you could send me the lowest temperature ever recorded in the southern part of the State, say around Los Angeles. I wish this for comparison. Personally, from my investigation thus far, and from my knowledge of this country, I feel that we do not have any colder weather here than in the southern part of the State, although I may be mistaken.—Enquirer, Chico.

We have no temperature records for your immediate location. The lowest temperatures at several other points are as follows:

Red Bluff .....	17°	above zero.
Oroville .....	20°	" "
Marysville .....	20°	" "
Sacramento .....	19°	" "

The lowest temperature ever recorded at Los Angeles is 28° above zero; at Colton, 60 miles inland, 22 degrees.

The demonstration which Colonel Royce has made you of the revival of the eucalyptus trees cut back by the low temperatures of 1888, which we think was the year of the extreme drop, would seem to indicate that planting in your region is quite warranted, unless the temperature should again drop to such a point while the trees are still young, which would delay growth, if it did not kill them. This small chance of injury has, of course, to be taken in many interior situations.

### Walnuts on Overflowed Land.

To the Editor: I have a piece of land, subject to overflow by spring floods. It has grown apple trees to large size. I have thought it might be used for walnuts, but the proposition is met with the opinion that walnuts will not stand the frost of the locality, nor the floods. But, as you are no doubt aware, the California black walnut grows to immense size in this locality and produces large crops. I would be greatly obliged for your opinion as to whether the tract is adapted to walnuts, and whether they are a commercial proposition in this locality. What varieties would be best to plant? In planting walnuts, is it better to plant the nut of California black and graft at two to three years, or plant the grafted tree? I have heard that walnuts do not transplant well.—Enterprise, Stockton.

The California black walnut will stand such conditions as you describe, and a choice late-blooming variety of the English walnut, like the

Franquette, can be successfully grafted upon it. There is no difficulty about transplanting the walnut trees. California black walnut seedlings have been transplanted in quantities almost since the beginning of the American occupation, and you will see them now along roadways and in private enclosures all through the central part of the State. It is a little easier to plant the seed of the California black walnut and graft when the tree is two or three years old than it is to graft in nursery rows. As to the commercial side of such enterprises, we cannot undertake the responsibility of giving advice. You will have to measure those things up for yourself, in ordinary business ways.

### Sowing Alfalfa.

To the Editor: Will you please let me know when is the best time to sow alfalfa in the low bottom land along Kings river?—Farmer, Fresno.

It is probably too late to get good results from fall sowing, because of frost and insufficient heat to cause the plant to grow well. Where there is only light frost on the plains, February is now the month in which most alfalfa is sown, but if you have a low, frosty place you had better sow later. You must be governed by local conditions as to frost; also as to the time when the soil becomes warm enough to favor good growth.

### Sawdust as an Absorbent.

To the Editor: I am using redwood sawdust for bedding my stock. Is this sawdust and manure good for hay land or not? A reply through the PACIFIC RURAL PRESS will be much appreciated.—Regular Reader, Bonny Doon.

The sawdust will certainly be a good fertilizer for what it absorbs and attaches to itself. Its own substance will yield nothing of account. On a clay soil it will, however, be of some account in promoting friability, and while sawdust will aggravate the lack of moisture-retention in a light sandy soil, you are hardly likely to apply enough to produce any notable effect in that line.

### Pear Slug and Blister Mite.

To the Editor: Herewith send a sample of leaves from my pear trees. Could you inform me what is the matter with them? They were somewhat affected last year, but much worse this. The pears were very small.—Grower, Mariposa County.

Your pear leaves have been attacked by two pests, both of which did their worst work early in the summer. One is the pear slug, a small slimy caterpillar, which you can kill by spraying as soon as you see it with arsenate of lead, 2 pounds to 50 gallons of water. The blister mite cannot be poisoned so easily as the caterpillar, and a thorough spraying with kerosene emulsion, properly made, just before the leaves appear, ought to catch the pest as it begins its summer's work.

### Grafting the Walnut.

To the Editor: We have a walnut tree which we are told is a California black walnut. It bears well, but we do not like the nuts as well as English walnuts, and would like to graft it. It is not more than nine years old, and is about four inches in diameter at the ground. Should the tree be cut to the ground and the new shoots budded or grafted or should the limbs be cut off and grafted?—Enquirer, Fair Oaks.

You have certainly been asleep in church, for the PACIFIC RURAL PRESS has been preaching on that subject almost weekly for a couple of years. Look up the issues of May 9 and September 5 for specific instructions on grafting and budding the walnut. Do not cut the tree to the ground; work on the stem high up, or on the branches.

## CALIFORNIA FRUITS: FOURTH EDITION.

The publishers of "California Fruits," by Prof. Wickson, have to announce an increase in price of the Fourth Edition, which is now ready to distribute. The book is much larger than expected, because of the great increase in contents which the author found desirable, and because of the multiplication of striking and significant engravings which the publishers thought the enriched and extended text demanded to fitly assist the grower in his work and to represent the present notable expansion of the industry. The new edition has a page one-third larger than its predecessors, and the illustrations are increased four fold, including a multitude of full-page plates, some in colors, all of which make it imperative that the price be advanced to \$3 per copy, to cover the increased cost of the work.



## Horticulture.

### THE TRUTH ABOUT AUSTRALIAN APPLES.

To the Editor: Many Australian readers of your paper will, like myself, have a good smile at the article in the July 4 issue of the *Pacific Rural Press*, in which a Mr. Wagner gives his ideas of Australian apple growers.

It is a pity to spoil Mr. Wagner's romantic story, but when we read such statements as "the apple crop of Australia had been an almost total failure," and "It is reported that the Australian apple crop will be a failure again, and that farmers in that country are coming to the conclusion that Australia is not a good apple country," we wonder whether Mr. Wagner kept his ears and eyes shut when he honored us with his recent visit. I shall be glad, in view of the above statements, if you can find room in your columns for the following facts about the apple industry in Australia.

Very large tracts of Australia are eminently adapted to the production of apples, as well as other fruits, and though, like California, we have our years of short crop as well as years of full crop, still Australia is a big place, and when the State of Victoria is relatively short of apples, as was the case last year, South Australia and Tasmania can make up the deficiency. Instead of our growers recognizing that our conditions are not favorable to apples, they are, as a result of 50 years experience, extending their plantations. It is safe to say that apple trees are being planted by the hundred thousand, and the nurserymen have difficulty in meeting the demand.

It is estimated that there are 50,000 acres under apples in Australia, and of this area 20,000 acres has been planted during the past six years. This does not look as though we were giving up apple growing. Instead of producing a poor crop last year, our total output reached 3,000,000 bushels (40 lb. per bushel). Not only is this sufficient for local consumption, but we have worked up a large export trade with Europe. Our exports to Europe during the past four years have been 475,000 bushels, 380,000 bushels, 658,000 bushels, and 681,000 bushels, respectively. The figures for 1907 show an increase of 40% over those of 1905; not bad, surely, for a country that, according to Mr. Wagner, "will be forced to import the bulk of its supply of apples every year."

It is true that, here, as elsewhere, just between the time our old season fruit is done and the new fruit is in, there is a limited market for American apples in some of the larger cities. I hope Mr. Wagner is able to sell his 40,000 boxes, but if his story induces a few others to send along some thousands of cases, I fancy he and they will moderate their views of the future of the export trade with Australia.

Trusting that you will be able to publish these facts about the Australian apple industry.

W. L. SUMMERS.

Secy. South Australian Fruit Growers' Ass'n.  
Coromandel Valley, September 19.

[Fortunately, the remark to which our correspondent takes exception was not written by a Californian, but was a report which a Washington grower, who is interested in shipping apples, made after visiting that country, of which he probably only saw a part, and evidently the wrong part. We are of course glad to print the foregoing correction. EDITOR.]

### ENTOMOLOGICAL CONFERENCE AT UNIVERSITY FARM.

As a part of the horticultural and viticultural short course which is now in progress on the University farm at Davis, there will be an entomological conference which will be very interesting to all who are studying and working with plant protection and protection of plant growers also. The programme is as follows:

Tuesday evening, November 17 at 7:30.—The Research Stations for Entomological Work, Prof. H. J. Quayle. The County Entomologist as a Phase of University Activity, Mr. E. L. Morris. The Proposed Building for Horticulture and En-

tomology, Prof. W. T. Clarke. Need of Work in Veterinary Entomology, Prof. W. B. Herms.

Wednesday, November 18, at 9:00 a. m.—The Study of Household Insects, Miss C. A. Healy. Medical Entomology, Mr. M. B. Mitzmain. A State Mosquito Campaign, Mr. J. S. Hunter. Insects in Plant Pathology, Mr. W. B. Parker. The University Farm Apiary, Mr. R. Benton.

Wednesday, November 18, at 1:00 p. m.—Entomological Instruction on the University Farm, Mr. W. H. Volek. An Insect Collection for the University Farm, Mr. Chas. Fuchs. The Phylloxera, Mr. Butler. The Aims of the Entomological Department: Its Past and Future Work, Professor Woodworth.

### LIPPIC CONQUERS MORNING GLORY.

To the Editor: About a year and a half ago we contributed to your columns a paragraph entitled "Lippia Versus Morning Glory." It was a brief account of our experience with a lippia lawn planted alongside a natural lawn of wild morning glory, and described the advance of lippia into its neighbor's territory, the smothering out of the dreaded weed, and its final eradication from ground where it had been established for years.

This proved that lippia planted adjacent to morning glory would crowd it out where the two met. But this process of encroachment was necessarily slow, and the important point was whether lippia could be planted right in the midst of a morning glory bed and be similarly successful in triumphing over its formidable antagonist.

Accordingly we made the trial. A year ago last spring, about the first of March, we hoed up the ground over our worst morning glory patch, cultivating four inches deep. The lippia roots were planted in the usual manner, and then were left to their fate, the patch never having been cultivated or watered since the day of planting.

A month later the morning glory appeared in its usual profusion, covering the ground with a mat of verdure four inches deep for the entire season. Casual search failed to reveal any traces of lippia, and we felt certain that it had been knocked out in the first round. The first frost, however, brought a curious revelation. Beneath the brown tracery of the dead morning glory stems peered little green patches of lippia, scattering but well rooted and determined looking. They had got a foothold and looked as if they were there to stay.

We were much impressed by this exhibition of endurance under genuine difficulties, and awaited with interest what the second season would bring forth. In the spring the morning glory appeared much as usual, and again covered the ground. But during the summer it was manifest something was going wrong. It grew thin in patches, and through these openings long lippia runners thrust themselves to the light and elbowed the weedy pest to one side.

When the frosts came it was seen that the lippia plants had quadrupled in size, and now covered a considerable portion of the ground. This is as far as our experiment has progressed, but it seems almost certain that another season's growth will leave the lippia in undisturbed possession of the field.

Now does all this have any practical bearing on the problem of getting rid of morning glory in our fields? Simply this. Where morning glory has gotten into lawns or gardens, and extermination by constant deep cultivation is impractical or undesirable, it seems probable that the planting of lippia will rid the ground of it in time. The length of time will, we believe, depend on the care given the lippia roots, and it seems possible that if the morning glory were kept hoed out and the lippia watered, it might dispose of the weed in a single season.

It would seem indeed that a plant capable of crowding out morning glory must be even a worse pest, but this is not the case. Lippia is eradicated from the ground with the greatest ease. It does not seed and cannot sprout from the roots after the crown has been removed, so that one good hoeing will kill it completely.

JOHN SWETT & SON.

Martinez.

[This will be welcome to many morning glory sufferers. The course suggested of clearing out the plant ought to be widely tried.—EDITOR.]

## Citrus Fruits.

### THE ORANGE GROWER'S TROUBLES.

#### Pruning.

Written for the *Pacific Rural Press*  
By THOMAS C. WALLACE.

There has been a sort of tacit belief among growers that the orange tree does not need pruning, except to remove dead wood which scratches fruit. That this is a mistaken conclusion cannot be too strongly urged, but that there is a basis for it must be admitted and may be explained. In most plants, and practically all the higher types, growth results in the production and formation of adult parts, or fully matured material, and the embryonic character of the cells is lost as a result of the development of tissue or organs incapable of reproduction. Embryonic cells (by which is meant rudimentary cells containing the germ of reproduction), do not have the strength to give rigidity necessary for most plants, and particularly trees bearing fruit or subjected to wind or snow storms, and hence the necessity for the change or development into stronger wood. When the amount of embryonic cells preserved in such wood is much reduced or entirely lost in the new development, pruning becomes a necessary cultural operation, partly to remove useless wood and partly to allow of the concentration of the energy of the plant in the development of such preserved embryonic cells as the remaining wood may have. As new cells are constantly forming in the tree, actively growing old cells die, until the plant stem becomes a fixed carrier of water from the soil to the growing parts. Here we arrive at the theoretical point upon which is based the belief that the orange tree does not need pruning, as all other fruit trees do, in that it is an evergreen and never actually dormant, so that the embryonic character of its wood does not die out.

**Practical Cultural Necessity.**—The non-pruning theory does not hold good in practice, or rather, it is not suited to the orange as a commercial proposition, as, while it may be sufficient for the continuance of the life of the tree, it will not keep it in full fruiting. The accumulation in the tree of wood which has lost its reproducing power makes pruning a necessary cultural procedure, if the fruit bearing is to be kept up to an economical standard, and no amount of fertilizing will continuously take the place of pruning.

The object of pruning a tree seems usually lost sight of in the contention for methods of pruning. The principal reasons for pruning are: Firstly, to remove wood which has lost its power of reproduction; secondly, because of an over-growth of wood or an accumulation of dead cell wood; thirdly, for the purpose of shaping a tree to bear its load of fruit and make room for the sprouting of new wood. To this may be added the letting in of light and air to the inner foliage. If the orange tree is kept fully supplied with water throughout the year, it will keep up a condition of wood which will reproduce actively for many years, while its power of fruit production will be measured by the climate and food supply. There is, however, sure to come a time when, even under such steady moisture supply, the balance of non-producing wood will become a handicap to reproduction. In some of the old orange growing countries this is so recognized, and about every twenty years the trees are cut down to a low stump, from which shoots come up all around like a hollow bush. The length of time a tree may continue to produce fully can be prolonged by rich feeding with plant food, though at great expense, but even this has its limit, which comes when the amount of non-productive wood demands such an enormous supply of water that the roots cannot keep pace with the demand. Again, this can be partially remedied by removing half the trees in the orchard, to allow of the free spread of the roots of the remaining trees to balance the great tops of wood and deliver the needed amount of water and food required to meet the strain.

**Practical Methods Discussed.**—But it is not possibilities we are seeking, but practical methods for commercial fruit production. Hence the practical necessity of pruning to eliminate all excess wood



so as to utilize to the best advantage the water and food in conjunction with the producing power of the tree. In the great majority of orchards there are often times when such a considerable area of the tree roots are practically in dry soil that the branches and trunk are not fully supplied with water, and in consequence such a large amount of the wood goes out of active commission that the tree's power of reproduction is lessened in due proportion. This occurs, not only many times in the life of the tree, but several times each year. Theoretically, clever pruning would keep the amount of wood in balance with the water and food supply, but practically it is but begging the question, as, unless the available water for irrigation is short of the necessity, no want of moisture should occur if correct methods of irrigation and cultivation are practiced. But, as intimated, there must come a time when either the wood must be reduced or the space for rooting extended. Many orchards show this condition, and the rational plan of correcting it is by wise pruning. The method of pruning must take into consideration the shaping of the tree to have the limbs trained to meet the strain of fruit weight, and to allow of the proper airing and lighting of the interior foliage. The best study of this shows that the limbs retained should be those showing strong and direct trunk or main branch connection, and long limbs with auxiliary branching at the ends are to be avoided, as in such case the leverage is so great that the limb is apt to be pulled from the trunk or main limb. It is better to encourage more limbs from the main than to have a few so overloaded that props only will save them. What is known as the inside, or centre of the tree, should be kept free and open to allow the light and air to penetrate, and to prevent crowding, making a modified inverted bell shape of the tree. The sides of the tree should not be trimmed, except to maintain symmetry and to lop off excessive end branching. A canopy or thick top should not be allowed to grow to exclude the downward rays of light from reaching into the tree. The circulation of air should be perpendicularly through the tree—not laterally through it. It is, of course, not to be supposed that the inside and top of the tree shall be free of foliage, but it should not be allowed to become dense, so as to impede the circulation of air or the downward slanting rays of the sun, and in practice it is found that in a healthy tree there is always with this method of pruning sufficient overhanging foliage to protect the trunk and inside fruit from cold and sunburn.

**The Merits of the Method.**—The principal object sought by this method of pruning, apart from the culling out of surplus wood, is the producing of inside fruit, which is usually the most valuable production of the tree, because, being protected from wind and climatic variations, the proportion of fancy pack is enhanced. In taking the surplus wood from the tree, care should be used to cut back close to trunk or main branch wood, and general trimming should be avoided, as it removes active fruit wood and encourages the development of wood of lessening vitality. Where pruning has been neglected, and it is desired to adopt the method here set forth, it must be followed by a full and careful suckering, as with the opening of the centre of the tree there will be a quite lively sucker growth, which will need attention, partly because it results in misdirected circulation of sap, and as well because it would soon choke up the air circulation and thus defeat the plan. Do not fear the density of the sides of the tree, and watch your pruners carefully to prevent and thinning of the side foliage. In the mature trees in most of the orchards coming under our observation the saw is the principal pruning tool required, and fence poles and cordwood is not a strained description of the cuttings to be removed. It is not intended that growers shall take from this the impression that simple pruning, no matter how well done, will correct the non-fruiting condition of their trees without due attention being paid to the all-important matters of cultivation, irrigation, and even fertilizing, but it is one of the essentials, and a most important one, to the continued production of oranges on a practical business basis. It does not seem material at this time to discuss the difference in fruiting longevity of the seedling and budded varieties, or even of the Valencia as against the Navel buds, because it seems in the best interest of the industry that a

method of pruning embracing the principles involved should become general practice in all varieties of oranges grown in California, and we feel assured that it requires but the earnest attention of the grower to develop such modifications as are advisable for the variety under his control.

This series of articles, which has occupied the Citrus space of this paper for the past four weeks, set out to show some reasons for the shy bearing of mature orange orchards as they came under the observation of the writer, and while we may not have hit all the causes of the trouble, there has been shown enough to warrant the assertion that they embrace the main points within the power of the grower to correct. All the causes do not exist on all the shy bearing orchards, but while overlooking hundreds of such orchards, not one has been found that does not show at least two of the complaints, and it is submitted as sufficient reason for the shy bearing when taken in conjunction with the climatic happenings. An attempt has been made to follow the causes with suggested methods of relief by pointing out the weak points in the methods which have conducted to the conditions, and incidentally discussing ways and means of correcting and preventing recurrence of the troubles. There are undoubtedly details which can be more minutely gone into, and as such present themselves they will have attention, if it is only to say that they are beyond our practical knowledge, as it is the desire and intention of this department to candidly show up all matter pertaining to citrus culture, with a view to arriving at the best method for practical work.

The Field.

AMERICAN BEET SUGAR IN 1907.

By WALTER J. BALLARD.

The growth of the American beet-sugar industry in the last six years is evidenced by the following figures of annual production, as stated in the latest Year Book of the Department of Agriculture:

Year.	Production, pounds.
1901 .....	369,211,733
1902 .....	436,811,685
1903 .....	481,209,087
1904 .....	484,226,430
1905 .....	625,841,228
1906 .....	967,224,000
1907 .....	927,256,430

The factories in operation increased from 36 in 1901 to 63 in 1907, and the area harvested rose from 175,083 acres to 370,984 acres.

The 1907 production by States was:

State.	Acres harvested.	Production, pounds.
Colorado .....	127,678	338,573,000
Michigan .....	38,334	169,452,000
California .....	47,387	146,045,500
Utah .....	28,663	88,973,500
Idaho .....	25,938	75,928,200
Wisconsin .....	11,837	30,320,000
Ten other State, one factory each .....	41,147	77,964,230
Totals .....	370,984	927,256,430

The average yield of beets per acre was 10.16 tons, and ranged from 7.98 for Michigan to 12.32 for Utah. Colorado's average was 11.93, and California's 10.37.

The beets worked ranged from 1,685,689 tons in 1901 to 3,767,871 tons in 1907.

It was not till 1888 that the beet-sugar industry in the United States had advanced beyond experiment or been given prominence, consequently the results shown above are really remarkable. From 1879 to 1887 only about 560 short tons were made yearly; in 1891 the quantity was 6000 tons; in 1892, 13,460 tons; in 1893, 22,344 tons; in 1897, 45,246 tons; in 1899, 81,729 tons, and from 1901 to 1907, as above stated.

As an acquisition to agriculture much may be said in favor of growing sugar beets for the factory. Tillage must be of the best, and the soil fertile. The pulp of the beets after the extraction of the sugar, is relished by live stock. The crop is grown under factory contract conditions, and

the farmer knows upon what he may depend for profit.

Beet-sugar factories occupy a belt across the continent in the sugar-beet zone, and a belt from Washington to Arizona along the Pacific Coast. From the easternmost factory, in western New York, they extend through Ohio, Michigan, Illinois, Wisconsin, Minnesota, Kansas, Nebraska, Montana, Colorado, Utah, and Idaho, and from eastern Washington through Oregon and California to southern California and Arizona.

The 63 factories of 1907, in 16 States, have a capacity of working 49,500 tons of beets daily. In the Western States this crop has so well established itself and the growing of sugar beets has proved to be so remunerative that sugar-beet farms of the medium sort increased in value \$42.49 per acre from 1900 to 1905, as determined by special investigation by the Department of Agriculture, or from \$99.47 per acre in 1900 to \$141.96 in 1905.

Forestry.

DO FORESTS HOLD WATER?

This seems to most people a question with no negative, but Mr. Clarence T. Johnson, a prominent Colorado irrigation expert and engineer, seems to have his doubts, and expresses them through the Denver Field and Farm. Some readers may like to compare his observations with their own. He writes:

I have studied the question of the effect of forests on the run-off of streams for more than 20 years, and have made measurements for the purpose of demonstrating whether or not the theory has any foundation in fact. I have conversed with those who have made similar investigations, and particularly with people who have been living within forest areas. It was found several years ago that the forestry bureau needed a recognition of the theory, in order that it might obtain support where late water is required for irrigation. Although the officers of the bureau are scientific men, yet when it comes to an appeal to public sentiment they do not hesitate to indorse any theory which will gain support, regardless of the scarcity of scientific data which might establish the value of the same.

It is my opinion that the people at large have heard this theory stated so often as a fact that it is now seldom questioned. I have made inquiries in every possible direction for some scientific information which will bear out the theory. The bureaus at Washington have been called upon, and to date not a single fact has been presented which in any way sustains it. The so-called arguments set forth in the Use Book are the stock-in-trade phrases of those who need the theory and are willing and anxious to lead the people to support it without giving reliable reasons for so doing. I do not deny that forests have an influence on the flow of streams in certain localities.

We do know that it requires a large volume of water to support a forest, and the water taken up by the trees is all dissipated in the air. The water belongs to the people. Why should the State not charge the Government for the water needed to support the forests? Any man desiring to satisfy himself relative to actual conditions should camp in our mountain ranges during a spring and summer season.

The observer will be able to satisfy himself that no snow remains in the forested areas after the first of August, and that no water of sufficient volume to be measured comes from such areas after that date. They will find further that practically all of the late waters come from regions above timber line. Trees break the winds, and the snow which falls lies in a blanket. It evaporates from the branches of the trees with the return of warm weather, and melts on the ground, and the water runs away in a single week or two, causing our high and dangerous waters. Vegetation has but little chance to grow where the rock is constantly disintegrating and where the water percolates rapidly into the ground. On the barren slopes the wind has an unbroken sweep and great drifts are deposited. These drifts melt slowly and furnish much of the late water, whether located above or below timber line.



# TREES

SEASON 1908-9.

## ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of **DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES** is more complete and better than ever.

We are sole propagators and disseminators of **LUTHER BURBANK'S NEW CREATIONS**. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

### SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, USA

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

**LEONARD COATES NURSERY CO., Inc.**  
ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

### CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
**J. B. WAGNER, Pasadena, Cal.**  
The Rhubarb and Berry Specialist. Dept. 1.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

English farmers have formed a combine to force up the price of apples this season.

Some of the smaller grades of prunes are being sold at Hollister on a 3-cent basis.

The grape shipments from Lodi will be about 50 cars more this season than last, when they were 1050.

The prune growers of the Geyserville district have formed an organization to prepare and market their crop.

The prune rust and red spider are doing some damage to prune trees in the San Juan valley, San Benito county.

The Cuban orange crop is reported as being the largest in the history of the island, amounting to fully 500 crates.

The apple crop of the Yakima valley, Washington, is reported to be enormous this season, and of an exceptionally high grade.

The L. H. McIntosh ranch of 3000 acres near St. John, Butte county, is to be cut up into small tracts and planted to grapes by Italians.

In spite of the freeze last spring in the Yucaipa valley and Oak Glen districts, these sections will produce over twelve tons of apples this season.

It is anticipated that the grape growers of Kings county, holding raisins to the amount of about 3,000 tons, will go into the raisin pool very generally.

The wine grapes have all been gathered in Napa county, and had it not been for the second crop in many places, the vintage would not have been one-half as large as that of last year.

John P. Onstott last week purchased 165 acres near Sutter City, which he will plant to grapes. Mr. Onstott is already one of the largest growers of Thompson Seedless grapes in the State.

The Porterville Association is running a full crew of over 100 men at its packing-house getting out holiday fruit. The normal output of this house is about ten cars per day during the season.

The work of fumigating the orange trees at Tulare has been completed and the Horticultural Commission figures that it costs an average of \$1.40 per tree for the 427 trees affected with scale.

Over 100 cars of oranges were shipped from the Lindsay district last week. The crop is reported as being below the average in size, but the increased acreage will result in greater shipments than last year.

The oldest olive grove in the State, located in San Diego county, is still bearing, and the fruit is used in the manufacture of olive oil. The grove consists of seven acres, and was planted by Father Junipero Serra, 139 years ago.

Last week at Lodi the rush of delivering grapes to the wineries was so great that teams stood in line for hours waiting their turn to weigh. The near approach of the close of the season made the growers rush in their fruit.

J. A. Weist has planted five acres to the pistachio nut at his ranch near Brawley, in the Imperial valley. These trees grow only in special sections, and the nuts sell for high prices to confectioners. Mr. Weist expects to plant 160 acres to date palms next spring.

The San Jose Mercury tells of a fine yield of apples raised by W. H. Hannibal near there this season. His Danvers yielded 1400 boxes per acre, White Pearmain 1500, Bellflower 1200, and early apples 1000. One White Pearmain tree bore 40 boxes. The trees are ten years old.

At a meeting of the San Jose Grange No. 10 last Saturday, Earle Morris, county entomologist, said that the peach blight has not been very serious this year, but it is here, and if the climatic conditions are right, it will appear and do much damage, and recommended spraying before the middle of December.

R. W. Skinner has rented the Fredonia orchard, which embraces over 400 acres of the best bottom lands, all planted to fruit, on the Feather river, near Gridley. Mr. Skinner has had other orchards in that vicinity under lease several years, and during the past season has shipped over seventy cars of fruit, and with the large acreage just added expects to ship double that number of cars next year.

In a circular issued last week by the California Canneries Co. the statement is made that canned apricots are on the rise,

many grades having been entirely cleaned up, and that those who did not get their orders in early are likely to be left. The circular further states that, apart from canned fruits, the shipments of green fruits this season will amount to fully \$15,000,000.

Representatives of the citrus fruit industry of California left this week for Washington to take up the fight to maintain the tariff on oranges and lemons. The representatives were named at a meeting of the executive committee of the Citrus Protective League. They are B. A. Woodford, manager of the California Fruit Growers' Exchange; C. C. Teague, of Santa Paula, one of the chief lemon growers of the State; C. C. Chapman, of Fullerton; A. F. Call, of Corona, and A. G. Kendall, secretary of the Citrus Protective League. On Wednesday of next week this committee will appear before the Ways and Means committee of the lower house of Congress to present the cause of the citrus growers in the matter of tariff revision.

A representative of the J. W. Chilton Packing Co. recently gave the Mercury of San Jose the following statement of the prune situation: "On summing up the 1908 crop of prunes on hand in California at this date, we find the amount to be astonishingly small. The estimate made by both growers and packers at the present date is 375 cars in Santa Clara valley, San Joaquin and Sacramento valleys, 50 cars; Sonoma district, 50 cars; other sections, 25 cars, making a total in round figures of 500 cars. When this amount is distributed to the European trade and among 2,000 jobbers of the United States there will be very little fruit left for each individual buyer. Considering the amount of prunes now held in California, there is no reason why they should not be selling for at least 1 cent per pound above the quotations of today."

### AGRICULTURE.

The potato crop of Michigan will reach the 20,000,000 bushel mark this year.

The corn crop of Mexico is reported to be above the average, in spite of some damage done by early frosts.

E. Wickman, who has a large farm near Biggs, states that his wheat crop from 300 acres sold for \$6370. The cost of seeding, plowing and harvesting was about \$1500.

W. J. Ford, of Lomo, Sutter county, harvested from 40 acres 1200 sacks of beans. Considering the fact that the crop was planted late, the yield is considered exceptionally good.

The hay dealers of San Francisco send out an announcement that California is facing a hay famine. The average price of hay in this State at this time of year is from \$15 to \$18 a ton, while the present price ranges upward to \$22 per ton.

Two acres of broomcorn were raised this season as an experiment near Tehama, by I. B. Ashbruuk, which produced about 10 tons to the acre. As compared

## IMPROVED BERRY PLANTS BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalog tells the rest.

**G. H. HOPKINS & SON**  
BURBANK, CAL.

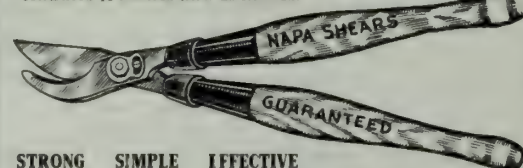
## CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.  
Walnuts grafted on Black Walnut Root. Small Fruits, Shrubs, Plants, Roses, Palms, etc. CATALOGUES FREE.

**CHICO NURSERY COMPANY**  
Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## Napa Clean Cutting Pruning Shears

Handles 15 inches and 22 inches.



STRONG SIMPLE EFFECTIVE

MADE FOR PRACTICAL USE IN PACIFIC COAST ORCHARDS.

If you cannot secure Napa Shears from your local hardware dealer, send your order to us. Price \$2.50, express prepaid.

**CALIFORNIA SUPPLY CO.**  
288 Market St.,  
San Francisco, Cal.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
EKSTEIN & EKSTEIN, Modesto Euc. Nursery, Modesto, Cal.  
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.



More Money For You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

**BEAN SPRAY PUMP CO.**  
211 West Julian Street  
San Jose, Cal.

## 300,000 BERRY PLANTS

Trees, Roses, Oranges Lemons, Etc., Etc., Etc.

Send for Catalogue, now ready.

**A. MITTING, SANTA CRUZ, CALIFORNIA.**  
Lock Box 380.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

**FOWLER NURSERY CO.,**  
Fowler, Cal.



with the Eastern broomcorn, the California product is reported superior.

Horst Bros. of Wheatland, report receiving an order to ship 2000 bales of hops to England. It seems that rains have ruined part of the English crop, leaving a big demand for California hops.

Experiments are being carried on in tobacco growing at J. C. Aikens' ranch near Gilroy, by A. H. Rice, a grower from Connecticut. Five varieties are being tested, both under canvass and in the open. Connecticut Havana has proved superior, the test plot yielding at the rate of about 1600 pounds to the acre, a large per cent of which, it is claimed, will make a good grade of wrapper. The Cuban variety comes next, with only about one-half of the yield of the Connecticut Havana. Without the canvas shades all the varieties made a thick heavy growth of poor quality, but this expense is much lighter in this State, as the cloth will last two or three seasons in California to one in the East.

#### LIVE STOCK.

The creamery at Laton is shipping about seven tons of butter each week.

Fresno county is reported to have produced 25 carloads of extracted honey the past season.

Chas. H. Bailey has gone into the dairy business at this ranch, north of Lemoore, having purchased a fine dairy herd.

The first shipment of hogs from Klamath Basin, Ore, consisting of two cars, was made last week. The price received was 4½ cents gross.

A disastrous fire occurred at the Cook ranch near Woodland last week, in which 22 head of stock were burned, besides several buildings destroyed.

A new creamery is to be built at Buckeye, Arizona. An ice factory is also to be run in connection, which is to be completed before next summer.

Stock men in the Imperial valley are increasing their quantity as well as quality of hogs. The present high prices and the cheap feed produced there from alfalfa and Kaffir corn makes the industry profitable.

The first full carload of eggs ever shipped from Marysville left there for San Francisco this week. The high price of eggs in the Bay cities caused by the scarcity over the State is the reason for the shipment of every available case of eggs by the farmers at this time.

The big crop of acorns in the upper San Joaquin valley is causing much trouble to the sheep men, the acorns being so plentiful that the sheep over-eat, causing a bloat and killing many. In one herd over 100 head were lost in this way, and the balance were saved by corraling them and feeding them heavily with salt for twenty-four hours.

The several poultry marketing associations located at Petaluma, Santa Rosa, Hollister, Hayward, and Fresno, are talking of forming a State association to control the marketing of eggs, the subject being discussed at the meeting of the Petaluma association last Saturday. In this connection it is proposed that at the coming poultry show to be held at Petaluma a big meeting of poultry raisers from all parts of the State be held to discuss the problem.

#### MISCELLANEOUS.

Last week 5780 gallons of honey was shipped from Laton.

A new rural telephone, with ten charter members, is being built from Hollister south.

All the streams in Siskiyou county are reported to be flowing full since the two days rain which fell there last week.

The Watsonville Y. M. C. A. is planning a \$35,000 home, of which 75 per cent is expected to be contributed by the farmers.

The National Grange, P. of H., met at Washington city in forty-second annual convention last Wednesday. Three thousand delegates, from 30 States, were present.

The Chamber of Commerce at Fresno has had statistics prepared to present to the Ways and Means committee at Washington and are prepared to make a fight to uphold the tariff on the raisin industry in this country.

Work on the drainage ditch of the Yuba City canal has been progressing rapidly, and about ten miles of the excavation made. So far all the work has been done by teams and scrapers, but should early rains set in, a dredge machine will be used.

A storage reservoir is being built on

the San Benito river, above Paicines, to impound the flood-waters, which it is hoped will furnish water enough to almost double the irrigated area, and at the same time furnish more water for the old customers. At present there are about 4000 acres under irrigation, mostly near Hollister.

The Santa Ana Valley Irrigation Co. will vote on the proposition, on January 21, of raising its capital stock from \$100,000 to \$500,000. The extra money is needed to develop water in the Santa Ana canyon, in connection with the Anaheim Union Water Co. These two concerns furnish water to irrigate 30,000 acres in Orange county.

The Round Land Valley & Power Co., of Reno, Nevada, has made a contract for the installation of a big electric plant, to be installed at Greenville, where a fall of 900 feet of water can be used for generating 2000 horse-power of electric current. It is proposed to sell this power to the small farmers in Plumas county, California, to pump water to irrigate their land.

A land deal, which will mean much to the upper Sacramento valley was consummated last week, when J. W. Browning of Sutter county sold a tract of land containing 9880 acres, near the Sutter basin, west of Marysville, to an Eastern syndicate. The land has been used as a cattle range and hunting preserve, but the new owners intend to reclaim the land and put it on the market.

The horticultural and agricultural lecture train is touring the Sacramento valley this week, and will continue until 25 of the principal towns have been visited. Nineteen lecturers and demonstrators accompany the train, and also traffic representatives of the Southern Pacific, which company is standing all the expenses. Quarantine laws, demonstration in pruning fruit trees, how to double the yield of wheat, diseases of cattle, how to prevent and cure, are subjects being discussed.

Programs have been arranged for Farmers' Institutes at the following places: Rosedale, Kern county, Nov. 16, 17; Panama, Kern county, Nov. 18; Wasco, Nov. 19; Lancaster, Nov. 21; Hemet, Nov. 30, Dec. 1; Beaumont, Dec. 2; Banning, Dec. 3; Thermal, Dec. 4, 5; Holtville, Dec. 7; El Centro, Dec. 8, 9; Imperial, Dec. 10; Brawley, Dec. 11. Formal opening of the Heber Collegiate Institute will take place on December 8, and the evening session of the Farmers' Institute of that date will be devoted to the interests of that institution.

#### A FARMER

#### UP TO DATE AND A HUSTLER

wants place as foreman or superintendent. Is thorough in general farming, irrigation, vine and deciduous fruit growing. Experienced in working all kinds of labor, both tenant and wage systems. Address Box 37, PACIFIC RURAL PRESS.

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.  
HANDSOMELY ILLUSTRATED

Price \$3 per copy, postpaid.

READY FOR NOVEMBER DELIVERY.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO  
**PACIFIC RURAL PRESS, Publisher,**  
667 HOWARD STREET,  
San Francisco, Cal.

## MILL

TO

## MAN

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



Importers of

Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

**Hawaiian Fertilizer Company, Ltd.**

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

## IT'S FREE

## BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

**CALIFORNIA FERTILIZER WORKS**

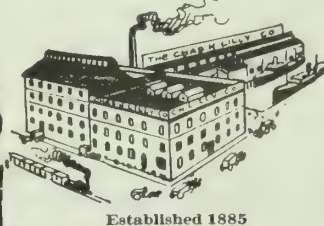
OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## SOW GOOD SEEDS

Largest Seed House in the West

**Lilly's  
BEST  
SEEDS**



Established 1885

Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.

## SEED

## TREES PLANTS BULBS

If you are interested in the **best seed**, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you **Free**.

**Trumbull Seed Company**

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - San Francisco.

Please mention this paper.

Plants

**SEEDS  
BULBS**

Trees

**WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS**

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of **Alfalfa, Clovers, and Grasses** are requested to write us before planting.

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

44 Jackson St. Also Market St. San Francisco, Cal.





## Fruit Marketing.

### FRESNO RAISIN MEETING.

To the Editor: A basis of four cents as a minimum for loose muscatels was established at a mass meeting of growers here today to complete pooling agreements. For the past month an active canvass has been made to secure signers to a contract in which the crop is entrusted to a selling committee from the growers.

Saturday meetings of increasing interest have been called, and at the third of the series here the hall was filled in the morning and packed at the afternoon session. Previous to the formal opening many signed, and it was soon evident that the movement would be successful. The chairman said, in calling the meeting to order, that there was every indication of success, and when an announcement was made that the Kearney estate, with 700 tons, had come in, followed by reports of canvassing committees throughout Fresno and Kings counties, little except the shouting remained.

A conservative grower advised that four cents and no more be established for muscatels. Mrs. V. A. Mowat said that an Eastern jobber in a letter had reported a shortage of the New York supply to fill immediate orders to the amount of 1800 cases, and that a few were sold at 6 cents. A sale by a needy grower of 50 tons at 2 3/4 cents has had a bad effect on the local market. Eastern supply is unequal to the demand.

In closing the morning session the chairman said there were about 25 growers present who had not signed, therefore 15 minutes would be given for that purpose and in hearing reasons against. An advance of dealers' offer to 3 1/2 cents was reported as a result of growers' movement, 2 1/2 cents being the previous offer.

**AFTERNOON SESSION.**—At the opening of afternoon session Chairman Fairweather requested a showing of hands from those who had not signed, 12 responding.

S. L. Heisinger, of Selma Fruit Co., a large grower, explained his position. In 1907 Selma growers formed a local pool. Price then was 4 1/2 cents for 1000 to 1200 tons; went to 5, 5 1/2 and 6 cents, settling finally at 5 1/2 cents, and local buyer lost money; then proposed combination to protect interests. This was done, seeding right purchased with necessary plant, and this situation exists, larger growers having investments and being interested in enlarging their business. He advocates ownership of packing houses by growers, as proposed by the late P. A. Kearney. Audience cheered this suggestion and the memory of Mr. Kearney. The speaker reported that his Selma concern has had more raisin inquiry in the last few days than for a month, as a result of the pooling agreement, which he heartily approves. He advised growers to include outside districts and to control the situation.

Colonel Forsyth stated that he had originally owned the seeding process, for which he never received a dollar. It was afterward offered the Growers' Association for \$50,000. Why did they not assert their manhood and act independently of one or two men directing affairs against the producers? He advised that later the growers take steps to own packing-houses.

S. N. Griffith, on invitation, then became the central figure of the afternoon, creating an enthusiasm in the packed hall that was irresistible. He has found that success comes from the optimistic view. Everything needs protection, and the farmer expects it from the National Government. Raisin growers are too rich and don't appreciate what they have got. How will they continue to ride in autos

and drive fine horses unless they protect themselves? Come together and dealers will be compelled to accept prices made by growers. He asked how many had signed, and on finding that all but about 25 had done this, he urged these until they came forward, under the applause of the meeting, and added their names. He read the provisions of the pooling contract, as follows:

Grower agrees to place his raisins to be held and sold with others, as provided. That each class of raisins be sold in bulk, and all of these or none. That a committee of five be chosen, with full power to act in negotiating sale. That a minimum price be fixed in the sweat-box, loose muscatels at 4 cents, layers 4 1/2, Sultanas 3 1/2, Thompson's Seedless 4 cents. That in case of sale each grower will sign usual contract with buyers and committee be relieved. Said committee may call mass meeting at any time, and must on certain demands of growers.

Motion to fix Sultanas at 4 cents only, Sultana growers voting, was carried, several additional signatures being received.

On request the secretary stated that the estimated raisin crop was 20,000 tons in the valley, and that 17,000 tons could now be counted in the pool, including the Hanford district, and that the necessary 80 per cent for the growers' control was secured. The meeting adjourned for one week.

SAM'L E. WATSON.

Fresno, November 7.

### FURTHER DETAILS OF RAISIN POOL.

To the Editor: There was a mass meeting of raisin growers held in Fresno on November 7. About six hundred growers were present. Great enthusiasm and earnestness were shown, and at the close of the meeting almost every grower who had not previously signed his crop with the pool did so before leaving the hall. The Kearney estate crop was signed, also the crops of many other large growers, giving at least 75 per cent of the unsold portion of the 1908 crop into the raisin pool, to be sold by the committee selected for that purpose.

While we now have 75 per cent or better, we expect to have 85 per cent or more by next Saturday, thus giving the growers complete control of the raisins, and therefore of the market.

The various committee workers who have put in so much time and energy voluntarily toward forming this raisin pool, naturally feel elated over the success we have won. It is expected that the packers will come in and buy this block of raisins at no late date, as the Eastern markets are practically bare of raisins, and inquiries are coming in stronger every day.

The writer and Chairman J. Fairweather of Fresno were present at an enthusiastic meeting of raisin growers in Kings County on Thursday last. The growers of that county are forming a pool to co-operate and sell with the Fresno pool of raisins.

It is expected everything will be in readiness to sell the crop by next Saturday, possibly earlier.

While this pooling movement was started in order to maintain a fair price for this year's raisin crop, it will undoubtedly result in a permanent organization.

V. A. MOWAT.

Fresno, November 8.

### MODESTO NURSERY. Complete Line of Citrus and Deciduous TREES.

BERRIES, VINES AND ORNAMENTAL STOCK.  
Write for PRICES NOW.

SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

# TRUE TO NAME

—AND—

Propagated from the Best  
Specimens of Their Kind

TWO IMPORTANT FACTORS

# PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches  
Plums  
Pears

Apricots  
Almonds  
Cherries

Apples  
Persimmons  
Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

ORDER NOW

WRITE US

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

### TREES

### GRAPE VINES

### YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES,  
ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

### THE FRESNO NURSERY

F. H. Wilson, Proprietor, Fresno, Cal., Box 615.

## 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurseryman, Petaluma, Cal.

## SMYRNA PARK NURSERIES

Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

CAMPIN & MOFFET

Ceres, Cal.

## EUCALYPTUS

Large Assortment—All Varieties  
Hardy and Selected Rapid Growers  
Write for prices, giving amount wanted  
LEOYD R. TAYLOR, Modesto, Cal.



## YELLOW MONEY — AND — YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor  
SAN DIMAS, - - - CALIFORNIA

## RESISTANT GRAPE VINES

I am extensively engaged in the importing of resistant grape vines. I inform the parties intending to plant new vineyard that they have to send their order as soon as possible, so as to have the vines here before the first of February and to be sure to get the varieties wanted. My French grafted resistant vines are the best. They have stood the test. Ask any of the growers who have bought from me during the past seven years. I guarantee them to be of first quality, true to name as to the resistant stocks and variety of grapes. My vines are specially ordered to suit the climatic conditions of this State. Write me for further particulars and state variety desired.

F. B. VADON,  
Cloverdale, Sonoma Co., Cal.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

## SEED GRAIN BLACK and RED OATS, WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.  
BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited.

## Patrons of Husbandry.

### TULARE GRANGE MEETING.

To the Editor: The regular meeting of Tulare Grange was held in its hall on Saturday, the 7th of this month. There was a good attendance, and a class of five received the first and second degrees.

Under the head of new business the following preamble and resolutions were offered, and after much favorable discussion were passed:

Whereas, In its natural condition the delta of the Kaweah river grew on it a larger number of beautiful and magnificent groves of oak trees than grew on any body of land of like extent in California; and,

Whereas, The woodman's axe has destroyed all but a few of them, and all will soon be destroyed by the same cause unless action be taken by our Supervisors to preserve one grove, typical in all respects of the best that has grown therein, and at the same time central to our population; be it,

Resolved, By Tulare Grange No. 198, P. of H., California, we ask the Board of Supervisors of Tulare county to select and purchase a grove of oaks still growing on the delta of the Kaweah river which will be in all respects typical as to size, density and number of the many beautiful groves which grew thereon, and set the same apart for a park and recreation ground for the people, to be preserved by the county for such purposes, for the present and future generations.

Resolved, That such park should be large enough to include all of the best and most central, about 100 acres, now remaining.

Resolved, That our secretary send a copy of these resolutions to the Board of Supervisors.

Resolved, That this Grange of Patrons of Husbandry earnestly ask the co-operation of the several boards of trade and of the several commercial associations in, and of the citizens of the county, to aid us in getting the park we ask for, and in having it maintained for the objects and purposes specified.

The secretary having sent resolutions,

## Winegrowers, Take Notice

I am now receiving orders for

### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

## TREES STANISLAUS NURSERY

Formerly Anny Nursery, of Sebastopol.

T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

### EUCALYPTUS TREES

Eucalyptus Globulus (Blue Gum).  
Eucalyptus Rostrata } (Red Gum).  
Eucalyptus Viminalis }

MONTEREY CYPRESS.

Transplanted in flats 100 each.

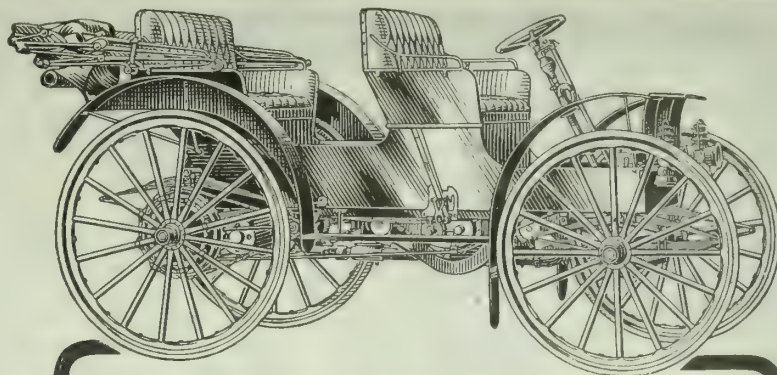
W. A. REINHOLDT  
Main Street Nursery, - - - Petaluma, Cal.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnock's Remedy cures blight and all the tree diseases. Send for booklet.

GOLDEN RULE NURSERIES  
Loomis, Cal.

AGENTS WANTED.



## I. H. C. AUTO BUGGY

The International Auto Buggy is a practical vehicle for service in every-day work, and pleasure as well. In design it is built like a buggy, and it is equipped with a powerful engine. It will travel in places where horses cannot go, and is so solidly built that use has but little effect upon the driving mechanism. It will climb steep hills and carry the heaviest kind of loads. For those who are obliged to travel over rough country roads the I. H. C. Auto Buggy has no equal. The wheels are equipped with solid rubber tires, in place of the pneumatic, thereby doing away with tire troubles and the expense attached thereto.

Write for catalog.

INTERNATIONAL HARVESTER COMPANY OF AMERICA  
453 MONADNOCK BLDG. (INCORPORATED.) SAN FRANCISCO, CAL.

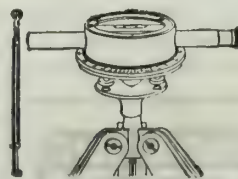
passed at a previous meeting of this Grange, advocating the present duties on imports of horticultural and viticultural products imported into the United States, to the several candidates for Congress, read a reply from the Hon. S. C. Smith, that he had received the resolutions, that he was fully in accord with the same, and if elected to Congress—he has been—he will endeavor to have the present duties maintained. No other candidate replied, and the Hon. Mr. Smith got the thanks of the Grange.

The secretary read a letter from Mr. Green, democratic nominee for the assembly in this district, and one from Mr. Wyllie, republican nominee for the same office, that if elected he would support a bill in the legislature, prepared by the State Grange, P. of H., enabling fraternal orders in California to insure property of their members against fire.

The Worthy Master appointed a committee of three on reception, and a committee of all the sisters in Tulare Grange, on decorations, on the visit of the agricultural exhibit and lecture train to this place.

In the Lecturer's hour the subject was, "How Best Can We Promote Membership in Our Grange?" It was generally thought that we should have more young people in it, more music and recitations, in which the young can engage. The efforts heretofore have been practical and utilitarian only. J. T.

## BOSTROM'S IMPROVED FARM LEVEL



Cheapest and  
Best Level yet  
Invented for  
Farm Use.

Used for Irrigation  
and Drainage Work

Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.

Price, Including Telescope Tripod and Target  
Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

## THE RETURN OF SAN FRANCISCO

With 16 pages of colored illustrations showing how San Francisco is rapidly moving down town again. By Earle Walcott, author of "Blind-folded."

## THE TALE OF THE SCARLET BUTTERFLIES

One of Beatrice Crimshaw's stories of Vaiti, that fascinating woman of the South Seas.

## MODERN FIJI

The commercial civilization of a lovely land, where the cannibal has become a tradition. By Oscar L. Triggs, late of the University of Chicago. Illustrated profusely with fine photographs.

## GAME BIRDS OF THE PACIFIC

A timely paper on the bay and sea ducks of this region. By H. T. Payne, former president of the California Game and Fish Protective Association.

## LIN McLEAN

Owen Wister's strong story of a Western cow-puncher.

## RUGBY, 1908

The game as it is on the Pacific Coast, with photographs of the captains of the California and Stanford fifteens. By Wm. Unmack.

## THE PEARL

A notable poem of the South Seas, by Henry Anderson Laffler.

POEMS and STORIES, all of the Far West and the lands of the Pacific.

## SUNSET MAGAZINE

November Now on Sale 15 Cents



## Live Stock and Dairy.

### THE BERKSHIRE HOG.

Though the old Berkshire supremacy in California has been largely cast down by Poland-China advancement during recent years, it is interesting to have a good account of Berkshire value and of Berkshire progressiveness. It comes from the distinguished authority of Prof. C. F. Curtiss, Dean of the Iowa Agricultural College, who was in California early in October, as our readers already know. We take the following from an

article in the Kansas Farmer by Professor Curtiss:

The Berkshires are not as strong in many sections of the Mississippi Valley as they should be. The corn belt has produced the lard type breeds that are strong candidates for public favor. Sometimes a history or a past record is a handicap. The Berkshire history is a history of progress. Yet there are many who remember the old-time Berkshire as a small, nervous, slow-maturing hog. This conception does the modern Berkshire an injustice. It is an old prejudice, hard to overcome. They have grown to be one of the largest of all of the modern breeds, and while active and good rustlers, their quiet, mild dispositions make them easy feeders, and they mature early. The modern demand for firmer meat of finer texture and quality, free from coarseness and excessive fat, makes the Berkshire a prime favorite with the butcher and packer. It is doubtful if any breed meets the general market demands in so high a degree. Other breeds have their distinctive points of excellence, but the Berkshire on the block stands in about the same relation to other breeds as the Angus cattle to the beef breeds and the Southdown sheep to the mutton breeds when put to the final test. A load of well-finished Berkshires almost invariably tops the market.

**CARLOADS OF MARKET-TOPPERS.**—There should be a more general and concerted effort on the part of Berkshire breeders to finish high-class barrows in carload lots for exhibition and for market-toppers. This is one of the surest roads to the popular fancy of the practical feeder. In the merits of the breed were as well known by the feeder as they are by the killer, Berkshires would be in greater demand.

While there is a marked tendency on the market toward smaller carcasses of beef, pork and mutton, the farmer still demands large hogs. But they must be easy feeders and capable of finishing at nine to ten months.

The breeder of pure-bred Berkshires should bear in mind the market demands and the demand of the feeder who raises hogs for market. No breed can ignore these considerations and hold its place in public favor.

**SIZE.**—The one outstanding demand on the part of the practical producer of all breeds is size—size not at the expense of quality, but size with quality if possible, and sometimes size regardless of quality. The practical breeder is also placing more emphasis on good feet than formerly. He has learned that good feet are essential to a profitable hog. The fancy points that are sometimes unduly emphasized by the pure-bred breeder are of little consequence to the feeder for the market. There should be a sound practical reason for every characteristic on which special emphasis is placed by the breeder.

**THE BLOCK.**—Smooth shoulders are desired because heavy, predominant shoulders produce a rough carcass with an excess of cheap meat. Straight, even side, top and bottom lines indicate feeding quality and freedom from soft flabby tissue in the carcass. Firm meat of fine fibre

and good texture are Berkshire characteristics.

The ultimate end of all breeds is the block, and the practical test is not the most pounds on the scales, but the highest amount of edible meat on the block, with the highest returns in net profit to the producer.

**FORM.**—The ear is generally regarded as a point of fancy rather than utility. This is not altogether true. There is a strong tendency toward refinement of type in all breeds of swine. This is manifest in the ear more strikingly than in any other point. The heavy, coarse, pendant ear has been banished from all the standard American breeds. It is a survival of the old unimproved types. A coarse ear indicates a corresponding degree of coarseness of texture throughout the carcass. The law of correlation is certain. The coarseness generally indicates late maturity and an inferior product. It is possible, however, to put too much stress on fine erect ears and short dished faces. These features carried to the extreme will tend to a shorter finer type of hog at the expense of size, scale, and breeding quality. The embodiment of this type is found in the small Yorkshire. The large Yorkshire breeders approached it until they reached the danger point; then the tide turned backward. Berkshire breeders should not make this mistake.

### THE RANGE STEER.

Mr. G. W. Henry writes a sketch of the range steer for the Denver Field and Farm which will give our younger readers very interesting historical points:

The range steer as it is known in this country is a native American, but of Spanish origin. The date of its introduction into the cattle history of the range country followed the war of Mexico with the United States, in which the district of country comprising the present State of Texas became the feeding ground for thousands of cattle from the disorganized and abandoned Mexican herds. Under the demoralizing influences of war these cattle were permitted to roam unguarded into the almost limitless grazing territory of the Southwest. In this disintegrated condition the cattle of Mexico and Texas became in a measure contraband, and for years they knew no owner and recognized no restraint. Under the favorable grazing conditions of this southern country cattle flourished, and the herds multiplied beyond the conception of man until they were numbered by the tens of thousands. It was late in the fifties when these roving herds began to attract the attention of speculators, but the breaking out of the Civil war in 1861 caused a cessation of cattle interests, and for about six years more but little account was taken of the semi-wild herds on the Texas plains. Then followed a period of miracles, the creation of cattle kings, when in the twinkling of an eye, almost, the ambitious cattle rustler was made the owner of a herd. The gathering of cattle and branding became a business or occupation, and extended into all districts where all unbranded cattle were to be found. This fascinating employment did not cease even when the unknown herds were exhausted, but all through the range cattle history of the West an unceasing effort has been exerted in the attempt to reform the indiscriminate operator of the branding iron. The driving of these herds north to unoccupied grazing lands and to meet a market among dealers and speculators who were then

## Isn't It More Sensible

to examine an article before buying, than to take for granted the merits claimed for it?

Of course it is.

That's the way we sell the

### Tubular Separator

Furthermore, we assist you in the examination by explaining the mechanism thoroughly.

The simplicity of the Tubular is exemplified in its entire construction; its durability is guaranteed by us and vouched for by satisfied every day users; and its efficiency proves itself, immediately, upon using.

To prove these merits try a Tubular and be convinced.

Catalog 131, explaining fully the entire mechanism, sent free for the asking.

THE SHARPLES SEPARATOR COMPANY,  
West Chester, Penna.  
Toronto, Can. San Francisco, Calif. Chicago, Ill.



## Horse Owners! Use GOMBAULT'S Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circular.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

**Every Medicine Shelf**

should have the famous

**Kendall's Spavin Cure**

The great emergency remedy. Cures Spavin, Ringbone, Curb, Splint, Sprains, Lameness. All druggists sell it at \$1 a bottle for \$2.

Book, "Treatise on the Horse," free

DR. B. J. KENDALL CO.,  
Enosburg Falls, Vt.

## DON'T BUY GASOLINE ENGINES

alcohol engine, superior to any one-cylinder engine, revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs less to buy—less to run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. McGehee and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

UNTIL YOU INVESTIGATE "THE MASTER WORKMAN," a two-cylinder gasoline, kerosene or

## LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

FRANK A. MEHCAM, Prop.

Importer and Breeder of

### Red Polled Cattle

Color Deep Red. Both Sexes for Sale.

Address all communications PETALUMA, SO. NOMA CO., CAL.



FRANK A. MECHAM  
Importer and Breeder of Shropshire Sheep

They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



FRANK A. MECHAM, Importer and Breeder

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO. CAL.





### Well Roofed— Well Housed

A building is only as good as its roof. If you would have your buildings storm-tight—protected against wind and rain, and protected to stay, put on a roofing that will give complete and lasting protection.

## REX FLINTKOTE ROOFING

will not rust or rot; it is durable and permanent.

Everything needed to lay REX Flintkote Roofing comes in the roll. One man and one hammer is all that you have to furnish to put it on.

### FREE SAMPLES

Let us send you free samples to test; also valuable roofing booklet.

**J. A. & W. BIRD & CO.**

91 India Street, Boston, Mass.

Pacific Coast Agents: W. P. FULLER & Co.,  
San Francisco, Sacramento, Oakland,  
Stockton, Los Angeles, San Diego, Port-  
land, Seattle, Tacoma, Spokane.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## TULARE LAKE STOCK FARM.

REGISTERED

### Jacks and Jennets For Sale.

We breed the Best. Don't write—come and see. We can show you.

**JAS. W. McCORD,**  
Hanford, Cal.

becoming interested in the cattle trade was in active operation in 1867, and has continued to be a feature of traffic to the present time. About this time the homesteaders moving on to the frontier settlements introduced the native farm bred cattle of the States from east of the Missouri, and gradually improvement began to take place in the long-horned cattle of the range. Each year found an increased interest among cattle owners to breed down the horns and thicken up the beef qualities of the range steer. During the last 35 years, as the cattle herds have spread north and northwest, they have been exerting a civilizing influence that could not have been employed by any other means. Man in his efforts to follow the herds into greener pastures encountered privations and hardships, sacrificed the advantages of civilized life, little

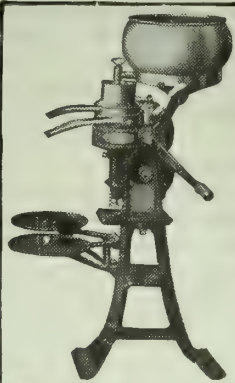
dreaming that through his efforts a wealthy and prosperous empire would spring up on our Western plains in a region that had no alluring temptations to place before immigration—a country practically without invitation, without visible resources; a country known as a wild, barren waste, where even the adventurer had little to excite curiosity. But here nature had planned the home of the range steer, and as its numbers increased and its superior beef qualities become known to the world, capital and business enterprise invited it to the feed yards of the great corn country of the Missouri valley, where at first it was received with much hesitancy on the part of feeders as to its disposition to confinement and its aptitude to conforming itself to prepared feed conditions. All efforts at making the range steer a failure and driving it out of competition with the native farm-bred animal proved futile. The march forward toward the highest attainment in beef quality has marked the history of the range steer during the last twenty years. What the range steer has accomplished as a finished beef animal is fresh in the minds of the reading public. In the fat stock shows of the country the range steer in carload lots stands in the front, side by side with the best cattle that blood, feed and care can produce. As evidence of the growth and development of the range cattle industry, a few figures on the cattle population of the country will serve to illustrate. Designating all that section of the United States west of the Missouri as the range country, beginning on the north with the Dakotas, then Nebraska, Kansas, Indian Territory and Texas, as the east line, we have within these bounds the original and present territory devoted to the production of the range steer. In 1850 the cattle population of all this vast district of country, omitting Texas and California, was only 87,322 head. The same territory, including California and Texas, has now more than 30,000,000 head of cattle, fully one-half of all the cattle in the United States.

## PARALYSIS OF THE HIND PART, OR AZOTURIA, IN HORSES.

By Dr. DAVID ROBERTS, Wisconsin State Veterinarian.

This is a disease which comes on suddenly, and is due to an acid in the blood. It sometimes affects the front parts as well as the hind parts, and the animal may come out of the barn feeling fine, ambitious, willing to go, and often goes faster than usual, but before it has gone very far it begins to lose its speed, hangs back, sweats profusely, breathes hard, and begins to knuckle over behind, gets lame in one or both hind limbs, and in a short time is unable to go any farther, and often falls helpless on the road in a paralyzed condition.

The proper thing to do is to place him on a stone-boat and haul him into the nearest barn, place him in a large, well bedded box stall or a barn floor where he can be turned over often until he is able to get up. Medicines should be given of a laxative nature and that will allay pain and counteract the acid condition of the blood. An injection of warm water should be given, to unload the rectum of its faeces, so that the animal can if possible urinate. If unable to do so, the urine should be drawn. A stimulating liniment or a mustard plaster should be placed over the hips, and the body should be kept comfortably warm. The animal should be given plenty of drinking water with the chill taken from it; a very little, if any, feed should be given before he gets up, and he should be fed on bran mash and a very little hay after he is up, until a full recovery has been brought about.



## TIME TO BUY CREAM SEPARATORS NOW

There never was a better time to buy the best of Cream Separators than right now.

The advantages derived from the use of the good Cream Separator are greater in the fall and winter than at any other time—when the cows are old in lactation, the loss of butter-fat is otherwise greatest, and butter prices are highest.

Likewise are the advantages of the superior DE LAVAL separators greatest over imitating separators when the milk is hard to separate and the weather cold and variable.

In every case a DE LAVAL separator, of suitable size, will surely at least save its cost between now and July 1st next, and go on returning 100% per year on the investment for twenty years to come.

The agricultural, and particularly the dairying, outlook was never brighter and more promising.

WHY NOT BUY NOW?

Send for Catalogue of 1908 Latest Improved Machines.

## DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 First Street  
PORTLAND, OREG.  
1018 Western Ave.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Middlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

**PACIFIC OIL & LEAD WORKS,** - - **SAN FRANCISCO, CAL.**  
**PORTLAND LINSEED OIL WORKS,** - - **PORTLAND, ORE.**

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 521. Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS

**Famous Blacow, Roberts, Glide French Merino Sheep.**

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

**RAMS FOR SALE AT ALL TIMES**

P. O. Box Home Telephone  
287 Sacramento, Cal. Dixon, Cal.

## Stickney Gasoline Engines

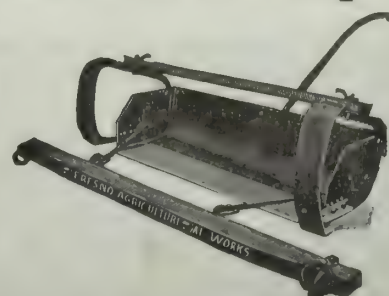
ARE THE BEST

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the

SEND FOR FREE CATALOG best engine Stationary and Portable 1½ to 16 h.p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.



## The Poultry Yard.

### DIFFERENT BREEDS OF FOWLS AND DIFFERENT PEOPLE.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

Each one has his own preference in regard to poultry, and the more interest he feels in the subject the stronger his preference. The difference in preference is not so much due to difference in breeds as to difference in the person's temperament and makeup. Size and gentleness appeal to one's unconscious ideal; grace and quickness to another's. Personally, my preference is for the breeds of the Mediterranean class. Their quick-glancing eye, their graceful curves and light movements, their everlasting get-up, appeal to me. I admire everything that comes in this class; but because of certain qualities which (I think) most nearly combine business and beauty, I choose the White Leghorn. But I do not consider this the only breed and variety—there are 103 others. Each breed or variety, if pure and kept under right conditions, has its peculiar virtues and beauties, and will meet requirements. It is all right for each poultry breeder to be proud of the breed he handles, and to think it the best; it is, or should be, the best for him. But for the person who essays to write poetry and to instruct the general public on the subject to be so blinded by his preferences—or his interest—that he is unable to tell the exact truth about the breeds—that's a different thing.

I am constrained to these remarks by the unfairness, not to call it by a stronger word, of an article in Poultrydom. The writer is endeavoring to boost the large breeds in general, and the Orpingtons and Houdans in particular. He is not content to credit these two breeds with all the virtues, real and imaginary, found in feathers; he must give them a further hoist by walking all over the breeds of the Mediterranean class. He says, among much more of the same sort, "Popular opinion has it that the small breeds eat less, but it is far from true." Professor Dryden, of the Oregon Agricultural College says: "In experiments covering several years, where every ounce of food was weighed, the cost of feeding Leghorns averaged 66 cents; of Feeding Plymouth Rocks, \$1.15; and Wyandottes, \$1. Again: "Poultrymen all over the replacing Leghorns, etc., with larger birds. California, the largest Leghorn State in the Union, has led in this radical change," etc., etc. Comment is unnecessary. If any of the large, well-established poultry farms has replaced Leghorns with the larger breeds, we have yet to hear of it. Here is some of the puff he gives the Houdans: "Well-bred Houdans weigh from 8 to 10 pounds in males and 6 to 8 in females." The "Standard of Perfection," which is the criterion of well bred fowls, says: "Houdan cock, 7 lb.; hen, 6 lb." "Vitality and longevity marvelous; have never known a sick fowl when well matured; an extremely light eater; remarkable layers; whole large flocks will easily maintain an average of from 175 to 200 eggs." And much more of the same sort. The Rev. C. E. Petersen, a whiter of ability and a noted fancier who has bred the Houdans for years, and whose strain carries off a fair share of the blue ribbons at the big Eastern shows, has written an article "in defense of the fowl," as he puts it, which appeared in the October Poultry Success, and from which we give a few excerpts that apply directly to such misrepresenters:

"It is a well known fact that the genial German baron, Munchausen, was one of the most truthful men of his generation,

and simply wrote his book as a rebuke to the continuous lying of his associates and their preposterous claims in the matter of hunting and fishing adventures; but unfortunately this cannot be said of his successors whose stories are told for no other purpose than to gull the public into a speedy departure from good money. It is still remembered how the hen craze started in New England and spread through the country, and at that time it was the Cochinchina fowl that was used as a medium for humbugging the dear, gullible public, who, like the poor, we always have with us. At this time it seems to be the ill-fortune of another fowl to have fallen into the hands of unscrupulous men, and it is to save the Houdan from the Cochinchina's fate that we are penning this article, at the request of a number of conservative breeders."

After giving an interesting history of the introduction of the breed into the United States just before the Civil War, and of the exaggerations which grew out of its popularity, he goes on to say:

"But never in all our experience with the Houdan, or in the experience of any of the old guard of the Houdan fancy, have such claims been made for it as at the present time, and in defense of the fowl and as a warning to the public at large, I will try to give a succinct and truthful account of what may and may not be expected from the fowl of our choice, the Houdan. These prevaricators of the truth cropped out all of a sudden from some obscure corner of the earth. Among their discoveries was the wonderful persistent winter laying of the Houdans, and so great was their propensity for laying in zero weather that from the absurd statements made it would seem that a cold-storage plant would have afforded ideal quarters for them. Their chicks would grow from start to finish without any mortality, and cases of sickness were unknown among the fowls. All this faking started the machine running, for when a fowl will lay close on to 300 eggs per year, weigh anywhere from 8 to as many pounds as you like, measure a full yard from tip to tail, and each egg weighing 3 ounces and over—all testified to by such a man of sterling veracity as Baron Munchausen's famous ancestor, bred in line, and much improved as time went on in telling the truth, such a fowl as this there is an immediate demand for by those deficient in common sense.

"But the wonder of all this is that this exaggerated matter can find publication in reliable papers; but then, it is a well known fact that publishers are not supposed to do more than to shake their head, laugh in their beard, if they have any, and give the writer the benefit of the doubt, and trust to the good sense of their readers. Many an excellent fowl has been ruined by this misrepresentation and falsehood, which otherwise would have given every satisfaction to the purchaser.

"But what may be expected from the Houdan fowl? As much as may be expected from any other of the well established breeds of fowls which have proper care and are placed under proper conditions that they may do their best. We have, as it is well known, bred and exhibited the Houdan fowl for 16 years, and we believe that we are competent to tell the truth about it. First of all, let us say that the Houdan is a medium-sized fowl, for which the Standard calls for 5 pounds in the pullet, 6 in the hen, 6 for cockerel, and 7 for cock, weights which are sometimes exceeded in individual specimens, but seldom if ever in the average size of the flock.

"Size can readily be produced in almost any fowl; but it is far from desirable, which is shown in many of the large varieties of fowls. It takes away the strong

active tendencies so necessary to winter egg production, and gives the bird a coarseness of bone and style that in the Houdan is much to be avoided, as one of its chief claims to popularity is egg production and smallness of bone, which makes a great feature in a table fowl. Any judge can tell you that the standard size is about correct in any breed therein mentioned, and that the average breeder will have all he can do to keep up the average size to them.

"As for laying, the Houdan is a good layer of fine white eggs, and with the Houdan, as well as with other fowls, some of them will make exceptionally large egg records, but no larger than any other breed can be made to produce under careful handling and management. With perhaps a few exceptions, it ranks with the Leghorn as a layer, but is larger and has not the large comb which in many climates would be a valid objection to breeding Leghorns. In dry sunny quarters the Houdan will lay well in winter. We have had egg yields of 50 per cent during the cold months of the winter, but they need just as much care and comfort as any other fowl, or, like them, they will stop doing business. And now let me state where this bird will be most appreciated:

"Where a crested fowl is wanted, that for beauty and elegance of form stands without equal among the more hardy breeds.

"Where a docile fowl is wanted, for it can be kept inside of a fence, likes to be petted and handled, and readily becomes one of the family.

"Where a most delicious table fowl is wanted, and where color of legs and skin plays a minor part, as long as it furnishes what is wanted for family use.

"Where an abundant supply of well flavored eggs is wanted, and where they are not expected without proper care and comfortable quarters during the winter months.

"Where a fancy fowl is wanted that will furnish the fancier with a chance to use his skill in breeding; for though it will readily respond to proper matings in the production of high-class specimens, we know of no other fowl which will produce so slight results when proper matings have been neglected or not understood.

"Exaggerated and perverted statements making it one of the modern miracles will simply injure its many excellent qualities and make enemies for it instead of friends.

"Honest admiration for an excellent fowl that may at times lead an enthusiast into very sanguine statements are pardonable among fanciers, as we need their honest enthusiasm; but may the good

Lord deliver us from the swindler who makes all his claims out of the whole cloth, that the unwary may be taken in and be led to forward their money with out getting anything but disappointment in return. Let every honest fancier expose such, who are only plague spots on an otherwise clean body."

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal. **GEORGE H. CROLEY**, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

**RANCHO LOS ENCINAS**  
R. F. D. 76. Glen Ellen, Cal.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

**E. F. Adams**  
364 Main St. Petaluma, Cal.

## COULSON'S NO. 3 CONDITION POWDER

is just the thing for molting hens. It acts as a tonic and digestive. Keeps the hens laying longer into the molt and quicker after it. Our **FREE** Booklet, "THE RIGHT WAY," gives full particulars.

MANUFACTURED ONLY BY

**COULSON POULTRY AND STOCK FOOD CO.**

PETALUMA, CAL.

## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

**L. W. CLARK, 615 Main St., Petaluma, Cal.**



## The Home Circle.

### Youth.

There are gains for all our losses,  
There are balms for all our pain;  
But when Youth, the Dream, departs  
It takes something from our hearts,  
And it never comes again.

We are stronger and are better  
Under Manhood's sterner reign;  
Still we feel that something sweet  
Followed Youth with flying feet,  
And will never come again.

Something beautiful is vanished,  
And we sigh for it in vain—  
We behold it everywhere,  
In the earth and in the air,  
But it never comes again.

—R. H. STODDARD.

### The Home Circle Chat.

THANKSGIVING—THE DAY AND THE DINNER.

"It is the Puritan's Thanksgiving Eve;  
And gathered home from fresher homes  
around,  
The old folks' children keep the holiday—  
In dear New England, since the fathers  
slept—  
The sweetest holiday of all the year."

Thanksgiving Day is an American institution. It should be dear to every American heart, and its observance should be not only a pleasure but also a duty sacred to our Country as well as to the Giver of all good. The tendency of the times with us is to make light of things which should at least command our respect. The Pilgrim Fathers have become a subject for much levity. Granted that they were faulty like ourselves—inconsistent, if you will—but who shall say they were not faithful keepers of the smoldering embers of that Sacred Fire which burns brightly for humanity today? To the true American this day should mean more than eating and drinking and merrymaking. Mothers especially should grasp its higher significance, and implant the love of the Home and the love of Country—its traditions and institutions—firmly in the hearts of their little ones. It will make them better sons and daughters and nobler men and women.

**The Thanksgiving Dinner.**—In considering the dinner we will begin with the pumpkin pie, which is a dish particularly belonging to the occasion. There are pumpkin pies and pumpkin pies, but the pumpkin pie has a flavor which few have tasted in these degenerate days. To make it we must have the pumpkin—the kind which shows golden between the rows of corn. The day previous to pie baking, peel a large one, cut it into small bits, put it into a smooth granite kettle on the back of the stove, add a cup of water and cook slowly all day, stirring often; and on your life, don't let it scorch! When it has boiled down dry, rub it through a colander; to every cup of this allow 3 tablespoons of New Orleans molasses and  $\frac{3}{4}$  cup of light brown sugar; a bit of salt, 1 teaspoon ginger, 1 egg, and a pint of rich milk; if the milk is not creamy, add 1 teaspoon of fresh butter to each cup of milk. Beat the molasses, sugar and ginger into the pumpkin, add the well-beaten eggs, and lastly the milk. Have deep, straight-edged pie tins (granite are best) lined with crust; fill as full as possible without running over; dust cinnamon over the top; bake slowly in an even heat to a rich golden brown. If eggs are

scarce, a level teaspoon of corn starch sifted with each half cup of sugar will answer in place of the egg. All pies except mince-meat should be eaten the day they are baked.

**The Mince Pie** also belongs to the Thanksgiving dinner. The mince-meat should be made at least three days before using, to insure the proper blending. The following ingredients and proportions make a good filling: 1 pint chopped meat, 2 of chopped apples,  $\frac{1}{4}$  of chopped suet,  $\frac{1}{2}$  of sugar,  $\frac{1}{2}$  of molasses,  $2\frac{1}{2}$  of cider, 1 pound of raisins,  $\frac{1}{2}$  pound of currants,  $\frac{1}{4}$  pound of citron cut fine; a teaspoon each of cinnamon, cloves and nutmeg, and the juice and grated rind of 1 lemon. A good way to make the meat for a few pies to be used at once is to use one-third chopped meat to two-thirds apples, a little suet, raisins, spices and butter, with the juice and part of the grated rind of a lemon. For those who relish and approve of a little brandy in their mince pies, the best time to add it is to raise the upper crust when the pie is taken out of the oven and sprinkle a tablespoonful over the filling. Pies should be slipped out of the dish they are baked in; otherwise the "sweating" will make the bottom crust soggy.

**The Pie Crust.**—Many consider the pie-eating habit as little short of a temptation of the evil one, being sweet to the taste and bitter in after effects. The power to work evil lies in the crust—often a cold, soggy compound of lard and flour. But there is little reason why the pie should not be as wholesome as tempting. A sufficiently rich and flaky, yet wholesome, crust may be made thus: In every pint of flour sift 1 level teaspoon of baking powder and a pinch of salt; work thoroughly into this  $\frac{1}{2}$  cup of sweet home-made lard; mix with very cold water in a cold room; then roll out thin and spread lightly softened fresh butter over it; fold it over and over, being careful not to break the crust, till it is a small square; repeat this one or more times, according to the degree of flakiness desired.

A more delicate crust for weak digestions is made by sifting 1 teaspoon of baking powder and a little salt into a pint of flour; mix with sweet cream, or with milk and a tablespoon of fresh butter added.

The French make a crust without shortening, as follows: 4 cups flour, 3 beaten eggs, 1 cup of powdered sugar, made into a smooth paste.

The crust should always be well baked for wholesomeness. As G. W. Curtis, when he presided over the "Drawer" of Harper's Monthly years ago, tersely expressed it, in discussing pie: "Brown it, madam, brown it!" For custard, pumpkin and all juicy pies, the bottom crust should be brushed over with a well-beaten egg, which prevents the moisture from soaking into it. Always finish off the edge of the pie with a strip of crust about one-third of an inch wide; it prevents the edge from baking hard and dry, and the juices from running out. Before putting it on, moisten the edge of the pie with white of egg or water, lay it on evenly and press down by rolling over lightly with the rolling pin. In baking pies the heat should always be stronger on the bottom of the oven—and again, "Brown them, madam, brown them!"

For the piece de résistance at the dinner, the lordly turkey is considered the proper thing; but on the

to the gravy. This makes a dish re-Coast that bird is rather high up in the figures for a simple home dinner, and the less pompous rooster more often occupies the place of honor. And truly, it may be made to fill the position well if it be a healthy young bird and served as a friend of the writer does it. Never can there be a more delicious dish of fowl than Mrs. Hutchin's.

**Roast Chicken.**—She trussed and seasoned a six-month old cockerel of her own raising, and stuffed it with stale bread crumbs into which was mixed the boiled and chopped giblets, a spoon of butter, a raw onion chopped fine and a beaten egg. In the meantime she had a large, thick slice of A1 ham browning in the dripping pan on the stove; when the bird was ready she turned it over in the hot ham gravy, dusted it with flour, put a cup of hot water in the dripping pan, slipped another pan on top to make the enclosure perfectly tight, and placed in a moderately hot oven kept at a steady heat; there it cooked steadily, but not too fast, for two hours, being frequently turned and basted meantime. When served it was a rich, crisp brown all over, and ready to fall apart at a touch; and delicious!—it couldn't be beat even by the turkey. When it was laid on the hot platter, a spoonful of flour was stirred smoothly into the dripping pan until a rich brown, and a pint of water added to make the gravy. The savory flavor of the ham, fowl, onion and other seasoning was blended into a perfect whole in the way of an appetizing dressing. An attractive way to serve this dish on a special occasion is to cut the thick piece of ham used in the baking into regular strips and arrange on the platter around the fowl; then garnish the edge with sprigs of curled parsley and slices of hard boiled eggs intermixed.

**A Substitute for Fowl.**—When even the rooster is not forthcoming, a nice substitute may be made of a shoulder or less of mutton. In buying meats the choice cuts are not essential; but the best grade is. Any part of a prime carcass may be made into an appetizing and wholesome dish, while no part of an inferior grade of meat can. Be shy of the dark red color with oily, orange-colored fat. Having secured a prime grade, even though it be a cheap cut of mutton, put it into a kettle of salted boiling water and let it cook slowly but steadily until ready to separate from the bones; lift carefully into a dripping pan and season to taste, dredge thickly with flour and cover with bits of butter, add a cup of the broth from the kettle, and bake in a hot oven, basting often, till a crisp brown all over. Garnish with sprigs of fresh mint or parsley and slices of lemon. Brown a spoonful of flour in the drippings, and just before removing from the fire add a little finely chopped mint or parsley

**OUT OF DOOR WORKERS**  
Men who cannot stop for a rainy day, will find the greatest comfort and freedom of bodily movement in  
**TOWER'S FISH BRAND**  
**WATERPROOF OILED CLOTHING SLICKERS \$3.00 SUITS \$3.00**  
Every garment bearing the sign of the fish guaranteed waterproof  
Catalog free  
A. J. TOWER CO. BOSTON, U.S.A.  
LONDON, ENGLAND

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.  
SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

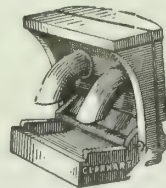
Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909.

For further particulars address

**Miss Sarah D. Hamlin,**  
2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.

"THE OLD RELIABLE"  
**DIETZ LANTERNS**  
THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## FURNITURE LUSTRO.

The best article on the market for polishing and removing scratches from pianos, furniture and all finished woodwork is LUSTRO. If your grocer does not keep it, we will send you a full-size 8-ounce can for 50 cents, express prepaid. Every lady ordering before Dec. 1 receives free a handsome package of our sachet powder.

**LUSTRO SPECIALTY CO.**  
Agents Wanted. Oakland, Cal.

**Blake, Moffitt & Towne**  
Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## LEARN Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.  
You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.  
POSITIONS SECURED. WRITE FOR FREE CATALOGUE.

**COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.**



sembling young fowl in color and tenderness.

With Thanksgiving pie at its best, and a delicious roast, the rest of the dinner is easy sailing. A nice clear soup with tiny square crackers; mashed potatoes, light and white as snow; baked sweet potatoes, one or more other vegetables, celery, cranberry or other sauce, and a dainty salad: cheese and wafers with the pie, of course, followed by fancy mixed cakes, candies, nuts, fruits, etc., to please the young folks, and finished by amber coffee as clear as the cup in which it is served—this is variety sufficient, and at a minimum of work and cost.

**A Showy and Wholesome Salad.**—Cut grape-fruit (pomelo) in halves; take out the pulp and remove all the white bitter membrane; mix the pulp

with crisp shredded lettuce and a dressing of olive oil, with a sprinkling of salt and a dash of cayenne; put all back in the halves of peel, set one on each salad saucer, with a crisp lettuce leaf dipped in the dressing beneath it.

#### In the Garden.

**BULBS.**—We of the Coast give less attention to bulb culture than do the dwellers in harsher climates. Our winter is in reality one long springtime and we cannot experience the thrill which comes from seeing these harbingers of spring lift their pure petals almost out of the snowdrifts of an earth-bound winter. Still they have a charm of their own even here and well repay any extra expense or care in their culture.

The soil for bulbs should be well drained, rich and friable. As the adobe largely prevails with us, we must prepare our bulb beds by spading in plenty of sharp sand and well rotted stable manure or poultry manure; the latter is excellent and may be used at once if well pulverized with sand or light soil. The beds must be spaded and stirred until the soil is light and mellow and free from all lumps. They should have a sunny exposure for these flowers are children of the sunshine. In planting bulbs in autumn it is well to put a handful of sand for each to rest on. This acts as a sort of drainage and prevents rotting; but in all cases the beds must be drained so that no water ever stands on them. November is the time for the out-door planting of most bulbs; but if the bulb is firm and sound it may be planted here late in December. The Morse Seed Co. gives the following rules for depth and distance apart:

Lilies.....	5 in. deep and 12 in. apart
Narcissus.....	4 " " 12 "
Hyacinths.....	4 " " 7 "
Tulips.....	4 " " 5 "
Jonquills.....	3 " " 6 "
Crocuses.....	3 " " 3 "

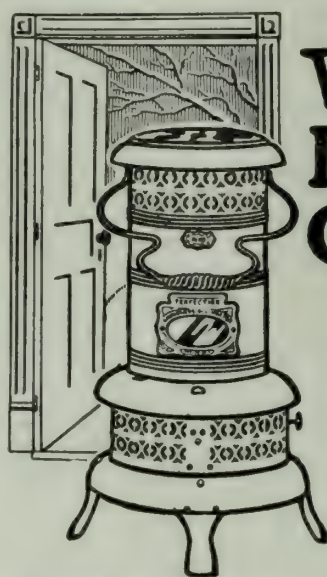
Cover with a mulching of leaves or cut straw, after planting.

For pot culture take some of the prepared soil from the beds and sift; place the bulb so the top just shows above the surface, bury the pot 6 in. deep in the outdoor soil for 4 or 5 weeks; then take into the house and give plenty of water and after a good growth is started an occasional treat of liquid manure.

For glass culture the single hyacinth is considered most satisfactory. Don't bury it in the water but suspend it in the bottle so the bottom of the bulb just rests on the water. Keep in a cool dark place for some six weeks till the rootlets reach the bottom of the dish; then remove to a cool location in the house. Supply with water and keep it sweet by an occasional complete change and by a bit of charcoal in the water. In the East where much attention is given to the house culture of bulbs for Christmas decorations, the scarlet Duc van Thol tulips are a favorite variety that repays the great care necessary to bring them to perfection at the holiday time there. By sending for a free catalogue to any of the seed companies advertised in the PACIFIC RURAL PRESS selections may be made and reliable bulbs of all kinds secured.

#### Anger and Health.

A scientific journal says that anger shortens life. Every time a person gives way to wrath he or she has advanced one step nearer the grave. The physiological reasons are set forth but the substance is that great anger is highly injurious to the system. At the same time a reasonable amount of anger is at once a tonic and a safety valve. It braces up the mind and body; it lets off superfluous steam or emotion. Unfortunately, the scientific journal does not state what is a "reasonable amount" of anger. Perhaps it depends upon the constitution of the individual. Perhaps the physician of the future will be able to tell how much anger to take for one's health.—N. Y. Tribune.



## Where the Door Opens Constantly

You can quickly heat and keep cozy the draughty hall or cold room—no matter what the weather conditions are—and if you only know how much real comfort you can have from a

## PERFECTION Oil Heater

(Equipped with Smokeless Device)

you wouldn't be without one another hour. Turn the wick as high or as low as you please—there's no danger—no smoke—no smell—just direct intense heat—that's because of the smokeless device.

Beautifully finished in nickel and japan—ornamental anywhere. The brass font holds 4 quarts, giving heat for 9 hours. It is light in weight—easily carried from room to room. Every heater warranted.

The **Rayo Lamp** meets the need of the student—a bright, steady light—ideal to read or study by. Made of brass—nickel plated, latest improved central draft burner. Every lamp warranted. If your dealer does not carry Perfection Oil Heater and Rayo Lamp write our nearest agency.

**STANDARD OIL COMPANY**  
(Incorporated)



## THE MARKETS.

San Francisco, Nov. 11, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

#### WHEAT.

Wheat is firmly held by the Northern growers, and receipts in this market are moderate, offerings of choice milling grain being light. While there is some demand for such grades, the local business continues quiet, as the buyers take little interest in general offerings. The market is inclined to easiness, though prices rule as formerly quoted.

California White Australian.....	\$1.75	@ 1.80
California Club.....	1.67 1/2	@ 1.70
California Milling.....	1.70	@ 1.72 1/2
California lower grades.....	1.45	@ 1.60
Northern Club.....	1.65	@ 1.67 1/2
Northern Bluestem.....	1.72 1/2	@ 1.77 1/2
Northern Red.....	1.62 1/2	@ 1.65
Turkey Red.....	1.75	@ 1.80

#### BARLEY.

Speculative interest in this grain continues active, and future prices show a further advance. There is also a good demand for spot grain, both here and in the South, and prices are higher on all grades but Chevalier. Choice feed sells up to \$1.45, and very little is offered below \$1.40, while brewing and shipping grades have advanced 2 1/2 cents.

Brewing.....	\$1.47 1/2
Shipping.....	\$1.47 1/2
Chevalier.....	\$1.57 1/2 @ 1.62 1/2
Good to Choice Feed, per cbl.....	1.42 1/2 @ 1.45
Common Feed.....	1.35 @ 1.40

#### OATS.

The lack of rain is delaying the fall demand for seed oats, and so far the market shows comparatively little activity in the choice grades, buyers being inclined to hold off until there is a change in the weather. Holders are also following a waiting policy, and are making no concessions whatever at present, prices ruling firm as formerly quoted. Stocks of most varieties are light.

Choice White, per cbl.....	\$1.70	@ 1.75
No. 1, White.....	1.65	@ 1.67 1/2
Gray.....	1.65	@ 1.70
Red, seed.....	1.75	@ 1.80
Feed.....	1.50	@ 1.70
Black, seed.....	2.45	@ 2.65

#### CORN.

Arrivals of Western corn have been considerably heavier during the past week than for some time previous, but the supply is still light, and the market is quiet. There is very little of the old crop to be had, and sales at present are of the new crop to arrive. New Western white and mixed, to arrive, are quoted below at somewhat lower figures than have prevailed recently.

California Small Round Yellow, per cbl.....	Nominal
Large Yellow.....	\$1.85 @ 1.90
White.....	Nominal
Western State Yellow.....	1.90
White, in bulk.....	1.60
Mixed, in bulk.....	1.58

#### RYE.

Very little of this grain has been moved

for the last two weeks, and there is little inquiry for it. Stocks on the market are strongly held at appearing quotations.

Rye.....\$1.45 @ 1.50

#### BEANS.

The bean market continues active and arrivals are about as heavy as they were during October. During the past week a material advance has taken place in the price of bayou beans. It is realized that the stock on hand of this variety is limited, and with a good demand for it there is every prospect of a further advance. White beans are also very strong and slightly higher, in sympathy with a firmer feeling in the East. Lima beans are very firm at present, and the market is evidently on a more settled basis. While there is no decided change in values, it looks as if bottom had been reached, and there is likely to be some improvement. The crop of pink beans is turning out quite heavy, and while the beans are in good demand, there has been no change in price. Stocks on hand seem to be sufficient for prospective requirements.

Bayos, per cbl.....	\$2.75	@ 2.90
Blackeyes.....	3.10	@ 3.25
Cranberry Beans.....	2.45	@ 2.60
Garbanzos.....	1.50	@ 2.50
Horse Beans.....	1.50	@ 2.00
Small White.....	1.30	@ 1.50
Large White.....	3.60	@ 3.75
Limas.....	4.20	@ 4.30
Pea.....	4.50	@ 4.50
Pink.....	2.30	@ 2.45
Red.....	3.25	@ 3.50
Red Kidneys.....	3.25	@ 3.50

#### SEEDS.

The seed market is hardly as active as is expected at this time of year, as buyers are generally holding off in anticipation of more rain, though a little more business is being done than a month ago. There is some interest in alfalfa, as the crop is now coming into the market from several quarters, and supplies are plentiful. Prices quoted by local dealers show no change.

Alfalfa, per lb.....	14 1/2 @ 17 1/2 c
Broomcorn Seed, per ton.....	\$20.00 @ 25.00
Brown Mustard, per lb.....	3 1/2 @ 3 1/2 c
Canary.....	4 1/2 c
Flaxseed.....	3 c
Hemp.....	4 1/2 @ 4 1/2 c
Millet.....	2 1/2 @ 3 1/2 c
Timothy.....	Nominal
Yellow Mustard.....	Nominal

#### FLOUR.

There is a lively export business in the North at present, though there is some doubt how long it will continue. The local trade is about as usual, without any particular feature, and prices are as last quoted.

bb1.....	\$5.40 @ 6.00
Bakers' extras.....	5.40 @ 5.65
Superfine.....	4.20 @ 4.50
Oregon and Washington, Family.....	4.90 @ 5.40

#### HAY.

The recent advance in hay prices has attracted an increased amount of hay to this market during the past week, the better car service making larger shipments possible. In spite of the marked increase in supplies, however, prices show a further advance, and the market is steadily absorbed. The advance has been caused solely by the report compiled No-

## Talks on Teeth

BY

THE REX DENTAL CO.

(INCORPORATED.)

"SUCH A NATURAL FEELING."

The one great factor which makes the Alveolar teeth so universally praised by those who wear them is that they are "so natural" in looks, and feeling.

They rival nature's teeth. If they didn't they would be neither better nor worse than any of the "false teeth" substitutes which people wear, and endure when their natural teeth are missing.

For years prior to the Alveolar Method, dentists had been striving to find a natural plan of restoring missing teeth. Some even went so far as to put "gold" in the front teeth, but these "false fronts" fooled nobody.

The fundamental plan for teeth restoration were all wrong before the Alveolar Method was discovered and offered to the American people.

Alveolar teeth are so placed in the mouth that each tooth is as firm as any other tooth. They are put in to stay. Solid as a rock; better even than natural teeth in many cases, because they don't decay or ache.

Rex Dental Co., 80 Bacon Bldg., Oakland, Cal.  
Dear Doctor—Words cannot express the pleasure and comfort I am getting from the new Alveolar teeth which you inserted in my upper jaw, also the severe case of pyorrhea that I was suffering from feels much better and I have no stomach trouble now, and I want to thank you for all that you have done for me.

I am thoroughly convinced that your patented Alveolar Method of putting in teeth is far superior to bridge work.

If any one in need of teeth has failed to hear of this wonderful method they are certainly unfortunate; send them to me and I will be pleased to show them what you have done for my mouth. Very respectfully,

Signed: FRANK DODSON,  
Goldfield, Nev.

"They feel so natural, tight and strong." "cured stomach trouble." These are some of the benefits which follow Alveolar teeth. They are serviceable as well as beautiful. We could cite hundreds and thousands of similar cases.

Now, we want to look your teeth over, if they need it. No charge for this first step toward teeth perfection. No obligation to spend a dollar with us. Simply this—we can't tell what we can do for you at long range. We must look at your teeth and mouth, for every mouth is different, and we treat each case individually.

Isn't it worth while making us this visit?

Perhaps you are too far from one of our offices to come right away, in which case do the next best thing—send for copy of our free book, "Alveolar Dentistry," and read it through.

A request brings it free of charge.

CAUTION—Look out for imitators and impostors. We have no OFFICES outside those given below.

**REX DENTAL COMPANY, DENTISTS**

SAN FRANCISCO:

228 Pacific Building, Fourth and Market Sts.

OAKLAND:

1-83 Bacon Building, Twelfth and Washington.

LOS ANGELES

201 Seaverance Building.

Hours, 8:30 to 5:30.

Sundays, 10 to 12.



## THE "SOUTH BEND"



## The Best Chilled Plow in the World

In chilled Sidehill Plows, as illustrated above, we offer our Nos. 302 and 304 in full confidence that they will meet all the requirements of anyone who has a hill on his farm. They are the simplest and easiest swinging plows on the market. Do splendid work on flat land and on the steepest hill. If in need of a plow of this kind, investigate the "South Bend" before you purchase.

No. 302, 1-horse, weight 78 pounds, capacity 7 to 9 inches.  
No. 304, 2-horse, weight 105 pounds, capacity 9 to 12 inches.

Write us for catalogue describing the complete South Bend line of plows.

GENERAL AGENTS,

**PACIFIC IMPLEMENT COMPANY,**  
135 Kansas St., San Francisco.

November 1 by the San Francisco Hay Association, which shows only about half of last year's amount of hay available in the country tributary to San Francisco. Stocks on hand at this season last year, however, were very heavy, and some of the larger dealers, basing their calculations on the experience of former years, see no prospect of an immediate shortage. It is quite likely that hay may advance somewhat beyond the present range of values, but abnormal prices will probably be prevented by supplies from outside sources, in case of any marked shortage.

Choice Wheat, per ton.....\$20.00@22.00  
Other Grades Wheat ..... 16.00@19.50  
Wheat and Oat ..... 15.00@20.00  
Tame Oat ..... 14.50@19.00  
Wild Oat ..... 14.00@18.00  
Alfalfa ..... 11.00@15.50  
Stock ..... 11.00@13.00  
Straw, per bale ..... 50 @ 90c

## MILLSTUFFS.

Rolls of barley is a dollar higher, owing to the steady advance that has taken place in the raw grain for the last few weeks. It is in good demand, both here and in the South. Bran, shorts and middlings are also in fair demand, and as the quantity on hand has not been materially increased, prices are quite steady. Other feedstuffs are as formerly quoted.

Alfalfa Meal(carload lots)per ton.....\$22.00  
Jobbing ..... 23.00  
Bran, ton—  
White .....\$30.00@31.00  
Red ..... 29.50@31.00  
Broom Corn Feed, per cti. .... 1.20@ 1.25  
Cocoanut Cake or Meal at Mills (in 10-ton lots)..... 25.50  
Jobbing ..... 26.50  
Corn Meal ..... 37.00@38.00  
Cracked Corn ..... 38.00@39.00  
Mealalfa ..... 22.00  
Jobbing ..... 23.00  
Middlings ..... 33.50@35.50  
Mixed Feeds ..... 28.00@32.00  
Oil Cake Meal, per ton..... 38.00@39.50  
Rolled Barley ..... 30.00@31.00  
Shorts ..... 33.00@33.50

## VEGETABLES.

Onions are arriving freely, and in the lack of any demand for shipment to other markets, a decided weakness has developed, and prices are lower. Arrivals of tomatoes have again increased, as the last of the Bay crop is being marketed. Stocks are now being reduced, but there is still an oversupply, causing weak prices. Fair supplies of some descriptions are now coming in from the South, as shipments from nearby points have fallen off, and prices on several lines, such as eggplant, cucumbers and green peppers are higher. Most of the arrivals meet with a ready demand.

Onions, cti. .... 50c @ 60c  
Garlic, lb. .... 7c @ 7c  
String Beans, lb. .... 4c @ 5c  
Garlic, per lb. .... 8c  
String Beans, lb. .... 7c @ 9c  
Green Peas, lb. .... 6c @ 8c  
Cabbage, per cti. .... 60 @ 75c  
Marrowfat Squash, per ton.....\$10.00@15.00  
Tomatoes, box ..... 25 @ 50c  
Turnips, sack ..... 75c  
Green Peppers, box ..... 60c@1.25  
Cucumbers, box ..... 1.00@ 1.25  
Egg Plant, box ..... 75c @ 1.00  
Cauliflower, doz ..... 75 @ 1.00

## POULTRY.

Arrivals of Eastern stock are fully up to the average, and poor lots are inclined to drag, though all desirable lots find a ready market at about the same prices that have been quoted recently. Owing to the approach of Thanksgiving, turkeys are attracting more attention. The market for dressed stock is firm, and live turkeys are a little higher. The outlook for Thanksgiving trade is good, and a big demand is expected, with prices ranging between 25 and 30 cents.

Broilers .....\$4.00@ 4.50  
Small Broilers ..... 3.00@ 3.50  
Fryers ..... 4.50@ 5.50  
Hens, extra ..... 7.00@ 9.00  
Hens, per doz. .... 5.00@ 6.00  
Small Hens ..... 3.50@ 4.50  
Old Roosters ..... 3.50@ 4.50  
Young Roosters ..... 5.50@ 6.50

Young Roosters, full grown... 7.00@ 8.00  
Pigeons ..... 1.00@ 1.25  
Squabs ..... 2.00@ 2.50  
Ducks ..... 4.00@ 7.00  
Geese ..... 2.00@ 2.50  
Turkeys, live, per lb. .... 20c @ 22c  
Turkeys dressed per lb. .... 24 @ 26c

## BUTTER.

Trading in butter has been quite active all week, and the movement is now of very satisfactory proportions, with an advance on the extra grade of 1 cent over last quotations. Supplies are now sufficient for the demand, and the feeling on the Exchange is steady to weak, though prices on the street are firmly held.

Cal. (extras per lb. .... 32 1/2  
Firsts ..... 27 1/2 c  
Seconds ..... 23 c  
Thirds ..... 20 c  
Eastern extras ..... 27 c  
Ladles, extra ..... 22 c  
Cal. Storage, extras ..... 26 1/2 c  
Pickled Butter ..... 23 1/2 c

## EGGS.

Eggs have been quite firm most of the week, and considerably higher prices are quoted on all grades, though extras have shown some fluctuation, standing as high as 56 cents a few days ago, and again declining nearly to the last quotation. Supplies are small in all grades, but at the present values the demand for extras is rather uncertain.

California (extra), per doz. .... 55 c  
Firsts ..... 50 c  
Seconds ..... 32 1/2 c  
Thirds ..... 28 c  
Storage, Cal., extras ..... 33 1/2 c  
Storage, Eastern, extras ..... 27 1/2 c

## CHEESE.

Both California and Oregon flats are now in good demand and fairly firm, with prices 1/2 cent higher. Other grades show no change. The following prices are quoted by the San Francisco Dairy Exchange:

Fancy California Flats, per lb. .... 13 c  
Firsts ..... 12 c  
New Young Americas, fancy... 15 c  
Oregon Flats ..... 13 1/2 c  
Oregon Y. A. .... 14 1/2 c  
Storage, Cal. Flats ..... 12 c  
N. Y. Cheddars ..... 17 c

## POTATOES.

Accumulations of river stock are large, and the market is quiet, causing a decline in fancy stock. Salinas Burbanks are also a little lower, though the price of Oregon potatoes is unchanged, this variety finding a steady demand.

River Whites, fancy, cti. .... 70c @ 85c  
Common ..... 55 @ 65c  
Salinas Burbanks, cti. .... \$1.25@ 1.60  
Oregon Burbanks ..... 1.15@ 1.30  
Sweet Potatoes, cti. .... 1.25@ 1.40

## FRESH FRUITS.

Supplies in some lines are becoming limited, as there have been no arrivals of fresh peaches or Bartlett pears for several days, and the storage stock that is offered receives little interest. Fancy apples are a little higher, and winter pears are moving freely at former figures. Grapes are quite firm, with smaller supplies and somewhat higher prices on most varieties. Cape Cod cranberries are also firm, while other berries are lower, finding little demand. Quinces and pomegranates have advanced.

Apples, fancy ..... 65c @ \$1.25  
Apples, common ..... 40 @ 75c  
Strawberries—  
Chest ..... \$5.00@ 7.00  
Raspberries ..... 7.00@ 9.00  
Cranberries—  
Cape Cod, bbl. .... \$12.50@13.00  
Coos Bay, box ..... 4.00  
Plums, crate ..... 50c @ 65c  
Grapes, crate, Muscats ..... 65 @ 85c  
Cornichon ..... 75 @ 90c  
Tokays ..... 75 @ 1.25  
Pears, box, Winter Nellis... 75 @ 1.25  
Winter Nellis ..... 75 @ 1.25  
Other varieties ..... 40 @ 75c  
Quinces, box ..... 65 @ 85c  
Pomegranates ..... 75 @ 1.00  
Persimmons, box ..... 50 @ 1.00

## CITRUS FRUITS.

Valencia oranges are firm, with light supplies, but new crop navel is arriving freely. Prices on the latter are lower, largely on account of the unripe condition of much of the stock that is arriving. Grape-fruit is also arriving in moderate quantities, and finds a ready market at unchanged prices.

Choice Lemons ..... \$2.00@ 2.50  
Fancy Lemons ..... 3.00@ 3.50  
Standard ..... 1.25@ 1.50  
Limes ..... 4.00@ 5.00

Oranges—  
Valencias ..... 4.00@ 4.50  
Navels ..... 2.25@ 3.00  
Grape Fruit ..... 2.50@ 4.00

## DRIED FRUITS.

As had been expected, the colder weather in the East and the more settled feeling in the trade, following the election, has had a beneficial effect on the market for dried fruits and raisins, and while the local packers still quote former prices, as given below, they report a firmer tone to the market, and considerably more demand for all classes of goods than has been in evidence since the new crop began to appear on the market. The demand is not yet especially large, as the Eastern distributors are still holding off for a more pronounced consumptive demand, but the movement shows a steady increase. While there is rather more inquiry for prunes, the market in this line is very slow to pick up. Apricots are quite firm. The raisin situation, according to advices from a growing centers, is favorable, and with a growing demand in the East there should be a material improvement in prices. There is already a much stronger feeling in the local market.

Evaporated Apples ..... 5 @ 6 c  
Figs, black ..... 2 1/2 @ 3 c  
Figs, white ..... 3 @ 4 c  
Apricots, new crop ..... 7 @ 10 1/2 c  
Peaches, new crop ..... 4 @ 5 1/2 c  
Prunes, 4-size basis ..... 3 1/4 @ 3 1/2 c  
Pears, new crop ..... 5 @ 7 c

## RAISINS.

2 Crown ..... 4 c  
3 Crown ..... 4 1/2 c  
4 Crown ..... 5 c  
Seeded, per lb. .... 7 c  
Seedless Sultanas ..... 4 1/2 c

## NEW CROP.

Loose Muscatels, 4 crown..... 5 1/4 c  
3 Crown ..... 4 1/2 c  
2 Crown ..... 4 1/4 c  
Thompson Seedless ..... 4 1/2 c  
Seedless ..... 4 1/4 c  
Clusters—Imperial ..... \$3.00  
Dehesa ..... 2.50  
Fancy ..... 2.00  
London Layers ..... \$1.25@1.35

## NUTS.

The new crop walnuts are now appearing in this market, and find ready sale at the prevailing quotations. Almonds are also appearing in larger quantities. A lot of Italian chestnuts has arrived, and stock is offered at the quotations given below. California chestnuts are correspondingly lower.

Almonds, Nonpareils ..... 11 1/2 @ 12 c  
I X L ..... 10 1/2 @ 11 c  
Ne Plus Ultra ..... 10 c  
Drakes ..... 9 1/2 c  
Languedoc ..... 8 1/2 @ 9 c

## WALNUTS.

Softshell, No. 1 ..... 12 1/2 c  
Softshell, No. 2 ..... 8 1/2 c  
Hardshells ..... less 2 c  
California Chestnuts ..... 10 @ 14 c  
Italian Chestnuts ..... 11 @ 12 c

## HONEY.

Comparatively little honey is arriving at present, and stocks in this market are light. Trading, however, is quiet, and sales are made at the former figures.

Water White, Comb, lb. .... 16 @ 17 c  
White ..... 15 c  
Water White, extracted ..... 8 @ 8 1/2 c  
Light Amber ..... 7 @ 7 1/2 c  
Dark Amber ..... 5 1/4 @ 5 3/4 c  
Candied ..... 5 1/4 @ 5 3/4 c

## HOPS.

Hops, per lb. .... 7 @ 9 c

There is little movement of hops just now, a large proportion of the crop having been marketed. A good many dealers are still holding out for 10 cents, while the buyers are offering from 7 to 9 cents, the latter price being paid only for the best lots.

## WOOL.

While prices show no particular change, there is a decidedly better feeling in the market, and the local buyers are taking more interest in California clips than for many months past. The Eastern market shows signs of a general revival, and a decided improvement is looked for.

Red Bluff (f. o. b. Red Bluff) free ..... 6 @ 7 1/2 c  
Defective ..... less 2 c  
San Joaquin (at S. F.) free... 5 @ 6 1/2 c  
Defective ..... 4 @ 5 c  
Mendocino, free ..... 7 @ 9 c  
Defective ..... 5 @ 7 c

## MEAT.

Considerable price-cutting is reported by one large firm on dressed meats, although so far most dealers are holding close to former quotations. Dressed beef and mutton, however, are considerably easier, and there is a slight reduction on live hogs.

Beef: Steers, per lb. .... 6 @ 6 1/2 c  
Cows ..... 4 @ 5 1/2 c  
Heifers ..... 4 @ 5 c  
Veal: Large ..... 5 1/2 @ 7 1/2 c  
Small ..... 8 @ 9 c  
Mutton: Wethers ..... 6 @ 7 c  
Ewes ..... 5 1/2 @ 6 c  
Lams ..... 8 @ 9 c  
Hogs, dressed ..... 8 @ 9 1/2 c

## LIVESTOCK.

Steers, No. 1 ..... 3 1/2 c  
No. 2 ..... 3 1/2 c  
No. 3 ..... 2 @ 3 c  
Cows and Heifers, No. 1... 2 3/4 @ 3 c  
No. 2 ..... 2 1/2 c  
Bulls and Stags ..... 1 1/2 @ 1 3/4 c  
Calves, Light ..... 4 1/2 @ 4 3/4 c  
Medium ..... 4 c  
Heavy ..... 3 1/2 c  
Sheep, Wethers ..... 3 1/4 c  
Ewes ..... 3 c  
Lams ..... 1 @ 1 1/4 c  
Hogs 100 to 150 lbs. .... 5 1/2 c  
150 to 250 lbs. .... 6 c  
250 to 325 lbs. .... 5 1/2 @ 5 3/4 c  
Boars, 35 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Nov. 10, 1908.—There has been some slackening up in the Northern navel shipments in the past few days, owing to the fact that sizes are running smaller than was looked for, and it is now difficult to get fruit large enough to ship. Another thing that has probably had the effect of lightening the output is the fact that it is now too late to get any more fruit to the East in time for the Thanksgiving market.

Some of the fruit sold subject to inspection and market condition on a \$2.50 f.o.b. basis, was confirmed at that figure and some turned down on account of greenness or because competing fruit was offered at a lower figure. The greater part of the fruit shipped from November 1 to date was at \$2 to \$2.25 f.o.b., or from \$1.65 to \$1.75 cash California, with bank guarantee. The unexpected shortage of suitable sizes has raised the price of the cash seller to \$1.85, and it may go higher yet, and the probability is that it will,

as it has also been discovered that the crop is shorter than was predicted, some say 25%, and W. O. Randolph, of the Randolph Fruit Co., says 40% short.

Navels are also going out from Orange county, in the South, and one small lot of fruit has already been sold in St. Louis at auction for \$3.05. Most of the fruit shipped was sold for cash at \$1.75, and this is on a par with what the Northern fruit has been bringing, though it is not up in quality, being less fully matured and not of good color unless sweated.

Lemons are doing fine, and our shippers are making hay while the sun shines. In other words, they are shipping quantities of fruit into the far Eastern market, where ordinarily they do not dare go, on account of the volume of low-priced foreign fruit in evidence.

## PUBLISHER'S DEPARTMENT.

## NURSERYMEN, FRUIT GROWERS AND FRUIT SHIPPERS.

In a note received from the Silva & Bergholdt Co., of Newcastle, this week, the secretary, Mr. Bergholdt, states that they will have for this year's planting some 250,000 trees, running mostly to the standard varieties of peaches, plums, apricots, cherries, almonds, apples, and Bartlett pears.

This firm differs in two respects from the average nursery; first, that they make a specialty of growing only deciduous fruit trees and vines, and do not go into ornamentals or citrus trees; second, that they are in the fruit growing and fruit shipping business, which puts them in practical touch with every phase of the deciduous fruit interests of the State.

Not content with being growers and shippers, the firm is also continually experimenting with new varieties and fruits of the older varieties that are new to this State.

From their catalogue we quote: "You never buy a cheap horse and expect to get a good one. Some ranchers buy the cheapest tree they can get, but an orchardist—never. Our trees and vines are not the cheapest, but they are the best that care in selection and growing can produce. We propagate only from parent trees and vines that are the best specimens of their kind, and our stock will give you good service for a lifetime. That is what you want."

Regarding seedling pits vs. budded pits, we again quote: "Our peach and plum trees (on peach root) are propagated on the natural peach seedlings, i.e., seeds that for generations have grown from seedlings."

The new advertisement of the Napa Shears appears in another column. These shears are made at Napa, and have been in use in California orchards for the past ten years. The shape of the blade makes them easy cutting, and blades are adjusted by a patent lock nut. Every pair is guaranteed, and the fact that wherever they have been used they have won out against all others attests their merit. The California Supply Co. also sells hand pruning shears.

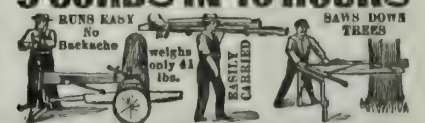
Bowen & French, of Oakland, have an attractive advertisement on our last page this week, of the Evans Cultivators. Light draft and saver of horseflesh are the cardinal points claimed for them. Send for catalogue giving full details.

The California Fertilizer Works, of San Francisco, are again using our columns to call attention to their bone and blood fertilizer. Send for their free booklet, "Fertilize for Profit." It is worth while.

The white fly inspectors have completed their work at Marysville, and nothing will be done there in the line of exterminating this destructive orange pest until next spring.

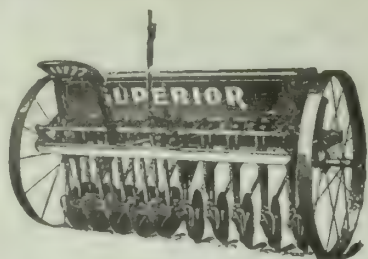
The State of Nevada has advanced \$5000 to pay the deficiency incurred by its last State Fair.

## 9 CORDS IN 10 HOURS



BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 2 men in any other way, and do it easier. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secure. Address: FOLDING SAWING MACHINE CO., 168-164 E. Harrison Street, Chicago, Illinois.





## Superior Disc Drills

SUPERIOR IN NAME AND QUALITY.

No other Drills combine these features:

AXLES—1½ inch diameter. STEEL pipe seed tubes.

STEEL WHEELS—4 inch Tires.

SEED CUPS for all grains.

SOLID GREASE CUPS FOR DISC BEARINGS AND GROUND WHEELS.

RIDING FOOT BOARDS or SEAT ATTACHMENT.

Barley and Oats Agitators. Malleable Boots.

Spring Scrapers. Roller Hitch. Drag Chains.

SEND FOR SPECIAL CATALOGUE.

THE H. C. SHAW CO., Stockton.

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution. Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

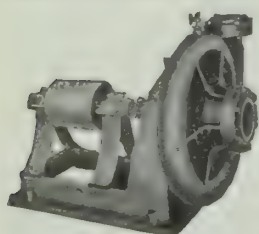
Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

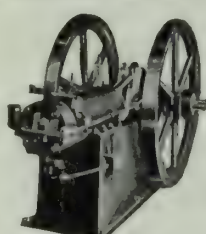
THE REX COMPANY, Omaha, Neb.



Gould's Centrifugal Pump  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



Red Cross Wind Mill  
Is built right. Works right. Runs in light wind. Has ball bearing Turntable and outer thrust.



Stover Gasoline Engines  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

PUMPS FOR EVERY SERVICE AND USE.

WOODIN & LITTLE  
PUMP HOUSE

70-72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings. Send for Catalogue.

## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

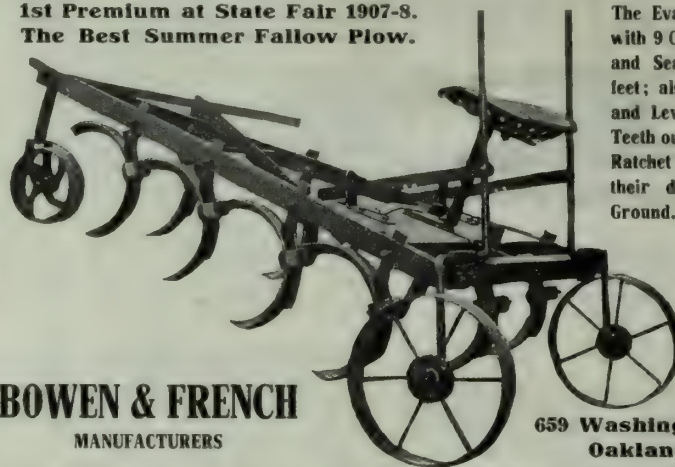
SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinions as to Patentability and Infringement  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco

## THE EVANTS CULTIVATORS

1st Premium at State Fair 1907-8.  
The Best Summer Fallow Plow.



The Evants Cultivator, with 9 Circular V Teeth and Seat, Cutting 4½ feet; also with Wheels and Levers for Lifting Teeth out of Ground and Ratchet for Regulating their depth in the Ground.

Light Draft and great saver of horse sh.

See Catalog for testimonials.

Send for Catalogs.

BOWEN & FRENCH  
MANUFACTURERS

659 Washington Street  
Oakland, Cal.

## Kentucky Disc Drills



meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

PACIFIC IMPLEMENT COMPANY

135 Kansas St., San Francisco.

## Expert Opinion on Our Horticultural Catalogue Printing and Engraving

From the Pacific Rural Press: Another offering of Mr. Burbank's new fruits is just made and heralded in one of the handsomest pieces of horticultural printing ever brought out in California, under the eye, of course, of Henry W. Kruckeberg of Los Angeles, who is one of the most striking geniuses of California, touching neither horticultural literature art or typography without leaving upon it an impress of characteristic adornment.

From Luther Burbank: The catalogue of my new fruits is, in my opinion, the best one ever published on this Coast, and would be a credit to any firm anywhere. You cannot do such work without having people find you out sooner or later.

Interested, are you? Then write us for samples and estimates. We can certainly be of service along lines calculated to make your catalogue making worth while.

## The Kruckeberg Press Corporation

QUADRI-COLOR PRINTERS  
CATALOGUE MAKERS

On South Los Angeles St. at 1-2-3

Los Angeles, California

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

THE PACIFIC GUANO & FERTILIZER COMPANY  
268E Market St., San Francisco, Cal.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash  
T. W. JACKSON & CO. Temporary Address,  
42 Market St., San Francisco.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 21.

SAN FRANCISCO, SATURDAY, NOVEMBER 21, 1908.

Thirty-eighth Year.

## \* A GREAT BOOK ON CALIFORNIA FRUIT GROWING

AND THE MAN WHO WROTE IT.

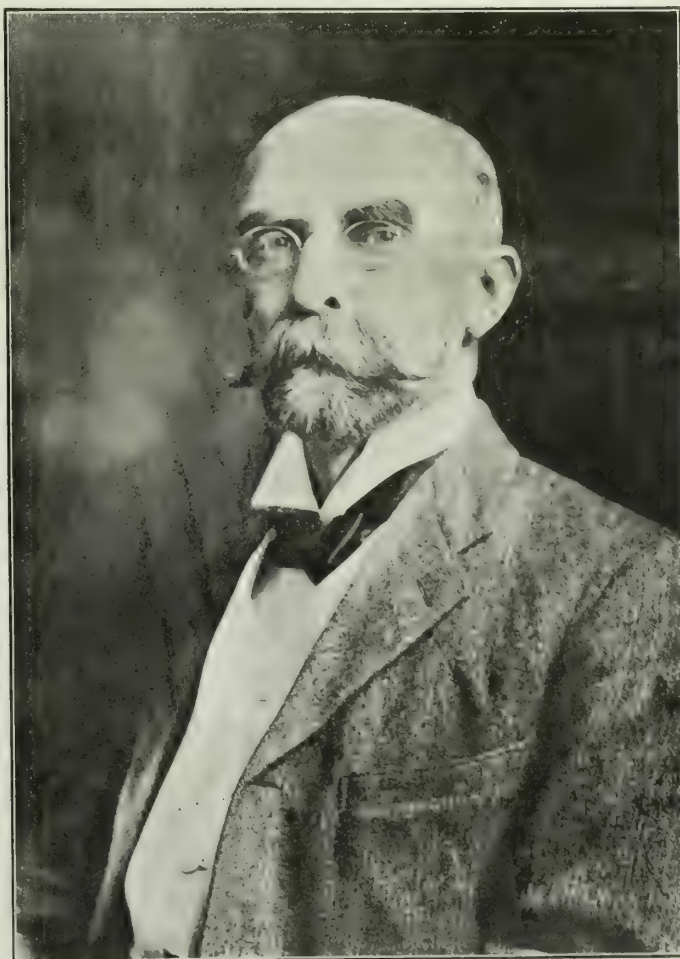
BY HENRY W. KRUCKEBERG, LOS ANGELES.

AS ORDINARILY SPOKEN, have you ever noticed the vein of derision contained in the proverb, "To the making of books there is no end"? As though almost implying that the activities of life should cease, and the records of civilization become "dry as dust" history, and the achievements of a people cease to be matters of interest when the printing presses of the country are groaning with a plethora of printed stuff calculated to "paralyze the Caesars and strike the earth breathless". Nevertheless, at no period in the industrial history of the world has there been such a demand for sane books—books that shall teach the economy of things; books that shall be elemental in character, so that we may learn from them where wear and tear can be diminished, time and labor saved, and mental and physical stress lessened in the accomplishment of maximum results at a minimum of cost. And since horticulture is California's greatest specialty, the backbone of its industrial fabric, affording remunerative activities to the largest number of men and women in the exploitation of marvelous wealth in soil products, it is fitting that the Golden State should give to mankind the greatest work on commercial fruit culture. Indeed, there is no subject so important, nor one so fraught with our future well-being and development. It is the "big thing" of California, which demands the wielding of an intelligent big stick in the shape of a good book that shall disseminate practical information to the thousands who are developing our pomology to still higher flights of glory and renown. And such a book is the fourth enlarged and extended edition of Prof. E. J. Wickson's "California Fruits and How to Grow Them"—an effort which is beyond all odds the greatest technical book ever made in California treating of a single industry in a single State, than which in extent and variety is to be found nowhere else on God's green footstool. In verification of this somewhat broad statement, let us view the book at closer range.

The volume in its physical aspect measures 7½ by 10½ inches, with two columns of reading to the page; number of pages, 486; number of full page illustrations, 28; number of color plates, 2; and a handsome portrait from a late photograph

of Luther Burbank, making a substantial book of nearly 500 pages.

In the great wealth of its diverse contents it so thoroughly covers its subject that the fruit grower will find it a safe guide, covering nearly every branch of an enlightened horticultural practice. No fruit of commercial importance is neglected; no new fruit of promise is slighted; no fruit that



PROF. EDWARD J. WICKSON, A.M.

\*CALIFORNIA FRUITS AND HOW TO GROW THEM. Fourth Edition, revised and extended. A manual of methods which has yielded greatest success; with lists of varieties best adapted to different districts of California. By Edward J. Wickson, A.M. 7½ by 10½ inches, nearly 500 pages, sumptuously illustrated. San Francisco. The PACIFIC RURAL PRESS, publisher. \$3.00, carriage prepaid.

has a possible future in California escapes notice; while all the cultural directions and suggestions are based on fully a third of a century of study, observation and experience, not only on the part of the author, but of many of the foremost pomologists and culturists of the State. A book so founded on the elementals of successful fruit growing must necessarily be practical and of service to every one owning an orchard or vineyard, be he a beginner or in the post-graduate class.

Aside, however, from its strictly cultural directions and advice, it possesses an added value by reason of its intelligent treatment of California's climatic and soil conditions, explaining their influences and modifications on different fruits; it

traces the earlier development of our horticultural activities, defining their successes as well as failures in a way calculated to save the beginner from errors of judgment as well as of practice; its discussion of fruit operations other than cultural are timely and to the point, indicating the advance that has been made in methods of fruit preservation; while the chapters on fruit protection against the depredation of injurious insects, diseases, animals and birds and wind and frost, amply supplements the author's intelligent directions on planting, growing and management. Possibly no better index could be afforded the reader of this review, touching on the wide range of sub-

jects covered, than a recital of the several parts into which it is divided:

Part 1: General, treating of prevailing physical conditions.

Part 2: Cultural, affording an exposition of the most advanced methods that have proved successful in the prosecution of commercial fruit production.

Part 3: Orchard fruits, telling of the commercial varieties of fruits which have stood the test of production and marketing.

Part 4: The grape, touching the commercial sorts for raisins, wine making, and shipping in the fresh state.

Part 5: Semi-tropical fruits, giving ample evidence of California's supremacy as a producer of citrus fruits, and olive and olive products, commercial Smyrna fig culture, with timely references to the growing of the date and other minor fruits of the tropics.

Part 6: Small fruits, covering bush fruits and the strawberry.

Part 7: The nut fruits, of which there are three varieties, namely, the English walnut, almond and the peanut, grown in this State commercially.

Part 8: Fruit preservation, dealing with canning, crystallizing, and preserving.

Part 9: Fruit protection, showing the latest methods of fighting injurious insects and plant diseases, the suppression of injurious animals and birds, and the protection from wind and frost.

Part 10 is a timely chapter on the utilization of fruit wastes.

In scanning its full and meaty pages it is indeed difficult to say what portion of the book "stands out" as its best thought. In the writer's opinion, the author is especially strong in his treatment of the California citrus fruit industry; indeed, he regards it as about the best thing in the book. He has gathered his facts from so wide a range that he is enabled to demonstrate that California sunshine, coupled with California soil and irrigation, produces the best orange and has made this the greatest citrus fruit section of the world.

The pages allotted to the grape are also suggestive and to the point, being richly embellished with half-tone and line engravings that ably assist

(Continued on Page 324.)



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. PUBLISHERS

E. J. WICKSON Editor  
FRANK HONEYWELL Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., November 17, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.01	5.30	6.45
Red Bluff.....	.00	.19	3.87
Sacramento.....	.10	.31	2.36
Mt. Tamalpais.....	.00	1.70	2.79
San Francisco.....	.00	.77	2.61
San Jose.....	.00	.29	2.67
Fresno.....	.00	.18	1.47
Independence.....	.00	1.59	1.34
San Luis Obispo.....	.00	1.43	2.49
Los Angeles.....	.00	1.55	1.46
San Diego.....	.00	.99	.91

The Week.

Eastward ho! To one flying through the mountain canyons and across the plains on the Overland Limited, which takes its general course along the Overland Trail, there comes first a thought of the argonauts as they wearily plodded their westward way, bringing to the foundation of an imperial American State in California the selected treasures of initiative, energy and patriotic fervor with which birthright and experience had charged the cosmopolitan American people during the two preceding centuries. This wisdom and valor was an accumulating possession: a product of evolution. The noble impulse to be spiritually free actuated the entry upon the Atlantic coast: the laudable impulse to be industrially free impelled the movement to the Central West: the pardonable ambition to be rich through enterprise forced the dangerous passage of the plains and mountains: the footpaths of the wildlings of the Great American Desert broadened into the Overland Trail. It has often been well claimed that the attainment of the Pacific seaboard was really a token of the survival of the fittest in the westward movement of mankind, which began, perhaps, when the cry of "Westward ho!" first sounded in the tents of the Aryan races. "Thus far shalt thou go and no farther," was a command once sounded in the ear of a man, but it was but the voicing of a principle which the Creator implanted in the heart of a man in the beginning: for men have always gone to the length of their capacity to conceive progress and to attain it. The quality of advancement has thus always been an individual endowment—capable of transmission through heredity and of enrichment by experience. All that men did, then, in earlier generation and in more eastward lands was in preparation of those who finally pushed through to the far western sea. California was the Princess of Thule, and the fact that her gateway was golden was but the gleam of a light to draw the valorous and the enduring to a service of mankind of which the gaining of wealth was but an incidental incentive.

But we do not intend to enlarge upon the great gifts to Californian development which were involved in the heroic spirit, the notable enterprise and the wonderful achievement of the pioneers. Their attitude of mind and vigor of effort demonstrated them to have been a select group of men and women, charged with exceptional power, both in good and evil, to which the new environment gave full opportunity for action—the good subjugating the evil, as it has ever done in human progress, and thus serving ultimate purposes which are clearly divine. We turn away from the glorification of California's inheritance in quality of citizenship because it has such a large element of those who have achieved something. That view has been so often claimed and so strongly supported that to search the dust of the Overland Trail for the footprints of those who by their own quality brought greatness to California would be too trite an undertaking. As we go eastward, then, in this late day we are thinking not of California's indebtedness to the sources of her power, but of influences passing, in this generation, eastward from California as a token that the world's investment of power and prowess on this coast was not misplaced.

In the first place, California can surely claim to have returned to the older States, which gave a select element of their citizenship, such satisfaction as all offspring gives to its parentage when it reaches a maturity of goodness and efficiency. When such maturity manifests uniqueness in quality or achievements, parental sacrifice is forgotten, or considered as generously requited. Such is unquestionably the attitude of the older States toward California. What California thinks or does in National affairs is heeded as are the thoughts and deeds of few older States. If one should claim that we are in danger of too much of this parental regard, which may engender conceit instead of desirable self-confidence, we would not undertake to deny the danger—but that is another question, of which the very arising may be received as proof of our main contention. California is counted prominent, progressive, likely to arrive on any issue, and thus she justifies, in a general way, the gift of population, investment and confidence which filled the Overland Trail in the old days and fills the overland trains moving westward today. The East counts the reputation and achievements of California worth to the American name something more than their cost.

It would be interesting to sketch, if one had the data for it, specific contributions by California to various lines of literature, science, the arts, and to the joys and comforts of living the richer, fuller, freer and more cleanly lives which are counted characteristic of American civilization. California, too, has led toward advanced ideals in public affairs and enforcement of policies which have ministered to the present economic standing of the Nation. One only has to read contemporaneous literature, as embodied in books and serial publications, to learn not only what Californians have done and are doing but to desecrate the place of prominence and esteem which the State is conceded to occupy. Probably no other State can claim the originality, daring and ability to command public attention which has been manifested by current writers who have taken up their tasks in Californian environment and have seen influenced thereby. There is certainly a largeness of view, an openness of conviction, an originality and freedom of method which not only embodied the general Western spirit but adds to it a phase which is conceded to be Californian. But all these

matters are to us afield, and we lack confidence in our conception of them, except as to their real existence, in which we firmly believe.

On the industrial side of human progress, however, California stands more clearly revealed in the light of progressive achievements. This is but natural, when one reflects that here the American inventive genius and grasp of new and large ideas of enterprise first met resources which in variety and richness startled even the American mind. On the Atlantic Coast, development had been chiefly an affair of axe and fire, the use of rivers as they ran for water power, the digging of coal from shallow pits, and the like—good enterprises but largely superficial. In California industrial daring manifested itself almost at the beginning by turning rivers from their courses, battering down mountain sides and burrowing into and beneath them, carrying water-courses across the faces of cliffs: manifesting a penetrating power of enterprise which seemed incredible as stories of its achievements reached distant parts of the country. The result was that the "California method" came to be recognized as bold and resourceful wherever profitable production called for water to be carried along the skyline or shot through the air, or wherever the earth was to be pierced for any purpose. Out of the multitude of new ideas and strange accomplishments in California came enrichment to the science and art of engineering, and if only this had been gained by the opportunity given to the American mind to develop itself in California, it would have amply requited the gifts of all the States to ours at the beginning. Thus again the return movement along the Overland Trail was a step in the industrial progress of the world.

When the resourceful spirit of California breathed upon the industries of the forests and the fields, it was also natural that novel policies and methods should prevail, and that they should quickly adapt themselves to the strange conditions in air and soil and plant growth which are characteristic of the State. Here too have arisen hosts of devices and recourses which are known in all parts of the world as California methods. Space will not permit us to even catalogue them as they are manifested in all the lines of agriculture. Let us take a single branch of California agriculture as an exponent of them all, and sketch briefly what California has done for the fruit industry wherever it is pursued. Methods and policies recognized as Californian are being introduced wherever practical in all parts of the world. Governmental commissioners have appeared from all civilized countries and have made elaborate reports of their observation of California methods. Not only have young trees and vines been shipped in all directions from our nurseries, but implements and machinery employed in fruit growing and fruit preservation have been widely exported. Greater service than this has been rendered in the demonstration of the value of certain pomological nearly everywhere, and the epoch of grass growing in orchards has closed, even in the most humid climates.

First. The importance of clean cultivation during the growing season, not alone in the conservation of rainfall, but in promoting physical conditions in the soil which are favorable to vigorous root action. California may not have invented such cultivation, but the world paid no attention to it until California exhibited its benefits by thousands of acres. Now it is the accepted method nearly everywhere, and the epoch of grass grow-



ing in orchards has closed, even in the most humid climates.

Second. California has shown the essential nature of clean surface cultivation in connection with irrigation, and this demonstration is influencing practice wherever irrigation is employed.

Third. Irrigation supplies always available in case of deficiency in rainfall are recognized in California as the safeguard of horticultural investments and of thrift of trees and vines, and this too is being provided for now in humid regions, where recently irrigation was looked upon as valuable only in deserts.

Fourth. Low, vase-shaped fruit trees were formerly grown in gardens. To day they are found in the orchards of all continents, but California furnished the demonstration of their superior economy, thrift and profit, and banished the old high-trunk, cow-browsed fruit trees from commercial orchards.

Fifth. Orchard and vineyard protection from pest and fruit diseases first reached great and systematic development in California, and the two most effective insecticides for fruit tree insects now in use originated in this State. In California, also, the most striking demonstration of the value of pursuing injurious insects by multiplying their natural enemies has been reached.

Sixth. California has led in the new and aggressive American policy to market fruit products abroad, and has reached signal achievements in supplying American markets with certain fruit products previously available only through importations.

Seventh. Success in the organization of fruit growers for co-operative action in preparation and marketing of their own products has enabled California to enforce policies of wide distribution and economic production which alone could avert the disaster which usually attends very rapid increase in the volume of products which are not already recognized as staple foods.

Eighth. California has reached such success in plant breeding that a very large part of the varieties commercially grown are of Californian origin. The production of fruit in large quantities required varieties adapted to local conditions of climates and suited to the definite purposes involved in long shipment, in drying, and in canning. The varieties which delight the amateur may bring no profit to the commercial grower. California succeeded so well in reaching these commercial standards that the California varieties are being accepted as a basis upon which to begin fruit growing in the uttermost parts of the world.

Ninth. California also holds the leading place for the creation of new varieties, found unique and valuable both to commercial growers and amateurs, in the achievements of Luther Burbank, who has worked with an eye to the requirements of the world at large.

Again we can say, as we ponder upon the return which California has made for the heroism and resolution to push through, which established the Overland Trail, that if the service to agriculture is alone considered, all the contributions of the older States to the development of California are amply requited. And now that the State is out of debt, as we may say, by return of the capital invested in its establishment, California stands in the sisterhood of States ready for increased effort toward greater achievements which shall add to the fame of the Nation and to the prosperity of the American people. The Overland Trail is almost obliterated, but its significance to the United States and to the world should never be forgotten.

## Queries and Replies.

### To Improve the Soil for Oranges.

To the Editor: We have recently purchased an orange orchard in the eastern part of Fresno county. Our trees seem to be in a healthy, thriving condition, and the oranges this year are fine in size, shape and texture. Our soil, however, is not very deep, being underlaid with gravel and cobble stones, some of them pretty large sized. It occurred to us that it might be good policy to fertilize our land moderately to keep it in good condition, even though it does not as yet show signs of needing it. We are advised that cow peas or Canadian field peas, planted during the winter and plowed under during the spring, are very good fertilizer. Any advice and information you can give us will be gratefully appreciated.—Grower, Fresno.

You will certainly have to be very prompt and watchful with an orange orchard on a gravel and cobble basis, both as to adequate moisture and plant food. You would certainly do well to get a good growth of green, leguminous plants to plow under, and if you can afford the water to make a summer growth, the cow pea might succeed very well with you. That, however, you would have to determine by experiment. If you wish to use rainfall for the growth of your cover crop, the cow pea is not hardy enough in most situations, and a legume which will grow at low temperatures and stand some frost, like the Canadian pea, is altogether superior. It is likely that in your experience you will find it desirable, as others have, to use both a fertilizer and the cover crop, but it will be a good plan to start with the latter.

### English Holly for Export.

To the Editor: What could be done in raising English holly for commercial use?—Reader, Seattle.

There has been some talk about growing English holly for export to Chicago during the holiday season. There is no amount of the plant, however, in California, and nothing has been done so far except to talk about it. We imagine it might be a better proposition in the moister climate of Washington, and possibly the Portland florists could give you the most trustworthy advice. The local consumption of holly would be too small for a large venture in growing it. It would be necessary to connect up with the great eastern holiday demand for "greens".

### Apple Leaf Aphis.

To the Editor: I am a new subscriber to your paper, and I would like to ask a few questions. I send a leaf from one of the apple trees in my young orchard, which is about two years old. You will notice a kind of a louse on the leaf. About half of my trees have these lice. How can I get rid of them? If by spraying, what kind of spray should I use, how often, and how much?—New Subscriber, Santa Rosa.

Your trouble is the leaf aphis of the apple. There is practically nothing that you can do for them now, but you should watch early in the spring, after the growth starts, for the first appearance, and then spray thoroughly with the kerosene emulsion, using a spray apparatus which will enable you to strike the under sides of the leaves. These insects not only bring the tree into an unthrifty condition but frequently distort and deform the fruit so that satisfactory results with the apple tree can hardly be expected unless these pests are destroyed. If they are hit early in the spring, subsequent generations are of course cut off, although several applications are sometimes necessary.

### For a Lawn in San Francisco.

To the Editor: I desire to ask you to give me the name of the variety of lawn grasses that will grow best in the sandy soil of the Richmond district of San Francisco.—Resident, San Francisco.

Nothing will satisfy you for lawn beauty except Kentucky bluegrass, sown alone or combined with a certain amount of white clover. This plant, or the mixture, when given an adequate amount of water and frequent use of the lawn mower, produces the velvety turf with which nothing else can compare. You, of course, need to use as much loam and stable manure, in connection with the sand, as you can afford to provide.

As for a grass which would be reasonably satisfactory on the sand without this preparation and care, you can get good advice by consulting Mr. John McLaren, superintendent of Golden Gate Park, who can demonstrate to you the utmost which could be expected in this direction. Lippia, a prostrate shrub, gives a good verdure with a minimum of work and water.

### Flax for Seed.

To the Editor: Do you think the heavy sediment soil of Tulare lake would be suitable for a crop of flaxseed? Does flax need lots of moisture, say, more or less than wheat or barley, and ought it to do well where either of the above grains grow? Can you give me the address of anyone who can give me information?—Farmer, Tulare County.

Flaxseed generally makes a good crop under the same conditions as wheat and barley, and it is grown in about the same way; also cut and thrashed with ordinary grain handling machinery. If you will correspond with Mr. C. J. Everding, 48 Clay St., San Francisco, he will send you fuller information, as he is making contracts for seed in the interest of the Pacific Oil & Lead Works.

### Sowing Alfalfa.

To the Editor: Please answer through your valuable paper this question: Which would you consider more advisable, to sow alfalfa in the fall or spring? I intend to sow some this fall, but the neighbors tell me that it will freeze.—Beginner, Turlock.

We have answered this question several times. The time of sowing depends upon how hard freezing you are likely to get, for different elevations differ widely in this regard. If you can get the ground wet and the plant started early enough in the fall to get the plant into the third or fourth leaves, it will stand light frosts and get a good start. If the time for this has passed, it is better to sow early in the spring—in February, in all but the frostiest places.

## CALIFORNIA FRUITS: FOURTH EDITION.

The publishers of "California Fruits," by Prof. Wickson, have to announce an increase in price of the Fourth Edition, which is now ready to distribute. The book is much larger than expected, because of the great increase in contents which the author found desirable, and because of the multiplication of striking and significant engravings which the publishers thought the enriched and extended text demanded to fitly assist the grower in his work and to represent the present notable expansion of the industry. The new edition has a page one-third larger than its predecessors, and the illustrations are increased four fold, including a multitude of full-page plates, some in colors, all of which make it imperative that the price be advanced to \$3 per copy, to cover the increased cost of the work.



## Horticulture.

### A GREAT BOOK ON CALIFORNIA FRUIT GROWING.

(Continued from Page 321).

in explaining the text, which is indeed exhaustive. The three divisions of the industry, namely, growing of grapes for raisins, for the table, and for wine making, are treated along lines well calculated to be of service to every person owning a vineyard, giving, as they do, minute information as to the varieties adapted to different sections of the State, including their care and management.

Growers residing in the regions of scant rainfall will be interested in the concise and practical way in which our author has explained the basic principles of the artificial application of water to trees and vines. He has studiously avoided the phraseology of the engineer, and given us in the vernacular of the man in the field ways and means whereby to secure best results in irrigation by the use of simple appliances within easy reach of the average farmer. Nearly all the tools suggested are low in cost and easy to make. The illustrations are as timely as the text is practical.

The chapters on the stone fruits are quite as complete as those already mentioned, and tell in a forceful yet graphic style of the achievements made with these varieties, of which the peach easily occupies first place.

But what of the man who wrote the book? In the language of one William Shakespeare, "Thereby hangs a tale". It may not be amiss to tell our readers something about his many admirable qualities and the great work he has accomplished in the dissemination of practical knowledge bearing on our horticultural development. There is, probably, no man within the confines of the State who possesses a wider personal acquaintance among the men and women who have developed our pomology to its present high standing, and have made of it the leading industry of a State, aggregating an annual value of \$65,000,000; nor is there a man better versed in horticultural conditions as they apply to the different sections of this State. To have presided over the destinies of the PACIFIC RURAL PRESS for a third of a century and to have the proud distinction of being recognized as the Dean and Professor of Agriculture of the State University, Director of the Agricultural Experiment Station, and the author of the book here under consideration, are indeed honors to be proud of. An individuality so pronounced and so situated must necessarily be of some public interest, hence a brief reference touching the salient features of Professor Wickson's life work in California may not be out of place at this time.

Prof. Edward J. Wickson was born in Rochester, New York, August 3, 1848. He spent his boyhood days at the public schools in that town, later attending Hamilton College, from which he was graduated in 1868, having during his undergraduate course won honors in classics and chemistry. After graduating he entered his father's agricultural implement factory, which was destroyed by fire in 1870, thus wrecking the financial resources of the family. Later on he accepted a place upon the editorial staff of the Utica Morning Herald, at that time recognized as the champion of the newly developed export cheese industry of Central New York. His devotion and exceptional ability were recognized in his appointment to the secretaryship of the New York Dairymen's Association in 1871, and in 1873 to the presidency of the Utica Dairymen's Board of Trade. In 1874 he was a leading speaker in the State Dairymen's Conventions from Vermont westward to Illinois. While engaged in this work he attracted the attention of the then publishers of the PACIFIC RURAL PRESS, which resulted in his coming to California in 1875 as editor of this paper, in which position he has been conspicuous ever since. In 1876 he organized the first dairy association in California; in 1879 he was one of the organizers of the State Horticultural Society, and in that same year was elected lecturer on dairy husbandry in the University of California, and in 1885 was given a broader field in the lectureship of practical agriculture. In 1887 the superintendency of the agricultural grounds of the University was added to his du-

ties, and in 1891 he was again promoted to the position of assistant professor of agriculture, horticulture and entomology, and this position he held until his elevation to the professorship of agricultural practice, in 1897. He was appointed trustee of the California Polytechnic School at San Luis Obispo, at the organization of that institution by the State in 1903, and was re-appointed in 1906. Professor Wickson has been for many years a member of the American Pomological Society, and is the California representative on its General Fruit Committee. He was appointed in 1899 a special agent by the United States Department of Agriculture to investigate the pomological conditions of the Pacific Coast region, and made a report on that subject. In 1906 he was appointed a member of the National Horticultural Council, an advisory board constituted by the horticultural societies of the United States. Professor Wickson was elected Dean of the College of Agriculture of the University by the faculty in 1905, and has been re-elected annually since that date. In 1906 he served as expert for the commission which selected and purchased the University Farm at Davis, and was a member of the commission organized by the legislature of 1905 to select a site for and establish the Southern California Pathological Laboratory at Whittier, and the Citrus Experiment Station at Riverside, both of which are conducted by the Agricultural Department of the University of California. On September 11, 1907, Professor Wickson was promoted to the professorship of agriculture of the College of Agriculture and director and horticulturist of the University Agricultural Station, a position held up to that time by Dr. E. W. Hilgard, who was retired with the rank of professor emeritus.

In addition to his multifarious duties at the State University, and the editorship of the PACIFIC RURAL PRESS, Professor Wickson seems to find ample time in which to write books and attend public functions, besides being affiliated with a number of agricultural and horticultural societies. His is eminently the optimistic temperament: the ambition that wants to help to make the world better today than it was yesterday, and better tomorrow than it is today. This idea permeates all his work, and is a pronounced feature of "California Fruits". Nothing is left undone which can be of possible service to our horticultural development; and unless a thing possesses a value and an uplift to humanity, it does not excite his interest. His is the spirit to "do things", and to afford an incentive and encouragement to others to "do things". His work has been potential in our horticultural development: may he continue to edit the PACIFIC RURAL PRESS and direct the destinies of our agricultural college for another third of a century!

#### STATE FRUIT GROWERS' CONVENTION.

The following announcement of the thirty-fifth Fruit Growers' Convention is sent by the State Horticultural Commission, under whose auspices the meetings will be held at Sacramento, beginning December 1 and continuing four days:

The subjects to be discussed at this meeting will be of more than ordinary interest to the fruit growers of the State. In view of the fact that there is to be a tariff revision early next year, every fruit grower should be awake on this matter. The market questions concerning the disposition of many fruits should be thoroughly discussed, and the fact that the State Insectary is to be dedicated at this meeting will lend added interest to the convention. Besides these, there will be many subjects of paramount interest to be considered.

The subject of noxious weeds is one of burning interest over a large portion of the State, and it is hoped to bring this subject to the attention of the fruit growers in time to prevent the spread of some of these new pests in other territories, and to recommend legislation regarding their control. A paper will be presented by a gentleman who has been making a study of this question for months, and it should be enlightening as well as alarming to the growers of the State.

Another topic of interest is the threatened invasion of the thrips, a small creature that has already rendered abortive several hundred acres of deciduous fruits, and is now infecting some of

the citrus territory. Dr. Howard and his associates will have papers on this subject. The fitting of the soils to the crops will be discussed by a Government expert, and one of the chiefs of the Forestry Service will speak upon the protection of our watersheds, together with the State Forester. A special feature will be northern California nut growing, papers being presented by both a scientific man and a practical grower.

Judge Peter J. Shields will address the convention upon a subject relating to farm life that is being considered by the whole Nation. One session may be devoted to this address and discussion thereon.

The convention will also consider at one session the horticultural laws of the State. It is expected that the committee appointed one year ago will have its report ready, and recommendations embodied leading to the revision of the horticultural laws of the State. One meeting will be devoted entirely to the consideration of county horticultural commission matters. There will be papers on the apple, and other fruits; a paper on the tariff, and special prominence will be given in another session to the grape shipping business. The chambers of commerce of Stockton and Lodi have united in presenting the topic of the Tokay grape in a valuable paper to be prepared by a writer chosen by these associations.

The number of papers will be fewer this year than ever before, owing to the general demand of the growers for more time for discussions at these conventions. In view of this fact, every fruit grower is invited to come to this convention prepared to present any ideas he may have for the betterment of the industry, and we hope to have ample time for this part of the work.

The usual low railroad rates will be available. It will be necessary in purchasing your ticket at your home office to secure a receipt for the same, and present it to the secretary at the convention for his signature; you can then secure one-third fare on the return trip, making a one and one-third fare for the round trip.

The hotels will give reduced rates, and the people of Sacramento are preparing to make the stay of the attendants at this convention both pleasant and profitable.

#### ANOTHER ANCHOR FOR THE FRUIT INTEREST.

One of the greatest sureties of the continued prosperity of the fruit interest and its wonderful expansion is found in the confidence of capital in investments looking toward wider and more systematic transportation. The report which comes from Oroville that the Earl Fruit Co. has sold its immense fruit-packing houses and other property in that city used for the packing and shipping of fresh deciduous fruits, is in that direction, for the purchaser, it is rumored is the \$12,000,000 Pacific Fruit Express Co., which recently filed its incorporation papers. It is expected that if this is true the new concern will pack both deciduous and citrus fruits at this plant, and will erect an icing plant and other necessary works on this side of the mountains.

Developments in regard to the Pacific Fruit Express are being eagerly watched, for it is believed to be a Western Pacific enterprise, organized for the purpose of securing for the new railway a large portion of the fruit shipping business of the territory through which the Gould road will pass. The fact that the company is incorporated in Salt Lake City bears out this supposition. If the new company is the purchaser of the local plant of the Earl company, it will mean that the latter is probably to be merged with the Pacific company along the route of the Western Pacific, and possibly elsewhere.

#### HOW TO MAKE PRUNES GO.

A Washington correspondent of the Rural New Yorker ought to have an honorary degree as a prune promoter. He writes:

At the house where about twenty of us eat, during the past nine months the lady who manages the place has purchased over half a ton of dried prunes for the table. They are placed on the table in a large glass dish, where everyone can help herself or himself; always at breakfast, usually at dinner, and often at supper. And such prunes!



Not the half-cooked, half-raw prunes, served in a little thin, watery juice, such as one usually finds at hotels, but plump and well-cooked prunes, with plenty of rich juice—as healthful as they are delicious. Whether or not there may be other stewed or canned fruit on the table, the majority—the more discriminating portion of our number—choose the prunes. With a little cream or cool fresh milk added, they make a dish of fruit of which one never tires, according to the experience of those of us who have had the privilege of eating them during the past year or more.

#### RAISIN GROWERS' SELLING COMMITTEE.

At the meeting of the raisin growers forming the pool, held at Fresno last Saturday, the following named men were appointed as a selling committee: R. Frizelle, of the Kearney estate; J. Smilie, of Del Rey; Wm. Forsythe and John Fairweather, of Fresno. By vote of the meeting this committee was added to by the appointment of three more growers, who were: George M. Scott, Charles Gaines, and Mrs. V. A. Mowat.

It was stated at the meeting that a little over 18,000 tons were signed up in the pool, and more were being added daily.

The work of the selling committee now consists of solidifying the pool and selling the big tonnage in large blocks, and if possible, in one lump. From now on the raisin meetings will be for the purpose of listening to reports from the selling committee as it progresses in its work, and each week the raisin growers will be given a report of what has been accomplished.

## Citrus Fruits.

### WHAT SHALL THE MULCH BE?

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

What seems an important point has been reached by the Missouri Station in the Horticultural department. Like the California orange growers, they have battled with the question of maintaining a proper soil. Stable manures were not fully satisfactory and very expensive. In watching the results obtained by fruit growers in their State they have observed that mulch crops and plain commercial fertilizer materials meet the case most satisfactorily, so that there is no need to resort to stable manures. They say, in speaking of the manures from the cities, the use of which many have abandoned owing to the cost and expense of hauling and handling: "It is doubtless true that in many cases this trash and water can be secured at home from cover crops much cheaper, and the elements of fertility added in the shape of commercial fertilizer." The point is well taken that as the important element we call humus is the most valuable addition to the soil acquired from the use of manure, and is merely the result of decayed vegetation, and the cover of mulch crops produce it so much cheaper, the use of stable manure is not only unnecessary but an extravagance. There are in Missouri, as in California, farmers who will not readily give up such a time-honored institution as stable manure, and there are many orchard owners who are not themselves farmers, but who are unable or perhaps too fearful to direct the caretaker of their properties, and such people do not get the full advantage of the ascertained knowledge derived from fully studied experience and research of their neighbors and the experimenters.

**City Manure and Disease Germs.**—Speaking of stable manures, and having at the same time in mind the Tuberculosis Council recently gathered at Washington, brings up a point in connection with manure from city stables. It has been said that the deadly tubercles are distributed in the air from places where the conditions are favorable to their propagation. Claims are made that the manure and trash heaps in the cities are practical culture beds for these germs, and that the transference of the city manure to the orchards is but assisting in the dissemination of tuberculosis in the community.

**Humus—What Is It?**—The discussion of stable manure suggests thoughts on that vaguely under-

stood yet distinctly important compound of the loam soil called humus. If we are to judge from what we read and hear, the chemist's idea of humus and that of the ordinary agricultural writer and lecturer are somewhat at variance, and as a result the grower does not always get the true sense of the articles and speeches which are intended for his benefit. A fair understanding of humus is earth combined with acids of decayed vegetation or other organic materials. It may help to an understanding of it by reviewing other soil compounds, as, for instance, phosphate, which is a combination of such soil matter as lime, iron, magnesium, aluminum, and any base or alkali, with the acid of phosphorous. Then gypsum is the compound formed by the fusion of the lime base with the acid of sulphur. Ordinary lime comprises calcium and carbonic acid. Potash is but the compounded potassium of the soil with the organic oxygen of the atmosphere. All these acids are formed by fusion with the same organic element of the atmosphere, and so we see that the combinations referred to are all compounds of soil and organic gases. Thus humic acid and other organic acids resulting from the decomposition of vegetable and animal materials combine with mineral matter of the soil and form what is called humus. This may give some idea of the enormous supply of vegetable matter necessary to ensure the forming in the soil of a fair amount of humus, on which depends the loaming of the soil necessary to the prosecution of practical agriculture. When we grasp this fully we gain a fair idea of the gigantic work done by Nature in building for us the virgin soil, the power of which is its humus content. As oxygen, the acid radical of humus, is an atmospheric element, and as such constantly seeks liberation in a gaseous state to reach its natural home, the destruction of humus is very rapid when it is thrown up to the air by plowing operations. In the semi-arid climate of California this destruction is hastened, and soils under such constant cultivation as citrus culture demands are rapidly impoverished. Only the depth of the loam makes possible the production of crops from such meagre manuring as is commonly vouchsafed to the soils. If our loams were as shallow as those of most Eastern States, the cry would soon go forth that they were weak, for the strongest soils, if shallow, would not long stand the intense cultivation necessary to the conservation of moisture without heavy manuring. Humus is not only a storehouse of fertility, as we are frequently told, but it is also a moisture conserver, as it has a wonderful power of water absorption without melting. The humus seems to be the last soil ingredient to part with water, so we find that the richer the soil is in humus the longer it retains moisture. Again, humus keeps a soil friable because it has no cementing qualities, as the grower understands them, and keeps it moist. As long as a soil is moist it rarely hardens unless the elements of stone cementing happen to fall together in amounts and conditions for such cementing. There are also purely organic forms from humus, such as humate of ammonia, but these are not believed to exist commonly in an agricultural soil for any length of time, owing to the action of nitrifiers, but they are more native to swamps and slime deposits. Growers are frequently admonished to sweeten the humus of their soils, and that certain troubles may arise from sour humus. Allowing acidity and sourness to be synonymous terms, we may say that the humic acids, carbonic acid, and other acids resulting from the decay of matter will remain sour in the soil until they are combined with some basic or alkaline earth. The most common and healthy earth to join with these acids is lime, so that with sufficient lime in the soil the humus is sweetened by the acids becoming compounded with the lime. The amount of lime necessary to vegetation as a food is only a fraction of the amount needed to effect a good physical soil condition and sweeten the humus, and when we realize the large quantity of manure or crop refuse necessary to make and maintain a rich loam soil, and the proportionate amount of acids produced from the decomposition of the materials, we are impressed with the advisability of thorough liming, say, once in five years. If artificial means, based on natural methods, are to produce a rich loam soil for the trees, liming must almost invariably be looked upon as a standard operation in connection with the work.

## THE LEMONS OF SICILY AND CALIFORNIA.

Mr. G. Harold Powell, of the U. S. Department of Agriculture, who is doing so much, as our readers know, to help us in the growth and commercial handling of citrus fruits, writes a personal letter to Mr. J. H. Reed, of Riverside, in which this interesting paragraph occurs:

I have not said anything about the lemon industry. It is too big a subject to open now. I learned a good deal that I think will be helpful to California, and especially to us in shaping our experimental work. The underlying difference between the Sicilian and the California lemon is that the first is grown slowly on high trees with a great circulation of air around the fruit. The fertilizing is light, the irrigation and tillage light, and the pruning light. The fruit is not washed. The California lemon is stimulated by fertilizer, tillage, pruning, and irrigation. The dense headed trees makes a beautiful, delicate lemon, and the low-headed tree is the source of the brown rot and of the necessity of much of the washing.

I shall not attempt to say now which is the better system. Both have their merits. I am convinced, however, that some modifications might be made in the culture methods in California without sacrificing the good points, and at the same time help to develop a lemon with a little stronger physiological power. But we will have to show whether this is true or not by experimental work before we can say much about it.

## Sylviculture.

### EUCALYPTUS FROM CUTTINGS.

We answered a correspondent recently that eucalyptus trees were not grown from slips or cuttings, and that is true in general practice. Mr. George F. Hall, of San Diego, however, gives some notes about growing the trees from cuttings which may interest some readers and suggest experiments. Mr. Hall writes:

It is very easy to make a mistake in the seed, but we have discovered by trial and experiment that the eucalyptus can be readily propagated from cuttings. They grow readily if watered, but you must have irrigation to get them rooted. We have tried pieces as large as a broom handle in diameter, which grew, but subsequently died when we withheld irrigation. Cuttings the diameter of your little finger and smaller, planted beside small rooted seedlings grew just as rapidly and as vigorously while watered, but the root system must be supplied with water until it is sufficient to maintain the growth above the surface. Pieces cut into suitable lengths from the fresh limbs can be driven into the soil during the rainy season, and they will start a lot of shoots, from which select a vigorous one and rub off the rest, so all the strength will go into the one shoot. Remember, this will be all waste work unless you are prepared to give future irrigation for the first season. It is a good time now to try for yourselves and prove our proposition true. Make some cuttings, put them in good soil, and cultivate and irrigate the first season, and you will see how soon you can have a forest of eucalyptus. They grow as easily as willows from cuttings. There are conditions where this substitution of cuttings for seedlings will be of advantage, where you have moist land you can get a grove without the tedious process of raising the trees from the seed, which is quite an undertaking, as the trees in their youth are very tender. If you can supply irrigation till the trees are established, you get a grove quicker than from seed. If you have to go any distance to get the cuttings from the trees, put the cuttings in the folds of a wet gunny sack to avoid drying out. One cannot be too careful in this detail, as the cuttings should not be allowed to dry before planting. A cutting is best set in the place where it is to stand. I have not tried planting cuttings in deep boxes of soil to be transplanted, but unless the root system is well developed it only adds the element of doubt in the matter of transplanting large cuttings; better, if possible, put them where they are to grow. We believe the practice of using cuttings will help many who fail in raising seedlings.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The Winters' fruit growers report several sales of prunes and figs; the peaches also are beginning to move.

A giant walnut, 6½ inches in diameter, is reported to have been grown on the Stewart ranch, near Sunnyvale.

South Australia reports the largest apple crop this season in its history, shipments of 147,251 cases having been made.

According to the Redlands Review, the orange crop in that district will be smaller by 15 per cent this year than last.

The Madison & Bonner packing house at Reedley has packed more than 230 tons of peaches and 800 tons of raisins the past season.

Fruit shipments from Vacaville for 1908 was closed last week. The total shipment for the season was 999 cars, against 645 cars for last year.

A. H. Bacharach, near San Jose, has produced raspberries and loganberry plants by crossing, which he claims will produce three crops during the year.

The third annual flower show held at San Diego last week was a great success. The wonderful showing of flowers made is the more remarkable owing to the fact that no prizes were given.

The French-American Wine Co. at Ru-

therford reports a successful vintage just closed, 250,000 gallons of wine having been made this season, which is about 50,000 gallons more than last.

The Mission Land Company of San Fernando have a force of men at work taking out about fifty acres of apricot trees. The land will be sown to peas this year and probably set to orange trees next year.

A. V. Stewart of Western, Stanislaus county, states that the three-year-old trees of his 170-acre olive grove are producing a fair crop this year. He will have about 10,000 gallons of pickled olives this season.

A party of fruit growers have agreed to purchase the Downing packing house at Aroma, Kings county, and will pack and market their own raisins this year, and perhaps go into the business permanently.

Grape growers, representing 73,000 acres, organized the Southern Grape Growers' Association at North Cucamonga last week. Each acre represented in the association is to be assessed 25 cents for the good of the industry.

The fifth annual convention of the Washington State Horticultural Association will meet in Spokane, December 7 to 10. On the same dates the National Apple Show is to be held there. This organization has more than 300 members who are identified with fruit growing in that State.

The Empire Vineyard & Orchard Company of Fresno county was recently organized, with a capital of \$250,000. This company owns orchards and vineyards in that county and expects to erect a distillery for wine and brandy making, as well as fruit juices, before next season's crops mature.

The Watsonville Pajaronian says that up to last Wednesday 1829 carloads of apples had been shipped from that place this season, and from other points nearby 400 cars had been shipped, making a total of over 2200 cars, and that over 1200 more cars will be shipped before the crop is exhausted. Most of the Bellflowers have been sent out.

The growers of Zinfandel grapes in the Arbuckle district, Colusa county, find that it is not the best variety that will grow there, from the fact that the fruit is too sweet and the wineries must ferment it twice. This makes an added expense and causes the grapes to be sold for less, the price being about one-half that received for the same variety in Sonoma county.

In a note received recently from W. H. Hannibal, of Agnews, in Santa Clara county, he tells us of the heavy yield of apples which his orchard produced this year, the figures of which we published last week. He states that the apple crop in the Alviso district has been very heavy, one firm having shipped 50 cars of four-tier Y. N. Pippins to England, and other growers about 50 cars of mixed varieties on their own account.

In a recent interview, Alden Anderson, head of the California Fruit Distributors, stated that the total shipments of cherries, apricots, peaches, plums, pears, grapes, apples and quinces will amount to 12,602 cars for 1908. His estimate is that every car shipped out will bring a net profit of approximately \$500, making a return to the growers of \$6,300,000. The season as a whole has been very good and broken all kinds of records, not only exceeding shipments of last year, but in peaches, pears, plums and grapes the shipments were greater than any previous year.

A dispatch from Lodi says that an effort will be made next year to ship grapes to the East by packing them with sawdust in kegs, as the experiments tried out this year have demonstrated that the

## MILL

TO

## MAN

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



Importers of  
Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

Hawaiian Fertilizer Company, Ltd.

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

## IT'S FREE BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

CALIFORNIA FERTILIZER WORKS

OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

THE PACIFIC GUANO & FERTILIZER COMPANY  
268E Market St., San Francisco, Cal.

## SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S  
BEST  
SEEDS**



Established 1885

Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.

## THE MARSHALL NURSERIES

FOR FRUIT TREES, GRAPEVINES,  
PALMS, ROSES.

FULL LINE OF EVERYTHING GROWN BY US.

S. W. Marshall & Son, Nurserymen.

BOX 652, FRESNO, CALIFORNIA.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
EKSTEIN & EKSTEIN,  
Modesto Euc. Nursery  
Modesto, Cal.  
EKSTEIN BROS.,  
Vignolo Euc. Nursery  
Anaheim, Cal.

# TREES

SEASON 1908-9.

ORDER NOW FOR FUTURE  
DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.

Box 18 Fresno, California, U.S.A.



present way of packing them in crates causes a heavy decay. We trust that some better method will be found than by packing them with sawdust. This method is in vogue in Spain for any distant shipments. In that country they use cork dust, and their efforts this year to capture the American Eastern market against the Western fruit has not proved successful. We understand there is a firm in San Francisco experimenting with sawdust, trying to deodorize it to make it more available for grape shipping.

#### AGRICULTURE.

Evidently alfalfa hay is cheaper in southern Oregon than in California, as evidenced by a recent sale of 400 tons of alfalfa hay near Ashland at \$8 per ton.

News is sent out from Visalia that the Pacific Sugar Co is to commence immediately the seeding of 1000 acres in that vicinity to sugar beets. Besides this, 2000 additional acres will be seeded between December 1 and the middle of March.

The Oxnard Review states that there were 30,000 sacks, making 2,300,000 pounds of beans raised on the Schiappa Pietra ranch in Ventura county this season. This great bean harvest will require two train loads to move and they are worth approximately \$85,000.

Farming operations have already commenced in the Corcoran country, and a large acreage of grain will be sown there during the coming winter. It is stated that the farmers are plowing up the receding banks of Tulare lake and that the acreage planted to grain will be larger than for many years past.

The movement of the celery crop in Orange county is now well under way. About three carloads a day are being shipped. As no blight has affected the crop this year, it is expected that the shipment will amount to about 1750 cars from the 3000 acres planted, as against 1800 cars shipped last year from 5000 acres.

Yuba county is "some" on raising vegetables. Its county statistician figures that 1,600,000 pounds of cucumbers, valued at \$40,000; 400,000 pounds of tomatoes, valued at \$10,000, and a large cauliflower crop, were raised this year. Besides vegetables, the county produced dried fruits valued at \$39,200. The grain crop was valued at \$475,000, and the hay product for the year is valued at \$45,000.

The U. S. Department of Agriculture on November 9 states that the preliminary estimate of the average yield per acre of corn for 1908 is 26.2 bushels, which compares with 25.9, the final estimate in 1907, and 25.6, the average of the past ten years. The indicated total production of corn is 2,642,687,000 bushels, as compared with 2,592,320,000, the final estimate in 1907. The quality is 86.9, compared with 82.8 in 1907, and 84.3, the ten-year average.

O. H. Schumacher, of Placencia, Orange county, has discovered that a number of his sweet potatoes were infested with what is called "black rot," and that the disease is caused by a fungus. Professor Ramsey, of the Whittier Pathological Institute, said that the only known remedy where the fungus has been established in the soil is to quit growing sweet potatoes and rotate the crop for a few years, to allow the fungus to die out.

#### LIVE STOCK.

The Fountain City Creamery, in Merced county, recently destroyed by fire, is to be rebuilt at once.

Frank A. Mecham of Petaluma recently sold 30 head of blooded Red Poll heifers, the stock to be sent to Salinas. This lot of cattle is supposed to contain the finest specimens of blooded stock in the State. Farmers in the district around Ar-

buckle, Colusa county, have lost a large proportion of their flocks of turkeys, the cause of which, upon investigation by Dr. Mack of the State University, has been announced to be diphtheria.

Owing to the light stock of turkeys in cold storage at Los Angeles at this time, it is stated that the price this year for Thanksgiving will probably be from 26 to 28 cents to the raisers, and the consumer will pay from 30 to 35 cents.

It is stated that Fred Eaton of Los Angeles is building up the greatest chicken farm in the West on his ranch near Big Pine, Inyo county. This season Mr. Eaton has raised some 5000 chickens, and expects shortly to have facilities to produce upward of 30,000 chickens per year.

The old California Market Company, which located in San Francisco over forty years ago, and which was put out of business by the fire, has recently opened a magnificent new market house on Pine and California streets. The new quarters contain 34,000 square feet and have twenty-four tenants.

Last week we stated that a move was on foot to organize a State poultry association for the marketing of eggs. It is now claimed that the various local associations are ready to join, and that within a short time the movement will be carried into effect, the headquarters of the proposed association to be in San Francisco.

#### MISCELLANEOUS.

The Hawaii sugar crop for this year amounts to 521,000 tons, valued at \$40,000,000—the largest in the history of the island.

C. A. Canfield of Los Angeles is putting down eleven wells on his property in Kern county, to make one of the best stock breeding farms in the State.

R. B. Herron has recently increased his holdings, amounting to over 800 acres, in Reche canyon, San Bernardino county, and will plant to eucalyptus.

The board of supervisors of Shasta county purchased every toll road, with two exceptions, in that county last week. The total cost to the county was \$6500.

About 10,000 acres of land in Mendocino county are involved in a deal subject to the finding of coal in paying quantity and quality. A force of men is now at work developing the property.

A large grain and hay warehouse, belonging to the Hershey estate at Ronda, a small station 16 miles west of Woodland, was destroyed by fire last week. It contained about 150,000 boxes of grain, stored there awaiting shipment.

The farmers near Le Grande, on the Santa Fe, south of Merced, are taking steps to organize an irrigation district under the Wright law. They expect to take water from the Merced river at a point above Wawona, and bring it to their section at a cost of from \$600,000 to \$800,000. It is anticipated that the system will cover 60,000 acres.

#### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

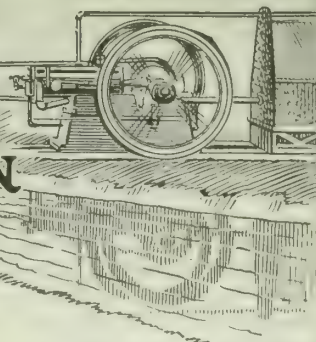
HAVING had 20 years experience in the management of orchard and vineyard work, would like to take charge of such property for owner. References, by permission, to W. H. Aiken of this place. Address F. M. Campbell, Wrights, Santa Clara County.

#### A FARMER

#### UP TO DATE AND A HUSTLER

wants place as foreman or superintendent. Is thorough in general farming, irrigation, vine and deciduous fruit growing. Experienced in working all kinds of labor, both tenant and wage systems. Address Box 37, PACIFIC RURAL PRESS.

## I. H. C. GASOLINE ENGINES AS AIDS TO IRRIGATION



Almost every farmer has a few acres of land that lie too high to be irrigated from his laterals. To flume or siphon the water to these few acres is not practicable on account of the expense. And yet to let this land lie idle means a big hole in the profits of the farm each season.

The most economical and satisfactory way to bring such waste lands under cultivation is to use the powerful I. H. C. gasoline engine to pump water upon them.

These engines pump water in large quantities.

They are operated at small expense.

They require but little attention.

The cost of running an I. H. C. engine during an irrigating season, including fuel and attendance, is a very small item compared with the value of the crop that will be produced.

Remember, the engine will be operated only a short time during the season. During the remainder of the year the engine is available for other farm work, such as running the cream separator or churn, sawing, grinding, cutting feed, etc.

And even while the engine is being run to irrigate the lands, the operator does not give it his whole time. He returns to it occasionally. He can devote practically all his time to looking after the head of water which the engine pumps.

The cost of the engine is only a fraction of the value of the reclaimed land. Its cost of operation for the season is only a fraction of the value of that season's crops.

When you buy an I. H. C. engine you have a power for pumping that is good for many years' service.

If you have land lying above the ditch, why will not an I. H. C. engine for pumping water be a wise investment for you?

Call and see the International local agent about it. He will supply you with catalogs and give you all information desired. Or, if you prefer, write direct to the nearest branch house.

WESTERN BRANCH HOUSES: Denver, Colo.; Portland, Ore.; Salt Lake City, Utah; Helena, Montana; Spokane, Wash.; San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA  
(Incorporated)

CHICAGO, U. S. A.

## SEED

### TREES PLANTS BULBS

If you are interested in the **best seed**, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you **Free**.

## Trumbull Seed Company

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - - - San Francisco.

Please mention this paper.

## Plants SEEDS BULBS Trees

### WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of **Alfalfa, Clovers, and Grasses** are requested to write us before planting.

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

## C. C. MORSE & CO.

44 Jackson St. Also Market St. San Francisco, Cal.



RHODES DOUBLE CUT PRUNING SHEAR

Pat'd June 2, 1903.

Dept. N

RHODES MFG. CO.,  
GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

## EUCALYPTUS GROWN IN SUNSHINE

with roots balled while growing in flats. Saves all roots; make sure success when removed to the field and good growth the first season. Sample lots at wholesale rates. Can take from flats and send in tight packages to save cost, risk and time.

HENRY SHAW,

320 River St., - - - - - Santa Cruz, Cal.

## TREES STANISLAUS NURSERY

Formerly Anny Nursery, of Sebastopol.

T. J. TRUE, Modesto, R. D. 1

PRICE LIST ON APPLICATION.

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg. Fourth and Market Sts. San Francisco.



## TREES IN ALKALI.

To the Editor: A correspondent in the PACIFIC RURAL PRESS of October 31 enquires about planting eucalyptus in alkali. I have had unusually good success with peach trees set in alkali land, some of it too strong to grow anything but salt grass and the light colored weed which I believe a native salt bush. Peach trees I set out in strong alkali five years ago, and those I set out last year are strong and vigorous, and the former ones produced a large crop of fine fruit last season. There is no question that my results have proved eminently successful, so much so that some of my neighbors have taken notice and intend to do likewise. I have had several good offers for the orchard planted last.

I consider that it would be a profitable financial proposition to buy good, moist, fertile alkali land and set it out to peach trees, especially as such land can be bought at a comparatively low price in a well settled community.

Orchardists have for years re-filled alkali spots by hauling dirt free of alkali, and Bartlett pears were put in until the blight wiped out the pear tree.

Let your correspondent try setting a few peach and apricot trees in alkali—say a hundred. Dig deep, wide holes; haul dirt in a wagon, preferably from the bottom of an old irrigating ditch, and allow the dirt to get dry enough to crumble before hauling. Avoid Bermuda grass, but water grass roots, similar to the former, are not objectionable. Fill the holes up well around trees with good dirt. I put one good wagonload to three trees, and use care in plowing to avoid throwing alkali on good dirt for the first year. Keep the trees growing through the season, and after the first year they will be established.

Hauling dirt to set trees may seem expensive, but put the extra cost at \$20 or \$25 per acre, against which I can show bearing orchard worth \$300, perhaps \$400, per acre, on land which before planting was worth \$30 per acre or less, and had never grown anything but alkali weeds and salt grass.

I hauled dirt to put 15 acres of trees in alkali last year. Not a tree died, except a few that dried out, and they made a fine growth. On the other hand, tree adjoining, on a strip free of alkali, made very little growth, and more of them dried out. The orchard on alkali, to my notion, is worth much more than the other, at least in this case.

According to the Soil Map issued by the Bureau of Soils, Department of Agriculture, 1901, the per cent of alkali is not excessive in our soil, ranging from 2 to 4 per cent. Our soil is a light sandy loam and it subirrigates freely. There are a few dry spots which I have not succeeded in keeping wet long enough to enable the trees to root down to the moist subsoil.

Apricot trees appear to grow well in alkali, and I shall set out a good many this year. The Muir peach in alkali makes a strong growth and is not a dwarf as in some soil.

By the way, it is a poor plan, especially in the fall, to throw the roots of Johnson grass on top of the ground to dry. They will become hard and dry as a bone, and then with the first rains will swell up and be ready to grow in the spring. The roots should be carried off or piled up and burned; and Bermuda grass is somewhat the same. It is a constant fight with these pests here, and they are difficult to kill out, while new seed comes in the ditch water.

G. A. ROBERTS.

Hanford.

[This is very interesting, but we cannot accept it as assurance that such results can be attained in all alkali. Our correspondent must have rather a mild alkali,

and most of it in the top soil, so that the tree, when protected from root-crown corrosion, is able to grow in a subsoil amply moist and very light in alkali. There are all kinds of alkali soils. Our correspondent must have a good kind.—EDITOR.]

To the Editor: I have about eight acres of bottom land, about five times as long as wide, with sloughs on both sides. In winter it is not more than six feet and in summer 10 feet, to water. I planted it to cling peaches last winter. On the highest part of the ridge between the sloughs but few of the trees have grown.

There is considerable black alkali showing. All of this land has more or less alkali, but has yielded well in alfalfa. What can I do to make new trees grow in these spaces? Will manure, gypsum, or any commercial product neutralize the alkali and give my trees a chance to start?

The part of this ground which is most affected had a good peach orchard on it a few years ago. The water level has slowly risen in the sloughs for a number of years, and each year the amount of alkali at the surface seems to increase.

Several times in your paper articles relative to alkali have appeared, but I can find no information which seems to cover this case.

C. L. WILBUR.

Yuba City.

[This experience is interesting, in connection with the account given in the foregoing letter. The difficulty in the case of Mr. Wilbur seems to be in rise of the ground water bringing too much alkali with it. If this is the case there seems to be no help but to draw down the water by drainage. But Mr. Wilbur says the trees on the ridge failed, which conveys the inference that those nearer the water did better. If that is so, then the trouble with the ridge is not alkali but drouth, and the trees could have been saved by irrigation. If the latter is the fact, you can replant, either as Mr. Roberts suggests, or you can mulch with manure and check evaporation from the surface so that the young trees can have moisture enough and escape injury by concentration of alkali by surface evaporation.—EDITOR.]

## Winegrowers, Take Notice

I am now receiving orders for

## GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

IMPROVED BERRY PLANTS  
BRED FOR BIG BERRIES.

We are not in the berry business, but make a specialty of propagating strong, healthy small fruit plants for the home garden or commercial plantation. We help our customers to succeed. Every order receives our special attention. Catalog tells the rest.

G. H. HOPKINS & SON  
BURBANK, CAL.

## TREES TRUE TO NAME

—AND—

Propagated from the Best  
Specimens of Their Kind

TWO IMPORTANT FACTORS

## PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches  
Plums  
Pears

Apricots  
Almonds  
Cherries

Apples  
Persimmons  
Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

ORDER NOW

WRITE US

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

## TREES

## GRAPE VINES

## YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES,  
ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

## THE FRESNO NURSERY

F. H. Wilson, Proprietor, . . . . Fresno, Cal., Box 615.

## 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurseryman, Petaluma, Cal.

## SMYRNA PARK NURSERIES

Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

CAMPIN & MOFFET . . . . . Ceres, Cal.

## EUCALYPTUS

Large Assortment—All Varieties  
Hardy and Selected Rapid Growers  
Write for prices, giving amount wanted  
LLOYD R. TAYLOR, Modesto, Cal.



## YELLOW MONEY —AND— YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. \* Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor  
SAN DIMAS, - - - CALIFORNIA

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Ching peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock; grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

LEONARD COATES NURSERY CO., Inc.  
ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

### EUCALYPTUS TREES

Eucalyptus Globulus (Blue Gum).  
Eucalyptus Rostrata } (Red Gum).  
Eucalyptus Viminalis }

### MONTEREY CYPRESS.

Transplanted in flats 100 each.

W. A. REINHOLDT  
Main Street Nursery, - - - Petaluma, Cal.

## FREE PRODUCE MARKETS IN SAN FRANCISCO.

The PACIFIC RURAL PRESS has several times of late been asked to tell about the free market houses in San Francisco, and to that end a representative interviewed the superintendent of the Free Market owned by the State, near the Ferry Bdg., and also the head of the new market at Twelfth and Market streets.

At the State market he found that, while the building was put there with the intention of making it a wholesale place by farmers, by reason of its being too small, and perhaps owing to lack of interest among the farmers and of its management, it has not been a success. At present it is being run as a retail market, and practically no produce is sent in by farmers. However, producers may send their fruit or vegetables consigned to the place, and a man in charge will attend to the selling of it and charge for his time. This is a matter to be settled with the man who makes the sale, as the State does not pay him. Mr. V. Vanderhoof, the superintendent, states that the best way is for several producers in a community to form a shipping association and send a quantity in at a time. The management of the market will keep the association posted when best to ship and when not, on account of glutted markets. Or, the association or party may have space free and market their own produce, without charge.

The new market house at Twelfth and Market streets is in no way connected with the other one, owned by the State. It is a private venture, not a "free market." It will be remembered that last spring the City of San Francisco appropriated \$20,000 to establish a free market on Mission street, near Thirteenth, but owing to the money being needed in other channels the erection of the building was held up, and no market will be established by the city before next April. In the meantime, Mr. A. H. Brod had been appointed superintendent of the new market, and when the appropriation fell through, not wishing to lose the time and effort that had been expended in forming associations of growers, he associated with him a Mr. H. D. Pressey, and together they leased the corner on Market street and erected a building, which was opened to the public in September. This place is a private enterprise, and is not connected, nor has any intention of interfering with the city project. This new market building contains 11,000 square feet, all space is taken, and the scheme seems to be a success so far. Most of the stands are represented by associations of growers, who rent space and conduct their business as private enterprises. Outside growers can ship to this market only by making private arrangements for selling with some of the firms already doing business there.

The free markets of San Francisco today are practically nothing. The State building is a small retail house, and arrangements must be made in each case for selling produce, and a charge is made for all goods handled. The new market house is owned and operated as a private business, and the Free Market house to be erected by the city will not be in existence before next spring.

## IRRIGATING ALFALFA IN FURROWS.

Although the California method of irrigating alfalfa by ribbon checks or contour checks is largely satisfactory, there may be places where other ways may be useful. The Denver Field gives the following as followed in Colorado:

We have always, says this journal, cautioned irrigators against the common

practice of turning water onto alfalfa fields too early in the spring. We have done this because the water of our mountain streams is always cold. Too early and frequent applications of water keep the soil cold, chills the roots of the plants and thus retard growth. These conditions that check the growth of alfalfa stimulate the growth of the less desirable shallow-rooted grasses, which are then said to run out the alfalfa. Unirrigated alfalfa fields around Denver show a growth of eight or ten inches.

Two methods of irrigation are used for alfalfa—the so-called flooding method by which the land is flooded by means of parallel ditches extending across the field, forty or sixty feet apart, and the furrow method, which is used alike for alfalfa, grain and garden. It finds favor because it makes possible the irrigation of land that could not be flooded on account of rough and uneven character. Many mountain fields that have been producing hay or pasture for years have never been plowed because they are so stony. Many more might profitably be leveled and irrigated by a less wasteful method. By this plan the water is carried over the land from the distributing ditches, or laterals, by means of shallow furrows from two to four inches deep and from twenty to forty inches apart.

These furrows are generally made at right angles to the head ditch, but often a more desirable fall is secured by running them at a different angle. The aim is usually to lay out the furrows so as to secure the least fall. In irrigating, the water must run through the furrows until the spaces between them are thoroughly soaked, and this is where the apparent waste of water comes in. The fact that the land between the furrows is not flooded and subsequently baked by the sun is a theoretical advantage of furrow irrigation over flooding, but the difference in crop yield does not always uphold the theory. One great inconvenience is the necessity of having to drive over the furrows in cutting and hauling the crop.

The furrows are made by the use of machines built for the purpose. These are not on the market, but are usually constructed by local blacksmiths, directed by the ranchers themselves. Old mowing machines furnish the main parts, such as wheels, tongue, levers, seat, etc. In alfalfa fields the furrows are permanent, but need to be opened up or furrowed out every spring before irrigation begins, this being done with the same machine used in making them. It is much more difficult to get the water over the ground the first time in the spring than at later irrigations, because it is necessary to see that every furrow is clear, that the water may run unobstructed from the head ditch on one side of the field to the waste ditch on the other. It is clear, then, that the amount of water one man can handle has its limit.

## MODESTO NURSERY.

Complete Line of Citrus and Deciduous TREES.

BERRIES, VINES AND ORNAMENTAL STOCK.

Write for PRICES NOW.

SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

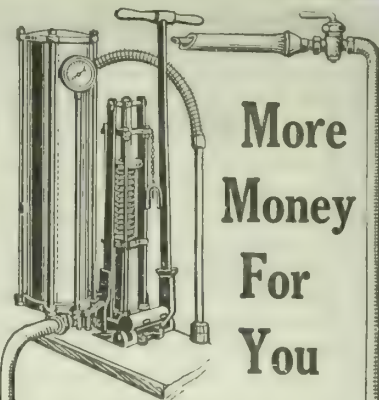
All kinds of small fruit and berry plants,  
J. B. WAGNER, Pasadena, Cal.  
The Rhubarb and Berry Specialist. Dept. I.

## CHICO NURSERY COMPANY

FRUIT AND ORNAMENTAL TREES, GRAPE VINES.  
Walnuts grafted on Black Walnut Root.  
Small Fruits, Shrubs, Plants, Roses, Palms, etc.  
CATALOGUES FREE.

## CHICO NURSERY COMPANY

Office: Cor. Third and Walnut Sts. Phone: Red 1241.



More  
Money  
For  
You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.

211 West Julian Street  
San Jose, Cal.

## 300,000 BERRY PLANTS

Trees, Roses, Oranges  
Lemons, Etc., Etc., Etc.

Send for Catalogue, now ready.

A. MITTING, SANTA CRUZ,  
CALIFORNIA.

Lock Box 380.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

FOWLER NURSERY CO.,  
Fowler, Cal.

## SEED GRAIN BLACK and RED OATS, etc.

WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St.,  
San Francisco, Cal.  
Buyers of Grain and Beans.

Members Merchants Exchange.  
Established in 1855. Correspondence invited.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnocks Remedy cures blight and all the tree diseases. Send for booklet.

## GOLDEN RULE NURSERIES

Loomis, Cal.

AGENTS WANTED



## Live Stock and Dairy.

### THE CHOICE OF MARES FOR BREEDING.

Mr. Joseph Putnam of Grant county, Oregon, recently wrote to the Breeders' Gazette his experience in the choice of mares for their relative size to that of the sire. As he writes of the same run of mares that one is likely to find in this State, his conclusions have particular local interest:

Some claim that in order to get a good horse we should breed a large mare to a small horse, while others claim that the sire should be the larger. My opinion is that the latter theory is correct, as in all animals the male is larger and more powerful than the female. My experience has been only with grades.

A few years ago a man turned a Thoroughbred stallion on the range with his mares. I had a few grade Percheron mares on the same range, and got several colts out of them by the Thoroughbred stallion. The mares were worth about \$125 each. The colts out of these mares by the Thoroughbred I sold at from \$40 to \$50 each. I once had a mare that weighed 1500 pounds, which got in foal by a horse that was very nearly a Thoroughbred. I sold this mare (the mother of the colt) for \$125 when horses were cheap. I afterward took her filly to the same market and sold her for \$50. The same summer that I sold the filly for \$50 the man that owned her mother refused \$450 for her and her mate.

I now give a case of breeding the other way. I bred an Indian pony that would probably weigh 800 pounds to a half-bred Percheron stallion, and got a mare that weighed 1100 pounds. This mare I bred to a pure-bred Percheron horse and got a horse that in good fix weighs about 1500 pounds. The man who has worked his horse for the past 12 years thinks he is a good enough horse for anyone. Another one: The same Indian pony got in foal on the range by a mongrel-bred stallion. The offspring was a filly. I bred this filly to a pure-bred Percheron horse and got a colt. I saw this horse after he had been in the fire department in Portland, Oregon, for eight or nine years, and the firemen told me he was the best horse they had. I have owned several mares that had some Thoroughbred blood in them. They are the hardest to breed up into draft horses of any I have ever owned. They will almost invariably transmit their small fine bones to their colts. They are good horses of their size, but not very

good sellers, on account of their being small-boned. I have just brought in a mare from the range today. She is three-fourths Thoroughbred, and has a young colt by a pure-bred Percheron horse that weighs about a ton. Twenty-one years ago I bought a small two-year-old filly; she weighed when grown about 900 pounds. I have sold \$1385 worth of horses from the increase from this one mare, and have several head left.

I think the Tennessean's head is level in buying the Percheron mares, but he will make a grand mistake if he breeds them to Thoroughbred or trotting sires. In selecting a Percheron stallion to breed to small mares I would prefer one of medium size with plenty of bone, yet not enough to make him logy. My rule is that a 1200-pound horse should measure 9 inches below the knee in the smallest place, then add 1/4 inch for every 100 pounds. This would make a 1600-pound horse measure 10 inches below the knee.

### THE ERADICATION OF TUBERCULOSIS.

This issue is pressing closer each year in all parts of the world, and California has a clear share in it. This year is notable for the great meetings held during September and October in the East, at which both American and European experts came together for conference. The Bang method, to which we have made frequent allusions in the past, is coming into the limelight as a means for securing clean herds with the least loss, and our readers should fully understand it.

At a meeting of the New York State Veterinary College at Ithaca, New York, on October 9, Professor Bang, of Copenhagen, Denmark, delivered a very capable address on the "Eradication of Tuberculosis in Denmark," which is well reported for the Rural New Yorker. Professor Bang is among the best authorities on the subject, has made a scientific and practical study of the disease and its eradication for many years, and was the originator of the "Bang method" of treatment. Professor Bang said, in substance, that the most essential point to keep in mind is that tuberculosis is absolutely contagious and is spread *only* by contagion. The old theory that tuberculosis is hereditary is wrong. The theory that the germs of the disease are everywhere is also wrong, for many whole herds are free from tuberculosis, although in a district where the disease is very common. The susceptibility of cattle to the disease depends on the number of tubercle bacilli present, and also on the disposition of the cattle, some cows being practically immune to the disease, while others readily contract it.

There are two general ways in which cattle can be infected; by living together with diseased animals, and through milk. Farmers can have healthy cows and affected calves. On one farm in Denmark all the cows and calves are free from disease, but all the two-year-old heifers were diseased. This was traced to the milk being contaminated, on which the animals were fed as calves. When milk is sent to the creamery or cheese factory, where the skim-milk or whey is returned to the patrons, there is great danger of contagion. If only one herd is affected by tuberculosis, all the skim-milk or whey is contaminated, and thus the disease is widely spread, not only to calves, but to swine, poultry and to other animals that are fed on the milk. To prevent the spread of the disease in this way is one of the grave questions in this country today. In Denmark all skim-milk and whey is required by law to be heated before being returned to patrons.

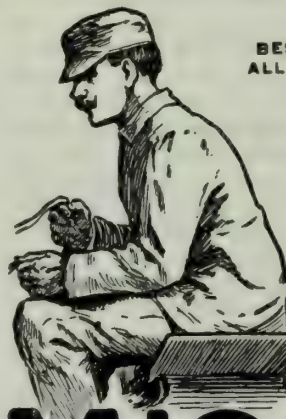
When the udder is affected the milk contains immense numbers of the bacilli.

For a month or more, however, the milk looks normal, but after a time it becomes more watery or floppy, and the production is less. In Denmark all cattle affected by tuberculosis of the udder, as determined by examination of the milk, are killed and paid for by the Government. Milk will not generally contain tubercle bacilli unless the udder is affected. Often milk becomes contaminated after milking, from the breath, feces, or urine of diseased cows. Cleanliness of the stables and animals is therefore very important.

Bovine tuberculosis is readily transmissible to swine, horses, poultry, goats, and even human beings, although some claim that it is not transmissible to human beings. There is a great difference, however, in the susceptibility of children and adults, the former readily contracting the disease. In fact, the young of all animals become infected much more readily than the mature animals.

**THE BANG METHOD.**—The principles on which this method is founded are the tuberculin test and isolation. The cows should all be tested with tuberculin, and the healthy animals placed in a barn entirely separated from that in which the diseased ones are kept. All cows affected by the disease in the udder should be killed to prevent the spread of it through the milk. The calves from those cows that are well enough to keep may be raised. As the disease is not hereditary, the calves are not usually affected at birth, but attain the disease from outside sources. All the calves should be taken from the diseased cows immediately at birth, and placed in the quarters for the healthy animals. They should be fed only on milk that has been heated. As these calves become mature the proportion of healthy animals becomes greater, and the diseased ones can be disposed of under suitable supervision.

The supposedly healthy animals should be tested about twice a year by the tuberculin test, in order that any which have



BEST FOR  
ALL AXLES

## MICA AXLE GREASE

You will make more trips, draw bigger loads, save undue wear on box and axle, and keep the hard-working horse in better shape by an occasional application of Mica Axle Grease. Nothing like it to take the painful, heavy, downward drag out of a big load. Ask the dealer for Mica Axle Grease.

STANDARD  
OIL COMPANY  
(Incorporated)

## Don't Be Like The Sailor



who clung to the anchor as he threw it overboard, and of course went to the bottom—the result, a dead one.

You may have done practically the same thing, as far as dairy profits are concerned; if you have thrown over pan setting methods to buy a so-called cheap (?) separator.

If you haven't bought as yet—don't until you thoroughly investigate the

## Tubular Separator

because it gets all the cream and a richer grade; furthermore it is a stranger to repairs, because it stands wear and tear.

The simplicity of the Tubular is enough to warrant your consideration.

Begin your investigation by writing for free Catalog 131.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

**HOLD THE WORLD'S RECORD**  
**U.S.**  
**FOR CLEAN SKIMMING**

**THE WORLD'S BEST CREAM SEPARATORS KING OF THEM ALL**

Are built more thoroughly, skim more cream, run with less power and have more practical improvements than all other makes combined. U. S. Cream Separators have been built for the past 17 years by a company having **Forty Years' Experience** in the manufacture of dairy appliances and nothing but the best material obtainable and highest class of workmanship possible are contained in their construction.

No dairyman can afford to be without our beautifully illustrated, large catalogue No. 148. Send for it to-day.

**VERMONT FARM MACHINE CO.**  
Bellows Falls, Vt.  
Prompt Deliveries from 16 Warehouses in U. S. and Canada.

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address

Grayson and Sixth Streets, BERKELEY, CA.  
West of San Pablo Ave.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.  
**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.

Warranted to Give Satisfaction.

## Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc. It is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.



**TOWER'S FISH BRAND WATERPROOF OILED CLOTHING**

looks better—wears longer—and gives more bodily comfort because cut on large patterns, yet costs no more than the just as good kinds

**SUITS \$3.00 SLICKERS \$3.00**  
SOLD EVERYWHERE

Every garment bearing the sign of the fish guaranteed waterproof

**TOWER'S FISH BRAND**

A. J. TOWER CO. BOSTON U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO CAN.



**Stickney Gasoline Engines**  
**ARE THE BEST**

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine

**SEND FOR FREE CATALOG**  
Stationery and Portable 1½ to 16 h.p.  
We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE



## BOSTROM'S IMPROVED FARM LEVEL

**Cheapest and Best Level yet Invented for Farm Use.**

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.



Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

become infected could be eliminated in the early stages. No animals should be introduced to the healthy herd from outside sources without having them tested and without being reasonably certain that they are healthy. The quarters should be kept clean, well ventilated and light, for filth and darkness are very favorable to the development of all contagious diseases.

This method has been used in Denmark and other European countries very successfully, the herds gradually becoming free from disease without the necessity of killing off all affected animals immediately. The opposition to the tuberculin test has been very great, because many cows that were apparently healthy and producing well were often sacrificed because they reacted under the test. The Bang method, however, allows the farmer to keep such cattle, under proper conditions.

**DISCUSSION.**—In reply to direct questions, Professor Bangs answered in substance as follows:

"Do you believe that tuberculin will develop tuberculosis or any bad effects in healthy cows?"

"No. Absolutely impossible."

"Will tuberculin aggravate the disease in affected cows?"

"The immediate effects are fever,

smaller quantities of milk, and sometimes diarrhea, but there are no lasting effects."

"In an incipient case will the test aggravate or make worse the disease?"

"I have thought that the disease was aggravated, but now believe that the aggravation was simply accidental, and due to other causes."

"Can the Bang method be carried out on physical examination alone?"

"I do not believe so. The disease must be highly developed in order to detect it by a physical examination. The new herd, at least, should be tested with tuberculin."

"How often should the tuberculin test be used?"

"At least twice a year is best."

"Is the tuberculin test reliable?"

"Not absolutely; but it is very reliable."

"What would you do with reacting cows?"

"Keep them as long as apparently well and healthy and the milk is good, but keep them under supervision and away from healthy cows."

## CREAMERY OPERATORS' CONVENTION.

The ninth annual meeting of the California Creamery Operators' Association was held in San Francisco, covering three days of last week. There were present about 200 creamery men from Humboldt, Sonoma, Marin, Napa, Alameda, Stanislaus, San Joaquin, Merced, Fresno, Kings, Tulare, San Diego, Yolo, Sacramento and Colusa counties, and all were a unit for pasteurization.

Arthur R. Briggs, chairman of the State Board of Trade, welcomed the creamery operators, saying in part:

"The interest you represent is an important one. The value of the dairy products of California, including butter and cheese, aggregates about \$25,000,000 annually, and the State is well along in the list of large producing States. To you who are directly engaged in creameries the statement that the annual revenues from dairies in the United States aggregates about \$800,000,000 is not startling, but to people who have no information in reference to it these figures are almost beyond belief."

E. B. Stowe, of Stockton, responded for the association, and A. Jensen, of Ferndale, president of the association, referred to the purchase of California butter by the United States Government this year to the amount of 585,000 pounds.

"I am a firm believer in Federal Government inspection of butter and cheese," said President Jensen, "much on the same order as now in force in the big meat-packing establishments, and, where smaller creameries are concerned, to create district inspectors."

The committee on resolutions, at the close of the discussion, was instructed to draw up resolutions calling for the pasteurization of milk and creamery products, and also for the enactment of legislation giving the State Dairy Bureau \$20,000 a year for the purpose of properly carrying on its work.

Butter made in 23 California creameries, from Siskiyou to Tehachapi, was presented for competitive test, and the lowest test developed 83% excellence for body, flavor, color and salt. The highest was 95¼%, and the next best, 94%.

The forest rangers and stock men's meeting, held at Nevada City last week, was largely attended. The subjects discussed were water, trail bridges, cabins, drift fences, salt logs, seeding, predatory animals, poison, special grievances, and grazing fees. A resolution was adopted asking the abolishment of the present county system of taxing sheep.

## MAKING AND SELLING A MILLION CREAM SEPARATORS AND THE KNOWLEDGE GAINED.

Thirty years ago Dr. De Laval invented the first practical centrifugal cream separator. Since that time the De Laval Separator Company has manufactured and sold one million DE LAVAL machines. These separators are today in use in every civilized country in the world. They have been operated and criticized everywhere. Through all these years suggestions for their improvement have come by the thousands from every quarter of the globe. These have been investigated and tried out from time to time. The best have been adopted. The 1908 improved DE LAVAL cream separators represent the thirty years accumulation of such ideas and experiences. They represent the knowledge and experience gained through the manufacture and sale of one million machines. If in your lifetime you had milked one million cows, wouldn't you feel that you knew how to milk a cow just a little bit better than someone who had milked but one thousand? That's the way we feel about the cream separator. Our knowledge of its manufacture and practical use is many times greater than anyone else's. If you are thinking of buying a separator, can you afford to ignore the knowledge gained by making and selling a million separators? We don't believe you can. We offer you the 1908 DE LAVAL for your most critical examination. An illustrated catalogue will be mailed for the asking. Write for it today.

## DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 First Street  
PORTLAND, OREG.  
1018 Western Ave.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

### DIGESTIBLE PROTEIN IN

Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

**PACIFIC OIL & LEAD WORKS,** - - **SAN FRANCISCO, CAL.**  
**PORTLAND LINSEED OIL WORKS,** - - **PORTLAND, ORE.**

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 521, Petaluma, Cal.

**BULLS AND COWS FOR SALE**—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

**BERKSHIRE AND POLAND-CHINA HOGS**  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
**Famous Blacow, Roberts, Glide French Merino Sheep.**  
Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
**RAMS FOR SALE AT ALL TIMES**  
P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.

## Pure Bred Holsteins

At present we are offering a fine lot of **Young Bulls and Heifers** at very attractive prices. All of this stock have large **Advanced Registry Records** in their pedigrees and are from the famous **Riverside Premier Herd** of the Pierce Land and Stock Co. now owned by the

**OAKWOOD STOCK FARM**  
LATHROP, CAL.

**FOR SALE**  
**FOUR THOROUGHbred AYRSHIRE BULLS, Aged 12 to 20 Months.**

If you don't want tuberculosis, breed the Ayrshires.

**J. W. & J. D. McCORD,**  
Phone Red 123. Hanford, Cal.

"THE OLD RELIABLE"

**DIETZ LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1830  
PIONEERS AND LEADERS



## The Poultry Yard.

### MAKE GOOD.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

Make good! That terse phrase may not be very elegant English, but it is excellent business ethics. It is especially applicable to the poultry business. With the poultry shows in full blast and the fresh egg above the high-water mark of a nickle apiece, the hen fever will soon be raging. True, the high price of feed which drove so many out of the industry the past season is still with us, and likely to remain; but the ghost of the presidential year is laid, and every branch of business from the peanut stand up feels the stirring of new life. The poultry industry will be great this season, and the poultry raiser who survived the dull times will reap the reward of the faithful. The demand for breeding stock, hatching eggs and day-old chicks will be brisk, as well as that for the market egg and fowl.

Perhaps there are no class of buyers who are so completely at the mercy of the seller as those who order breeding stock and hatching eggs. As a rule they are novices (the experienced poultryman knows his ground and can look out for himself). They order from an attractive advertisement, and must advance the money without seeing the goods; and in their ignorance of the whole matter they would be little wiser if they did see them. It is something like selling to a blind man, and always the breeder should be as good as his ad.—and a little better, in that, instead of taking advantage of his customer's ignorance in even a legitimate way, he should give him a few pointers in the right direction. Advertisements of poultry stock and equipments appeal mostly to beginners who are largely from the educated class—people broken in health or fortune; professionals whose nerves are worn to a frazzle, semi-invalids, widows and their little families, clerks let out of their jobs when the frost begins to show in their hair, and so on down the line. They have studied the poultry papers for years, maybe, and have come to see in the poultry industry a rainbow promise of health, home and independence. Too often their small savings are lost through misrepresentation, and having their ignorance played upon by sharp tradesmen. The advertiser of poultry products should make good in the highest sense of the phrase.

But leaving out the ethical point, in order to build up a profitable business in any branch of the industry one must make good from start to finish. The man who brightens up his water-glass eggs and passes them off for fresh ones may think he is smart, but he doesn't make good—and it doesn't pay. Neither does the farmer or other poultry keeper make good who mixes the stale eggs from some hidden nest with new-laid eggs; or who is careless in gathering the eggs and keeping the nests free from "cluckers," or who feeds filthy or damaged food or tainted meats to his fowls; and in the end he fails to make money.

The groceryman who has engaged the eggs from our yards does business in the small town of Richmond; yet he is able to dispose of several cases of fresh eggs per week at the present high rate of 65 cents a dozen. Why can he do this when the demand for eggs at such prices is not brisk in a small town? Simply because he makes good; people come to him for the strictly fresh egg, and are willing to pay the price, for they know they will get what they pay for. Few are aware how large is the increasing demand for fresh eggs as a food for the delicate and

the invalid. Doctors prescribe them in consumption, stomach and bowel troubles, etc. They are taken raw, or nearly so, and absolute freshness and good flavor are essentials. Our grocer has a large trade of this kind, and sends out a wagon three times a week to secure the strictly fresh article; he can afford to be liberal with the producer who makes good, in order to make good himself. In talking of the business he remarked: "It has taken us years to build up this trade and to establish our reputation—and one bad egg would ruin it."

### The Meadow Lark.

Our laws for the protection of this bird may be all right, but their enforcement is a farce. Around Stege, where the writer lives, parties drive out almost daily and shoot the larks openly, while our ranchers rather pride themselves upon the number they bag. The idea prevails that so long as the dead birds are not sold in the open market their quest is safe and legitimate. The ranchers excuse themselves upon the plea that he larks eat their grain. At the same time they pay no heed to the sparrows, which cover their fields and are a general pest; because forsooth they are difficult to shoot and there is no tender yellow breast to pay for the shot!

The one charm which our beautiful Coast country lacks is bird music. The ruthless slaughter of the birds, together with the depredations of the sparrows, has about driven away or exterminated our songsters; only the larks remain, and they will not be here long if those whose duty it is to enforce the game laws do not better attend to their business. The song of the meadow lark rising on the air, more than any other music, seems to carry the soul upward with it—its clear note is like a message from a fairer country. Let all who have felt its inspiration join to protect the sweet singer.

### Notes.

Stationary tubs, basins and other furniture are quite common, but a stationary hen is a little out of the ordinary. Chat-ham, N. J., had the honor of this rara avis, but now mourns her demise. A year ago a poultryman living there put a concrete floor into his hennery, and a Brahma hen strayed in at the psychological moment and was turned into a stationary hen. Her owner made her as comfortable as possible, thinking that she would live but a short time; but she survived nearly a year, and turned out about her usual quota of eggs.

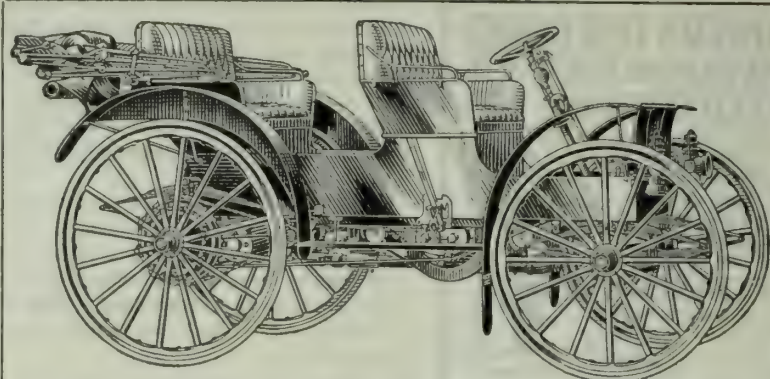
From the banner poultry State comes a report of a poultry show gotten up by the colored fanciers of Danville. The prize-winning birds proved so attractive that they all disappeared the first night, and the show came to an untimely and inglorious end.

### SANTA CLARA POULTRY SHOW.

The San Jose poultry and dog show, which was held from Wednesday, November 11, to Saturday, November 21, presented to its many visitors and lovers of poultry and canines a large and good variety of dogs and birds.

Among our four-footed friends the pointers, English setters, Irish setters, and Gordon setters took the prizes, although there were quite a number of other breeds—fox terriers, Boston terriers, St. Bernards, bulldogs, etc.

Among the fowls we found a large variety: there were Barred and White Plymouth Rocks, White and Buff Wyandottes, Columbian, Silver Penciled and Silver Laced Wyandottes, S. C. Black Minorcas, R. C. Black Minorcas, Barred Mi-



## The I. H. C. Auto Buggy Takes the Place of Team and Carriage

You do not have the bother of hitching up and unhitching when you ride in the I. H. C. Auto Buggy. You do not have horses to feed or care for. The Auto Buggy is always ready. It will take you anywhere you can go in a carriage or spring wagon, and take you much faster. It has a powerful and reliable little engine to propel it, and it is built with the strength to stand hill climbing and rough roads. There are no tire troubles. Its tires are solid rubber.

It is the modern vehicle for business or pleasure, and it has come to stay. You ought to know more about it. Write for catalog to

## International Harvester Company of America

(INCORPORATED.)

453 MONADNOCK BUILDING, SAN FRANCISCO, CAL.

## COULSON'S NO. 3 CONDITION POWDER

BEST AID FOR GETTING HIGH PRICED EGGS

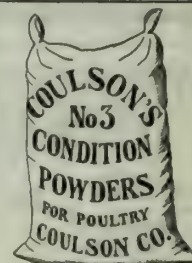
A splendid tonic and digestive Enables hens to lay lots of eggs during fall and winter.

Sold by Dealers.

Manufactured only by

**Coulson Poultry and Stock Food Co.**

PETALUMA, CALIFORNIA.



### POULTRY.

**BUFF ORPINGTONS**—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

**BRONZE Turkeys and Eggs.** Ed Hart, Clements, Cal. Large size, good plumage, early maturity.

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal **GEORGE H. CROLEY**, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

**OAKLAND POULTRY YARDS**  
Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

**RANCHO LOS ENCINAS**  
R. F. D. 76. Glen Ellen, Cal.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.**  
1105-G Merchants Exchange Bldg., San Francisco. Established 1860.

## Blake, Moffitt & Towne

Dealers in **PAPER** 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## The Home Circle.

### Thanksgiving.

When thankfulness o'erflows the swelling heart,  
And breathes in free and uncorrupted praise  
For benefits received; propitious Heaven  
Takes such acknowledgment as fragrant incense,  
And doubles all its blessings.

—GEORGE LILLO.

### A SIMPLE TALE.

#### Part I.—The Realty Dealer's Story.

Written for the PACIFIC RURAL PRESS  
By M. R. J.

The morning mail was on my desk; mostly letters of inquiry which are the bulk of a California realty dealer's correspondence. In the midwinter they come in flocks like wild birds seeking a genial clime. They bring a call from out of snowdrift and blizzard for the life in the open with its health-giving work in orchard and poultry yard. Great is the California sunshine—and the California hen. Why that ubiquitous bird should take hold upon the hearts and imagination of what might be termed a superior class of people I am unable to say. Is it because they are people of imagination and the hen a flighty creature? It was a December morning, one of the California kind which makes the stranger on our shores think he has struck the other side of the seasons. The sunshine had put my office stove out of business and the light wind brought whiffs of fragrance from a blooming rose outside. Presently the swing door opened so gently that I thought it a stray breeze. I glanced up as I reached for another letter. A lady was just stepping across the threshold followed by a little boy; or at least a child in coat and knee pants but with the long curls and delicate face of a girl.

As I seated the pair I was conscious of something unusually attractive about the lady. It was not the charm of youth and beauty; for she had passed the flush of youth and was not more than ordinarily pretty. But she was small and dainty and the glance of her soft eyes was an appeal that went direct to a man's heart. We can't dodge the fact that a little clinging sort of woman has a charm for us which her big, brainy sister doesn't possess. She looks up to us and defers to us in a way that gives us a comfortable feeling of superiority, at the same time arousing any latent spark of chivalry in our make-up.

"I stepped in to look over the small properties you have on sale—some place where I could have fruit and chickens," she said and her voice was as soft as her eyes.

I assured her that I had that very thing, and opened with alacrity the map of listed property which lay on the desk.

"We are just from the East, New York City," she remarked, as she came and stood beside me at the desk. "My, isn't the climate just lovely here!" she broke off, turning to throw a kiss at the pink roses nodding outside. "My husband died of consumption a year ago," she went on sadly as she turned again to the map; "and my little Tommy has always been so delicate. The doctors said I must take him to the country and to a mild climate where he may live fairly out of doors. Since my husband's affairs have been settled, I find myself limited in means and shall have to somehow help out my income. I had thought and thought till my head was all awl with trying to decide what was best for us. At last, some one suggested California with its lovely climate and its poultry raising. Then it came to me like a flash: we would buy a bit of a home in California and raise fruit and chickens. Tommy will learn to help as he gets older and he can be out of doors every day and all day and will grow into a big strong boy who can take care of his mother, won't you, Tommy?"

She threw an anxious smile at the pale little figure sitting so quiet in his chair. The child smiled back at her as he said with an attempt at boyishness: "Ess, mummy, 'ou bet."

This information had been imparted to me in running comments between explanations of the property descriptions we were looking over. Now she raised her eyes from the map and looked me

directly in the face: "Am I right? People generally succeed with poultry, don't they?"

Her trusting glance confused me. "Ye—es," I stammered; "people generally succeed. You might say the town has been built by the hen."

"Yes, I know, I have been so interested reading of it all—but do you think I can succeed?"

I looked dubiously at the white hand resting on the desk. "Do you know anything about—poultry?"

It was her turn to be confused. "Ye—es—no. I might as well own up that I never even handled a fowl except those that come dressed from the butcher. But I could learn," she added quickly as she saw me shake my head. "Don't discourage me. It is the only way that we can be in the country and Tommy live out of doors. I love the birds and animals, and I can learn—I will learn!"

She put her small foot down with a decision which left no room for argument. "There, you have turned two pages," she remarked a moment later.

"You wouldn't want that place; it's next to a crabbed bachelor, an old sea captain."

"Oh, I wouldn't mind that," the little woman put in cheerfully. "The men are all dears; it takes a woman to be real disagreeable."

The soft emphasis on the "all" brought a blush to my toughened cheek. "But he has an old aunt as housekeeper who is more crabbed than himself. I can find you pleasanter neighbors and something that will suit you better in the bargain." I could not tell that I had made the sale of the property adjoining the captain with the stipulation that the cottage should not be sold or rented to any "unattached female."

Again I started to turn the page but she laid her hand between the leaves. "A moment, please; let me read the description."

It ended, of course, in her buying that identical piece of property. I couldn't head her off though I disparaged the place and insisted upon my showing her everything else for sale in the country thereabouts. (I have noticed that these gentle little women have a way of holding to their point in spite of rhyme or logic.) Still, it was rather an attractive spot, a sort of a bird's nest hid in a clump of fruit trees, and just on the edge of the captain's spacious grounds which he was modeling into a beauty spot on the landscape.

I wondered how the captain would take the advent of an "unattached female" as his next door neighbor, and felt a bit disturbed over the matter; though it was absurd on its face. What right had he to exact such a thing! He seemed sensible enough in other matters. An "unattached female" indeed! Evidently, he had been "stung;" probably a breach of promise suit. In spite of his bluntness which rather became a man of his calling and of middle age, he was a gentleman and one likely to appeal to the feminine fancy—that was it, he was afraid of the ladies.

The very next day after Mrs. Wilkins had installed herself and boy in their new home, I saw the captain making for my office, his very mustache bristling with wrath. I discreetly stepped into my den and locked the intervening door. He thumped my desk with his riding whip, rattled the door of my den, and after some minutes left with muttering maledictions on my head. I kept a sharp lookout for his smart English cart and sleek pony and managed to elude him for some time; but one day I looked up from my desk to see him standing in the door.

"Got back, have you?" he asked sarcastically.

"Oh, yes," I replied, jocularly. "I'm always here or hereabouts!"

"Didn't seem to be when I called," he sneered.

"Realty men are a little uncertain—" "So I perceive," he put in with biting sarcasm.

"Look here, captain, you are cutting at me about the sale of the Leek cottage. If you will take a squint from a practical standpoint you'll see that your position is absurd—ridiculous! The property was for sale and the lady insisted upon buying it—and that's all there is to it. Anyway," I continued as he made no immediate reply, "she is not likely to be your neighbor very long, for she is going to tackle the poultry business and she don't know a hen from a rooster."

My attempt at consolation seemed to fan his cooling ire. "What, would you inveigle a poor, little, confiding woman like her into something you knew would be a failure! You realty men would skin a baby if you could sell its hide."

That made me hot. "Look, here!" I cried, springing to my feet. "I'll have



**Table Tools**  
The temper of a carving knife should be unusual—so that the knife will cut easily without being worn out on the sharpening steel. Then, again, for easy carving, the handle and the blade should be exactly balanced for nice work. These are qualities found in all Keen Kutter carving sets.

## KEEN KUTTER Table Cutlery

—from the carving set to the table knives and forks—gives ideal table service. When next buying cutlery be guided by the Keen Kutter name and trademark. It's an absolute guarantee of quality.

The Keen Kutter name and trademark also include a full line of tools, scissors and shears, razors and pocket-knives.

If not at your dealer's write us.

SIMMONS HARDWARE COMPANY (INC.),  
ST. LOUIS AND NEW YORK, U. S. A.



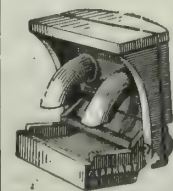
you know that I inveigle nobody. The lady came to buy a place and I gave her her choice, though I advised her she could find pleasanter neighbors. And as to meanness, a man who is too churlish to allow a 'poor, little, confiding woman like her,' to even live next door to him hasn't much cause to talk!"

The shot hit him. He looked foolish, twirled his mustache, and finally acknowledged himself a fool and asked my pardon with the bluff frankness which was one of his attractions. I chuckled to myself as he drove off, and felt encouraged in my belief that the little widow could win out. I was sure of it a few weeks later when I saw Tommy sitting up in the pony cart beside the captain as they drove through town.

The bird's nest cottage blossomed into beauty and spick-and-span neatness under the new mistress; the boy grew plumper and rosier each day, and a pretty color began to show in the mother's cheeks; but the poultry business did not show up so well. My long experience as a business agent had given me some expertness in noting details, and I saw that Mrs. Wilkins was drawing upon her small capital with no showing for any returns. I cautioned and advised and she tried to heed; but, oh, Lord, the agents and advertisements which get hold of the beginner with a little ready money; and as for management, she and Tommy were on a par in the poultry yard. The fowls were surfeited and petted and made playthings and companions. Mrs. Wilkins was shocked when I suggested that she sell off the fat loafers and fill their places with laying hens. I could only shake my head and drive away with many anxious thoughts for the future of the helpless pair.

One day in the early autumn I was pained but not surprised over a note from Mrs. Wilkins saying that she would call the next day to arrange for the sale of all her property. She came according to appointment, but instead of the sad little woman I had expected and dreaded to see, a very happy and smiling one tripped into my office. She had reconsidered the matter of selling for awhile, at least; and

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.

SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909.  
For further particulars address

**Miss Sarah D. Hamlin,**

2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

## Country Boy Preferred

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

**San Francisco Business College**  
733 Fillmore St., San Francisco, Cal.

## HEALD'S BUSINESS COLLEGE

425 MC ALLISTER ST. SF

The grade of the Heald Course of Business Training is of such a QUALITY that its value will be remembered long, long after the PRICE paid for tuition has been forgotten. The HEALD Training sets forces in operation which go on accumulating as compound interest increases.

Write for particulars today to  
**E. P. HEALD, President,**  
Department C, San Francisco, Cal.

## FURNITURE LUSTRO.

The best article on the market for polishing and removing scratches from pianos, furniture and all finished woodwork is LUSTRO. If your grocer does not keep it, we will send you a full-size 8-ounce can for 50 cents, express prepaid. Every lady ordering before Dec. 1 receives free a handsome package of our sachet powder. **LUSTRO SPECIALTY CO.**  
Agents Wanted. Oakland, Cal.



in the meantime, she added with a little blush, the captain had kindly offered to oversee the hired boy and manage the poultry raising.

I hid my astonishment and gravely assured her that he was just the one to put the business on its legs. All of which proved true, for in real estate parlance, things began to move up for the widow. Useless and worthless stock and equipment were disposed of; the hired boy worked to some purpose; hens began to cackle; the garden began to grow—everything gave evidence that there was an experienced hand at the helm. In my relief at the turn of her affairs I realized how much they had weighed upon me. That autumn and winter I often drew rein in passing for the pleasure of a merry greeting and of noting the improvements constantly going on about the cottage.

The next spring, it was in March, for I remember the prune blossoms were fluttering in the air and throwing their fragrance broadcast, I was one of a few honored guests at a quiet ceremony which joined the fine hill estate to the little cottage at its foot. I may have kissed younger brides but never a sweeter one than Mrs. Captain; and as for the bridegroom, he didn't look bad to take, even from a man's view-point—and happy, as I assured him it was way beyond the desserts of any old bachelor.

Ever since the hegira from the bird's nest, I have eaten Thanksgiving turkey on the hill; and the captain assures me that I shall always be bidden to the feast. I trust that he keeps his promise better than I did mine for the chickens and turkeys of his raising certainly have a prime flavor, while in the cooking and serving of them I will back Mrs. Captain against the first chef in the land.

It was the second Thanksgiving, the captain and I were enjoying our after-dinner pipes in the genial glow which

only an old-fashioned fireplace can throw out, with the music of his wife's soft lullaby over their baby girl coming faintly from somewhere upstairs, when I learned the details of their simple romance.

(Concluded Next Week.)

#### Hints and Helps for the Rural Press Household.

In the hodge-podge of the season's new fashions some sensible ones are coming to the front; first among these is the revival of the hood. To be altogether beautiful a thing must be suitable, and the hat perched upon the top of the head exposing the throat and ears to raw chilly winds and biting cold fails before this test no matter how wonderful a creation it may be. It is responsible for many ills among womankind: headache, earache, neuralgia, etc. For evenings and raw weather what could be more suitable and therefore beautiful than the hood? The wearer is comfortable and her face glows with soft warm tints instead of the ugly reds and blues and goose-flesh of a chilled surface. The N. Y. Sun gives the credit of this sensible fashion to the auto and says: "For this gracious deed we should condone many of the auto's disagreeable features. The innovation is a positive boon for evening wear; with the hood, beauty and comfort are combined. The big soft silken creation completely envelops the coiffure and covers the throat, yet it frames the face charmingly and it stays in place without eternal vigilance on the part of the wearer. Taffeta is used more often than any other material for the making of the modish evening hood; very soft taffeta, of course, without crispness though with a certain body the big hood needs. Liberty satin too is used for lovely models, and occasionally one sees a model of transparent mousseline on net or lace over a silken foundation."

For poultry work, gardening, washing, and all that class of work the most serviceable apron can be made of burlap. It protects the clothes from the rough wear and sheds the water. Such an apron may be made to look neat and even attractive. Take a good grade of burlap which has a firm smooth texture: open a large sack and spread on the floor, then cut it smoothly to fit without seams, bind it all around with red or blue oiled calico, make a belt of the calico and stitch it inside on the belt line between the bib and the skirt portion; button at the back, also have the skirt portion extend back and button below the belt. This holds the skirts back out of the way and is a great convenience as well as a protection against soiling or wetting the skirts.

Autumn leaves, chrysanthemums, golden poppies, and the like make charming and appropriate decorations for the Thanksgiving table, with sprays of nasturtium for garnishes. The fresh green of the nasturtium leaves intermixed with the lovely blooms which reproduce all the glowing tints of autumn in their yellows, browns, orange and cardinal, are striking and beautiful for the purpose. This plant belongs to the cress family which comes under the head of salads and is very suitable for garnishes.

A famous nerve specialist says the learned have neurasthenia (nerve prostration.) Silence, solitude and sleep are the remedies. A dose of what is termed the "three Ss" daily prescription. It is further asserted that we should be thankful for a full supply of nerves, even if they prove a bit unruly on occasion—and "learn to drive the machine with skill and care. It is our nerves that make us what we are."

When there is a crack in the oven or other part of the stove, take equal parts of sifted wood ashes and salt; mix into a stiff paste with water; be sure that the edges of the crack are free from dust or grease; fill the crack with the paste well pressed in; smooth evenly with the knife, and be careful not to disturb it till well set and dry. It will hold a long while and may be renewed as occasion demands.

"When a splinter has been driven deep into the hand," says the Woman's Companion, "it can be extracted without pain by steam. Nearly fill a wide mouthed bottle with hot water, place the injured part over the mouth of the bottle and press down tightly. The suction will draw the flesh and in a minute or two the steam will extricate the splinter and the inflammation will disappear."

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Howers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water. The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the typography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

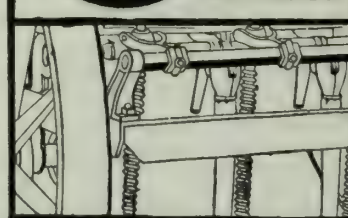
JOHN R. ROBINSON,

President John Crouch Land Company.



## ANY BOY

CAN DO A  
**MAN'S WORK**  
ON A  
**SUPERIOR**



## The H. C. Shaw Co., Stockton

## ALL DRILLS LOOK ALIKE AT A DISTANCE

Close Up the SUPERIOR Shows  
to Advantage Over All Others

LARGER AXLES than in others,  
STEEL WHEELS,  
WIDE TIRES,  
SOLID GREASE CUPS,  
Barley and Oats Agitators,  
SPRING SCRAPERS, Etc.

OUR SINGLE DISC DRILLS DO  
BETTER WORK THAN ANY  
OTHER STYLE OR MAKE.

SEND FOR SPECIAL CATALOGUE.

LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions.

You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required.

POSITIONS SECURED.

WRITE FOR FREE CATALOGUE.

COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

### THE MARKETS.

San Francisco, Nov. 18, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

#### WHEAT.

A rather better feeling is noted in the wheat market this week, and the outlook is good for an advance, though so far there has been no change in quotations. There is somewhat more demand, and as supplies from the North can hardly be had for the prices prevailing in the local market, holders are generally asking an advance.

California White Australian	\$1.75	@ 1.80
California Club	1.67 1/2	@ 1.70
California Milling	1.70	@ 1.72 1/2
California lower grades	1.45	@ 1.60
Northern Club	1.65	@ 1.67 1/2
Northern Bluestem	1.72 1/2	@ 1.77 1/2
Northern Red	1.62 1/4	@ 1.65
Turkey Red	1.75	@ 1.80

#### BARLEY.

The upward movement of barley still continues, with a lively business in both spot and future grain. Liberal supplies of feed barley are coming into the market, but are moved off without difficulty at 2 1/2 to 3 cents above last week's quotations. Some holders are asking \$1.50 for choice feed, but nothing is moving at that price at present. Brewing and shipping grades are quiet locally, but a fair movement for shipment is going on in the interior. Both grades are 2 1/2 to 5 cents higher.

Brewing	\$1.50	@ 1.52 1/2
Shipping	1.50	@ 1.52 1/2
Chevalier	1.57 1/2	@ 1.62 1/2
Good to Choice Feed, per ctl.	1.45	@ 1.48 1/2
Common Feed	1.37 1/2	@ 1.42 1/2

#### OATS.

Oats stand in practically the same position as before, white being scarce and firm. Supplies of black and gray are also light. Reds are more plentiful, but stocks are in strong hands and firmly held. Business in the seed grades is very quiet, owing to the prolonged dry season, which is keeping buyers out of the market.

Choice White, per ctl.	\$1.70	@ 1.75
No. 1, White	1.65	@ 1.67 1/2
Gray	1.65	@ 1.70
Red, seed	1.75	@ 1.80
Feed	1.50	@ 1.70
Black, seed	2.45	@ 2.65

#### CORN.

Prices show no particular change. Ar-

rivals from the Western States are somewhat larger than formerly, two cars having come in during the past week, but the market is still almost bare. Spot prices are high, and buyers are so far taking little interest.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	\$1.85 @ 1.90
White	Nominal
Western State Yellow	1.90
White, in bulk	1.60
Mixed, in bulk	1.50

#### RYE.

Rye is still very dull, as the requirements of the local market are small. Buyers are taking little interest, and all supplies are quoted at former prices.

Rye ..... \$1.45 @ 1.50

#### BEANS.

Beans have been arriving in smaller quantities for the last few days, but up to the end of last week the arrivals have been heavier than for the same period in any previous year. The condition of the market shows no material change. White beans are still firm, and bayos are held steady at the recent advance. Lima beans are decidedly firm, owing to an extensive buying movement in the South, and the slight advance has called out inquiries for this variety from a wider market. A further advance is accordingly expected. Pink beans are very firm under a good demand, both shipments and arrivals being heavy. Large garbanzos, favas and cranberry beans are in fair demand.

Bayos, per ctl.	\$2.75	@ 2.90
Blackeyes	3.10	@ 3.25
Cranberry Beans	2.45	@ 2.60
Garbanzos	1.50	@ 2.50
Horse Beans	1.50	@ 2.00
Small White	4.30	@ 4.50
Large White	3.60	@ 3.75
Limas	4.20	@ 4.30
Pea	4.50	
Pink	2.30	@ 2.45
Red	3.25	@ 3.50
Red Kidneys	3.25	@ 3.50

#### SEEDS.

Local stocks are fairly large, as local dealers have been prepared for the fall demand for some time. The usual business, however, is being greatly delayed by the lack of rain, and the movement of all varieties is limited. A little wet weather would cause a material change. Alfalfa is quoted by local dealers a little higher at the inside.

Alfalfa, per lb. .... 16 @ 17 1/2  
Broomcorn Seed, per ton .... \$20.00 @ 25.00



Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	4 1/2 c
Flaxseed	3 c
Hemp	4 1/4 @ 4 1/2 c
Millet	2 1/4 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

Prices in this market are unchanged. The market shows no especial feature, export business being of very small proportions, while the local jobbing movement is about up to the average.

California Extras, bbl.	\$5.40 @ 6.00
Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington,	
Family	4.90 @ 5.40

## HAY.

Shipments of hay to this market continue to increase. There is some tendency on the part of many operators to withhold their shipments, in anticipation of still higher prices, but as the car situation is easier, many back orders are now being filled. Many customers are still putting away large supplies, and consequently all arrivals have been absorbed very readily. There is general discussion as to the amount of hay on hand, which has been shown to be short in the country tributary to San Francisco, but supplies in the neighboring States are plentiful. The position of the market is quite strong, with a tendency to still higher prices, but it is still to early to forecast the market with any degree of assurance. The demand is uncertain, and any great shortage will be relieved by shipments from outside points.

Choice Wheat, per ton	\$20.00 @ 22.00
Other Grades Wheat	16.00 @ 19.50
Wheat and Oat	15.00 @ 20.00
Tame Oat	15.50 @ 19.00
Wild Oat	14.00 @ 18.00
Alfalfa	11.00 @ 15.50
Stock	11.00 @ 13.00
Straw, per bale	50 @ 95c

## MILLSTUFFS.

Aside from a slight fluctuation in meal-falfa, there has been no change in quotations during the week. The only special feature is an arrival of Japanese bran. This is in small demand, and sells at \$29.50, the bottom price for domestic grades. Shorts and middlings are still in limited supply, and at the prevailing prices the movement is not large.

Alfalfa Meal(carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Japanese	29.50
Broom Corn Feed, per ctn.	1.20 @ 1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Meal-falfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	28.00 @ 32.00
Oil Cake Meal, per ton	38.00 @ 39.50
Rollod Barley	30.00 @ 31.00
Shorts	33.00 @ 33.50

## VEGETABLES.

Onions are still plentiful, with no outside demand, and the local trade taking only limited quantities of the best lots. Prices are accordingly unchanged. Owing to continued favorable weather, tomatoes are still arriving in large quantities, but the local demand has fallen off, and prices are low, with a large surplus going to the canners. The crops of other vegetables around San Francisco are nearly all harvested, most of the stock now coming from the South. Prices on some articles are accordingly higher. Celery from the river country is now plentiful, silling all the way from 10 to 40 cents a dozen. Some rhubarb is offered at about 6 cents per pound.

Onions, ctn.	50 @ 60c
Garlic, lb.	7 @ 8c
String Beans, lb.	4 @ 7c
Green Peas, lb.	6 @ 8c
Cabbage, per ctn.	90 @ 1.00
Marrowfat Squash, per ton	10.00 @ 15.00
Tomatoes, box	25 @ 50c
Turnips, sack	60 @ 75c
Green Peppers, box	85 @ 1.20
Cucumbers, box	1.50 @ 1.75
Egg Plant, box	1.00 @ 1.25
Cailliflower, doz.	65 @ 75c
Summer Squash	75 @ 1.00

## POULTRY.

The poultry market is somewhat firmer in tone this week, as the demand is improving, and in spite of heavy arrivals from the East stocks are well cleaned up. First-class stock is expected to find a ready market at satisfactory prices. Small or poor turkeys are inclined to drag at low prices, and live stock arouses little interest, but choice dressed stock is still firm, fancy lots bringing above quotations. The outlook for next week is considered good, but growers are strongly advised to hold back small turkeys for the Christmas trade.

Broilers	\$4.00 @ 4.50
Small Broilers	3.00 @ 4.00
Fryers	5.50 @ 6.00
Hens, extra	7.00 @ 9.00
Hens, per doz.	5.00 @ 6.00
Small Hens	4.00 @ 4.50
Old Roosters	3.50 @ 4.50
Young Roosters	6.00 @ 7.00
Young Roosters, full grown	7.00 @ 8.00
Pigeons	1.00 @ 1.25
Squabs	2.00 @ 2.50
Ducks	4.00 @ 8.00
Geese	2.00 @ 2.50
Turkeys, live, per lb.	20 @ 22c
Turkeys dressed per lb.	24 @ 26c
Small Spring Turkeys	17 @ 19c

## BUTTER.

Butter shows rather less firmness than last week. The market is liberally supplied with all grades, extras being merely steady at a decline of 1/2 cent, and firsts weak at a similar decline. Packing stock is about the only grade to show any firmness. Business is about up to the average, but the demand is hardly as lively as last

week. The following prices are quoted by the San Francisco Dairy Exchange:

Cal. (extras), per lb.	32 c
Firsts	27 c
Seconds	23 c
Thirds	20 c
Eastern extras	27 c
Ladles, extra	26 1/2 c
Cal. Storage, extras	23 1/2 c
Pickled Butter	21 1/2 c
Packing Stock, No. 1	21 1/2 c

## EGGS.

Eggs are fairly firm, but the demand for fresh extras has fallen off somewhat, causing a decline of 1 cent. The demand for the lower grades, however, is decidedly strong, especially for storage goods, both local and Eastern being higher, with stocks firmly held. Fresh seconds are also very firm, showing an advance of 7 1/2 cents. The following prices are quoted by the San Francisco Dairy Exchange:

California (extra), per doz.	54 c
Firsts	50 c
Seconds	40 c
Thirds	28 c
Storage, Cal., extras	35 c
Storage, Eastern, extras	28 1/2 c

## CHEESE.

Nearly all grades this week show a decided firmness, with a steady demand for most lines, and several advances in price. Local flats, both first and fancy, are 1/2 cent higher, and local Y. A.'s have advanced 1 cent. Storage Oregon flats are quoted at the same price as local fresh stock. The following prices are quoted by the San Francisco Dairy Exchange:

Fancy California Flats, per lb.	13 1/2 c
Firsts	12 1/2 c
New Young Americas, fancy	16 c
Oregon Flats	13 1/2 c
Oregon Y. A.	15 c
Storage, Cal. Flats	12 c
N. Y. Cheddars	17 c
Storage, Oregon, flats	13 1/2 c

## POTATOES.

Sweet potatoes are lower, with large stocks on hand. River stock continues to accumulate, and supplies of other lines are also quite large. The demand is only moderate, poor lots being almost neglected and prices are inclined to easiness.

River Whites, fancy, ctn.	70 @ 85c
Common	55 @ 65c
Salinas Burbanks, ctn.	\$1.25 @ 1.60
Oregon Burbanks	1.15 @ 1.30
Sweet Potatoes, ctn.	1.00 @ 1.25

## FRESH FRUITS.

Arrivals of apples are liberal, and while there is some shipping business, the bulk of the receipts goes into storage or is placed on the market. Supplies are excessive, and the demand is limited. Prices, however, show no change. Eastern cranberries are strong, but Coos Bay stock is lower. Pomegranates, persimmons and quinces are in light supply, but the movement is slow. Arrivals of grapes are diminishing, but with a small demand the market is well supplied.

Apples, fancy	65c @ \$1.25
Apples, common	40 @ 75c
Strawberries—	
Chest	\$5.00 @ 7.00
Raspberries	6.00 @ 9.00
Cranberries—	
Cape Cod, bbl.	13.00
Coos Bay, box	3.50 @ 3.75
Grapes, crate, Muscats	65 @ 85c
Cornichon	65 @ 75c
Tokays	85 @ 90c
Pears, box, Winter Nellis	75 @ 1.25
Winter Nellis	75 @ 1.25
Other varieties	50 @ 75c
Quinces, box	65 @ 85c
Pomegranates, box	1.75 @ 2.00
Persimmons, box	50 @ 1.00

## CITRUS FRUITS.

Interest in the citrus lines is still limited, since the arrivals, while rapidly increasing in volume, are mostly sour and undesirable. Prices are lower on both Valencia and navel. Some tangerines are now appearing, bringing \$1.00 to \$1.25 a box. Grape fruit, limes and lemons find the usual market at former prices.

Choice Lemons	\$2.00 @ 2.50
Fancy Lemons	3.00 @ 3.50
Standard	1.25 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	2.50 @ 4.00
Navel	2.25 @ 2.75
Tangerines	1.00 @ 1.25
Grape Fruit	2.50 @ 4.00

## DRIED FRUITS.

Some improvement is noted in the Eastern markets, and this market is also in a somewhat better condition in regard to fruits. There is a rather firmer feeling in regard to prices all along the line, though so far there is no quotable change. Apricots are especially strong, and as the market is rapidly cleaning up an advance is anticipated. In some sections considerable stock has been moving out of growers' hands. Prunes are being shipped in fairly large quantities. The raisin situation, as regarded by San Francisco packers, is very unsettled. While the Fresno pool is holding for 4 cents on the leading lines, the packers are holding back in anticipation of a break, and prices cannot be very definitely established until the attitude of the Fresno growers becomes clearly defined. Some of the Southern growers have been selling for about 3 cents.

Evaporated Apples	5 @ 6 c
Figs, black	2 1/2 @ 3 c
Figs, white	3 @ 4 c
Apricots, new crop	7 @ 10 1/4 c
Peaches, new crop	4 @ 5 1/2 c
Prunes, 4-size basis	3 1/4 @ 3 3/4 c
Pears, new crop	5 @ 7 c
RAISINS—NEW CROP.	
Loose Muscats, 4 crown	5 1/4 c
3 Crown	4 3/4 c
2 Crown	4 1/4 c
Thompson Seedless	4 1/2 c
Seedless	4 1/4 c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

While walnuts of the new crop are rapidly arriving, the market is not yet very plentifully supplied, and all offerings are readily disposed of. Local shellers are now busy on both almonds and walnuts, and report a strong demand from the East. Prices are as formerly quoted.

Almonds, Nonpareils	11 1/2 @ 12 c
I X L	10 1/2 @ 11 c
Ne Plus Ultra	10 c
Drakes	9 1/2 c
Languedoc	8 1/2 @ 9 c

## WALNUTS.

Softshell, No. 1	12 1/2 c
Softshell, No. 2	8 1/2 c
Hardshells	less 2 c
California Chestnuts	10 @ 14 c
Italian Chestnuts	11 @ 12 c

## HONEY.

Supplies of the water white grade of both comb and extracted are well cleaned up, and no prices are quoted at present. White extracted is in good demand and strongly held. The lower grades, however, are plentiful, and are offered at somewhat lower prices without arousing much interest.

Water White, Comb, lb.	Nominal
White	15 c
Water White, extracted	Nominal
White	7 @ 8 c
Light Amber	6 1/2 @ 7 c
Dark Amber	4 1/2 @ 5 1/2 c
Candied	1 1/2 @ 5 1/2 c

## HOPS.

The prices offered remain unchanged, but the market is quiet, as most of the growers who have not already disposed of their crops are holding for an advance, which buyers are unwilling to meet.

Hops, per lb.	7 @ 9 c
---------------	---------

## WOOL.

The wool market is now in a fairly firm condition, and shows much more activity than earlier in the season. So far, however, there has been no quotable advance in prices.

Red Bluff (f. o. b. Red Bluff)	
free	6 @ 7 1/2 c
Defective	less 2 c
San Joaquin (at S. F.) free	5 @ 6 1/2 c
Defective	4 @ 5 c
Mendocino, free	7 @ 9 c
Defective	5 @ 7 c

## MEAT.

There is still some price cutting on beef and mutton on the part of one of the local wholesalers, and the feeling in these lines is accordingly easy all around, though quotations of most dealers stand as before. Medium live hogs are a fraction higher.

## MEAT.

Beef: Steers, per lb.	6 @ 6 1/2 c
Cows	4 @ 5 1/2 c
Heifers	4 @ 5 c
Veal: Large	5 1/2 @ 7 1/2 c
Small	8 @ 9 c
Mutton Wethers	6 1/2 @ 7 c
Ewes	5 1/2 @ 6 c
Lambs	8 @ 9 c
Hogs, dressed	8 @ 9 1/2 c

## LIVESTOCK.

Steers, No. 1	3 3/4 c
No. 2	3 1/2 c
No. 3	2 @ 3 c
Cows and Heifers, No. 1	2 3/4 @ 3 c
No. 2	2 1/2 c
Bulls and Stags	1 1/2 @ 1 3/4 c
Calves, Light	4 1/2 @ 4 3/4 c
Medium	4 c
Heavy	3 1/2 c
Sheep, Wethers	3 3/4 c
Ewes	3 1/4 c
Lambs, lb.	4 @ 4 1/4 c
Hogs 100 to 150 lbs.	5 3/4 c
150 to 250 lbs.	6 @ 6 1/4 c
250 to 325 lbs.	5 1/2 @ 5 3/4 c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.	

The California Pigeon Club will hold its third annual exhibition of fancy, utility and flying pigeons in Oakland, Cal., December 10 to 13 inclusive. The pigeon industry on the Pacific Coast is attracting must interest at present, and many persons are devoting their entire time to the business. Handsome silver trophy cups will be awarded to the best birds in the different varieties, and any person is at liberty to compete; also there will be cash specials. Pigeons will be exhibited from all sections of the Pacific Coast. Entries close December 2. For blanks and information address the secretary, William T. Frost, 1070 Broadway, Oakland.

The State game farm is to be located on the H. G. Bedford place, between Hayward and Mount Eden. The farm has been leased for 10 years, and immediate work will be begun erecting an eight-foot wire fencing enclosing the entire premises. Six kinds of pheasants, mountain quail, and wild turkeys and partridges will be placed in the enclosure to breed.

San Diego county is endeavoring to have the Government build a wire fence 70 miles long, from Tia Juana to the farthest end of San Diego county, to keep diseased Mexican cattle from crossing the line into the United States.

## PUBLISHER'S DEPARTMENT.

In our next issue we will print a valuable article by Mr. Chas. A. Chambers of Fresno, on planting in waste places. Judge Logan has promised us an article at an early date on the latest information regarding the famous berry bearing his name. We expect to produce this shortly. John Lynch has also promised us an article on the "Shorthorns in California" for an early issue. So much interest is manifested in eucalyptus planting these days that we are going to have some good articles covering the subject shortly. We can promise this, now that Professor Wickson is in the East, and get him to carry out the promise when he returns.

All horse owners should keep on hand some well known liniment. There will be ample occasion to use it. Every little while there is a cut, a kick, a swelling to reduce, an apparent permanent enlargement of a joint, an abnormal growth of a bone, as ringbone, spavin, etc. Perhaps the most valuable liniment to be had for treating all such ailments is Kendall's Spavin Cure. For your own good and for the sake of your horses, you should keep it constantly on hand.

The Oakwood Stock Farm of Lathrop announce that they have a lot of fine young Holsteins for sale. They are of the blue-blood class—nothing better in the West.

Marshall & Son of Fresno and Henry Shaw of Santa Cruz, both old advertisers in the PACIFIC RURAL PRESS, are again with us with seasonable announcements.

## The "South Bend"



THE BEST CHILLED PLOW IN THE WORLD.

The No. 3-A, as illustrated above, is our light two-horse plow. It is strictly first class in every respect and is one of the most popular sizes made. It does most excellent work, turning its furrows as perfectly as the larger sizes. Wheels, Joints or Coulters can be used on the No. 3-A if required. It has a furrow capacity of 6 1/2 x 11 inches and weighs 92 pounds. Shares Plain Chilled or Slip Nose Chilled.

Write us for Catalogue describing the Complete South Bend Line of Plows.

General Agents:

**PACIFIC IMPLEMENT COMPANY**  
135 Kansas St., San Francisco.

# CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.

HANDSOMELY ILLUSTRATED

Price \$3 per copy, postpaid.

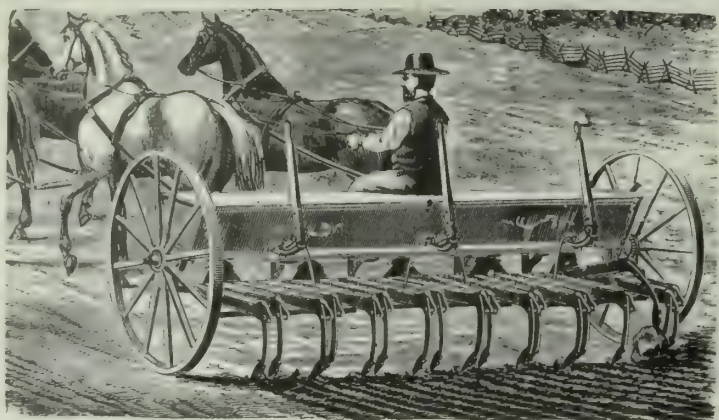
Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO

**PACIFIC RURAL PRESS, Publisher,**  
667 HOWARD STREET,  
San Francisco, Cal.





THE GENUINE GORHAM SEEDER AND CULTIVATOR.

**The Best Broadcast Seeder Made**

WE FURNISH SEEDER ONLY

Without Cultivator if Desired.

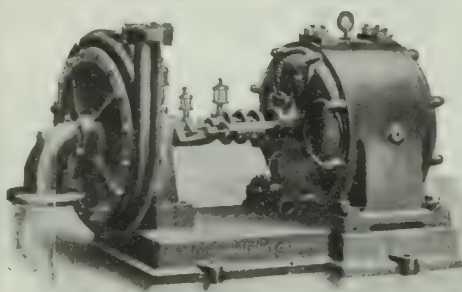
STRONG, DURABLE AND LOW IN PRICE

Send for Special Circular.

SPECIAL PLOWS, HARROWS, SEEDERS, ETC.,  
Made to Order.**THE H. C. SHAW CO., Stockton, Cal.****All Soils Alike to Wood Pipe**

The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our book let, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

**National Wood Pipe Company**404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.**Centrifugal Pumps**For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.**Krogh Man'f'g. Co.**127 to 133 Beale St., San Francisco, Cal.  
Send for new catalogue No. 50  
just issued.

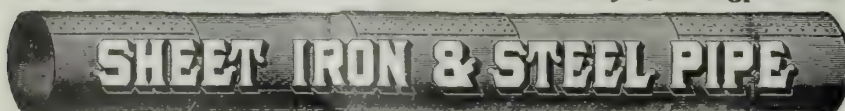
WINE TANK.

**Tanks Tanks**WINDELER'S PLANING MILL  
AND COOPERAGE  
GEO. WINDELER, Prop.Water Tanks, Wine Tanks, made from carefully  
selected stock by careful and experienced work-  
men. "Tanks that are well made last a long  
time." It will pay you to get my prices before  
buying.GEO. WINDELER,  
144-154 Berry St.

San Francisco, Cal.



WATER TANK.

**FRANCIS SMITH & CO., Manufacturers of****FOR TOWN WATER WORKS**Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 9 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum

**Kentucky Disc Drills**  
meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

**PACIFIC IMPLEMENT COMPANY**  
135 Kansas St., San Francisco.**REX YOUR TREES WITH  
LIME & SULPHUR SOLUTION**

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution, Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

**Expert Opinion on Our Horticultural  
Catalogue Printing and Engraving**

**From the Pacific Rural Press:** Another offering of Mr. Burbank's new fruits is just made and heralded in one of the handsomest pieces of horticultural printing ever brought out in California, under the eye, of course, of Henry W. Kruckeberg of Los Angeles, who is one of the most striking geniuses of California, touching neither horticultural literature art or typography without leaving upon it an impress of characteristic adornment.

**From Luther Burbank:** The catalogue of my new fruits is, in my opinion, the best one ever published on this Coast, and would be a credit to any firm anywhere. You cannot do such work without having people find you out sooner or later.

Interested, are you? Then write us for samples and estimates. We can certainly be of service along lines calculated to make your catalogue making worth while.

**The Kruckeberg Press Corporation**QUADRI-COLOR PRINTERS  
CATALOGUE MAKERS

On South Los Angeles St. at 1-2-3

Los Angeles, California

**YOU WANT THIS**

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.**PEAR-BLIGHT** We can CURE ITOur Remedy will not in-  
jure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 22.

SAN FRANCISCO, SATURDAY, NOVEMBER 28, 1908.

Thirty-eighth Year.

## Planting in Nooks and Corners.

Written for the PACIFIC RURAL PRESS  
By MR. CHAS. A. CHAMBERS, of Fresno.

From my long experience in the nursery business and making careful observations throughout the State, I am convinced there is one important matter that has been generally overlooked by the average farmer, and that is the proper embellishment of their ranches. How many orchards and vineyards do we see throughout our great fruit growing centres with practically no embellishment in the way of ornamentation around the borders and avenues? The average ranch has the usual family orchard and alfalfa patch, but the borders and by-way places are very often vacant, when these spots could just as well be utilized for growing a certain commodity, which would not only enhance the value of the property but would very materially increase the income of the average orchard and vineyard.

There are any number of trees that could be grown as border trees to embellish the vineyards and orchards, which would not only occupy these vacant spaces but would prove immensely profitable. Take, for instance, a vineyard planted in the regulation way; how much better it would be if the vineyard was surrounded with, say, olive, fig, pomegranate, pear, chestnut and other trees which do not interfere with the crop proper? All the trees named above are admirably adapted for this purpose, inasmuch as they have more or less of the dwarf habit and do not create too much shade. Except possibly the fig, which attains a large growth and shades considerable ground, the other sorts named would never interfere with the crop proper, either orchard or vineyard. The fig, if planted at the fence line, would not materially injure the growing crop, for sufficient space could be left between the fig trees and the crop proper to insure the latter's safety.

**Pomegranates.**—I consider pomegranates one of the best crops to grow as border and avenue trees, especially the improved varieties. They are of dwarfish habit, and do not shade the adjoining ground. The reason that this fruit has not been profitable in the past is due to the fact that not enough of the fruit has been produced to make it an object for the packing firms to handle it. While pomegranates are grown, there are so few of them that it is hardly worth while to bother with. Eastern people are simply crazy for our large, well colored pomegranates. For instance, last year I sent a friend of mine a box of pomegranates as a Thanksgiving gift; They were of the Wonderful variety. This friend was in the produce business. He displayed the fruit on his stand and sold them at 15 cents each,



Olive Tree on a Terraced Roadway.

two for a quarter, and wanted more. Instead of accepting them as a gift, he allowed me 5 cents each net for same, and sent me an order for 20 boxes. This goes to show how the market will take any attractive fruit. The Wonderful pomegranate, as is well known, is highly colored, very attractive, and takes the eye of the average fruit buyer. Fruit, in addition to

(Continued on Page 340.)



Patchy Planting—A Row Would Be Handsomer and More Easily Cared For.



Field Border: Picturesque But Not Profitable.



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., November 24, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	2.81	8.58	8.05
Red Bluff.....	1.06	1.25	4.76
Sacramento.....	.54	.85	3.03
Mt. Tamalpais.....	1.55	3.35	3.56
San Francisco.....	.64	1.41	3.42
San Jose .....	.44	.83	3.44
Fresno .....	.15	.53	1.82
Independence.....	.01	1.60	1.74
San Luis Obispo.....	.19	1.64	3.12
Los Angeles.....	.04	1.59	1.94
San Diego.....	.03	1.09	1.17

## The Week.

To strike him with a blizzard in Wyoming, with 15° below zero at Laramie, where there were four-foot icicles pendant from the eaves of the railway station, and to blow him through Nebraska, Iowa, Illinois, Ohio, Pennsylvania and Maryland on the wings of an eastward-moving snowstorm even to the steps of the National Capitol, was not a gentle way to waft a returning pilgrim to Eastern scenes after a third of a century's absence, but that is the way we arrived. The first touch of the blizzard made us homesick: the sight of the desolation of western Nebraska, all of a tawny hue because of the mixture of dry grass and snow, and the almost complete absence of human habitations, convinced that the American people had accomplished little with the valley of the Platte since we passed before, and that the "dry farming" projectors surely had still the whole field for their demonstrations. Central and eastern Nebraska we passed in the night and could only hope that it had developed faster than the west, as, of course, it has. Iowa shows wonderful advancement since our earlier visit, and although well under the snow the visible signs of prosperity in buildings, fences, stock and heavy corn stubble were unmistakable. Northern Illinois was also significant of modern farming and its rewards. Thence eastward the country is too old to manifest striking changes, but the improvements were notable wherever the land was good enough to provide them. Still there came to us at nearly every change in view the reflection that from the middle of November onward for four or five months, all these lands will lie rigid and unproductive; that all these months stock must be foddered and tended, that during all these short days and long nights outdoor farm work must be largely maintenance and not production—every one holding on until the return of spring. To a Californian, whose months of most active work in plowing, planting, pruning and outdoor activities generally, begins with the middle of November, the beginning of the winter's sleep at the East is very depressing. This is too trite to enlarge upon,

but a Californian going to the East in November must be always impressed with it anew and very strongly.

We are disposed to believe that this year's November snow was arranged for our entertainment. Everywhere we come, we meet the declaration that such an early snow, reaching way down into Virginia and covering Baltimore and Washington with a half-foot of pallid death to vegetation, is not remembered. The oldest inhabitants declare it unusual if not unprecedented, and so we trudge around the National capital in mufflers and goloshes flattered by the plain inference that the whole phenomenon was planned to make the pilgrim rejoice that he is a Californian! In that line the two-thousand-mile snowstorm is a howling success.

The National capital is full to the snow-levees with throngs who have come hence from all parts of the country to consult concerning education, almost wholly from the industrial point of view, and that view predominantly agricultural. Such a thing in the width of it, is as notable as the snow, for never before were there so many people assembled under so many agricultural appellations. Here is a list, perhaps not complete, of the organizations simultaneously in session:

The National Grange, Patrons of Husbandry.

The Association of Presidents of Land Grant Colleges.

The Association of American Agricultural Colleges and Experiment Stations.

The American Association of Farmers' Institute Workers.

The Association of Official Agricultural Chemists.

The Society for the Promotion of Agricultural Science.

The Commission on County Life.

The American Association of Agronomists.

All except the first named are open to the public; good listeners always welcome and good talkers at their own risk. It is easy to see then what tides of accumulated wisdom are flowing for agricultural uplift and advancement. One gets so full of results and suggestions for more results that he has once in a while to fly for relief to a high seat in one of the "rubber-neck" automobiles which are flying through the streets and out into the historic suburbs during all the daylight hours.

It is altogether out of our power to give a sketch of events while all this oratory, declaration and resolution is in progress. We have not yet succeeded in attending more than three associations during a single morning, and that leaves as many more unreached. One seems, however, to absorb very much unconsciously and to catch suggestions even from the crier of the trolley-car conductor as he flies between meeting places. We really feel that we are becoming charged with elevation and progress to such an extent that it will take a year of pungent paragraphs to relieve the pressure. Our readers will have, then, to take the meetings by installments to time immemorial.

Perhaps the most profound impression made upon one by quick glances at these various assemblies and brief hearings of their proceedings is the universal recognition of the importance of industrial training both for the prosperity of the individual and the welfare of the country. And prosperity and welfare, which are as never before insisted upon as educational ends, are by no means to be measured in terms of material wealth and so-called creature comforts. We never heard more impressive appeals to the recognition of the higher life of men and women than in the dis-

cussions in the Farmers' Institute Association, of which the education of adults in better agriculture is held to be the leading purpose. Not a man or woman of the scores who spoke in our hearing failed to declare or to suggest that better manhood and womanhood was in fact the grandest agricultural products and that these were the ends to be attained by teaching people how to work more effectively and to live more cleanly and sanely. It seemed to be the universal concession that if you can get a human being, old or young, to conceive and cherish an aspiration to do any single thing better, you have started that being upon an upgrade in all that he thinks and does. The better ear of better corn naturally is the starting point in such progressive work; because corn is the greatest and most universal American production, and nearly all speakers used corn to illustrate their suggestions of awakening impulse and aspiration. We never expected to be thrilled by corn, but when one plain speaker from the prairies told of five thousand boys in his State who were growing corn for better things, and when he pictured in soft words the emotions in the hearts of the country family when the boy whom they expected would "only be an ordinary farmer" grew the best corn of five thousand and started away to possess his prize, an expense-free short course in the agricultural college of his State, all agreed with the speaker as he said that there came into that farm home a recognition of better things and an aspiration to attain them which had not been known before and which advanced the household in self respect and self confidence which influenced every life to which the awakening came. When one sees the effect produced upon an audience by such a little narrative and its little sermon, he cannot doubt that the American heart is strongly set upon the better things of life and that the material wealth in these better things is not in itself an end, but a means toward an end. Nor can he doubt that the present universal demand for education, which shall teach people how to work better, has for its foundation a deep-lying impulse toward better living.

This new education seems to be the keynote of the anthem of advancing manhood and citizenship which has drawn the multitude from all parts of the country to a week in the National capital. Naturally the music sounds low in the councils of those concerned with science and higher education, but it sounds clear and is a moving melody ever with those who have always held that education was to lift mankind to the possession of ideals and to induce effort toward them. The intellectual higher-ups are becoming quick to recognize the fact that purposes which they have been trying to lower from above are now rising from below with irresistible force, and they welcome them cordially and assemble to provide ways to serve them. In the more popular assemblies like the Grange and the Institute Workers' Association the anthem has the force and volume of an organ-peal and awakens emotions which will stir the farmers of the whole country to fuller and more effective organization toward the advancement of agriculture and through such advancement the elevation of the whole industrial population. This is the real foundation of American greatness, the surety of the perpetuity of our institutions and the basis of our claim that this nation has something to do in the world.

The Commission on Country Life, concerning which we spoke at length in our issue of November 7, has had several hearings in connection with



the associations named above and has drawn out many interesting statements. Some idea of the breadth of the inquiry may be had from the fact that about six hundred thousand schedules bearing the questions quoted in the PACIFIC RURAL PRESS three weeks ago have been sent out and nearly a hundred thousand responses already received, which the large clerical force of the census office will undertake to tabulate and bring into usable form. This commission will undoubtedly have before it the widest collection of statements of experience and opinion ever gathered upon a class subject, and it is appalling to think of the multitude of books which will draw fact and suggestion from this literary mine for years to come. Only the drift of the responses can be made clear in time for the report to the President, which must be made at the close of next month, but the commission may be continued to present later the results of its work in a more specific manner. The hearings will cover the whole country, and California is fortunate in having four within its State lines during the current week, viz.: Los Angeles, November 25; Fresno, November 27; San Francisco, November 28, and Sacramento, November 30. The attitude of the various organizations in Washington indicated that the commission has the good will and godspeed of their membership, by whom its work was recognized as promotive of progressive ideas for which they have contended for many years.

## Queries and Replies.

### Transplanting Eucalyptus.

To the Editor: Can I take up eucalyptus seedlings from two to five feet high, grown in Alameda county, and ship them by express to my place in Fresno county, without any earth around the roots? If so, what would be the best time for such transplanting? I have a large number of such seedlings near Oakland, and if I can move them as proposed, at a reasonable cost, it will be quite an advantage.—Inquirer, Oakland.

You might reach a certain percentage of success with such trees if you took them up next February, during a period of warm moist weather, packed the roots carefully in barrels of damp straw, and hurried them by express into warm moist ground in Fresno county. Orange trees can be handled that way, and so can eucalyptus, but it is a very risky and undesirable way to handle evergreen trees. A way to get better results would be to ball the roots, and that is the proper way to handle orange trees also, if the movement involves any time or distance. An evergreen is usually slow to recover from root exposure, and is not like a deciduous tree moved during its dormant period.

But while these things can be done, they are certainly not worth doing. Small eucalyptus trees which have been properly transplanted in boxes are furnished at such moderate cost by the growers, that one can not afford to touch volunteer seedlings, even if they cost him nothing. Such small trees will quickly outgrow larger ones even if they are successfully kept alive after moving.

### Reams Almond.

To the Editor: Can you give in your valuable paper the history and habits of "Reams Late" or "Reams Favorite" almond? I am told it has a three-fold value, being beautiful for flowers and shade, excellent for timber, and valuable for nuts, being a late bloomer of vigorous and upright growth. If so, I wish to become interested.—Enquirer, Dos Palos.

Yes, we would like a share in such an almond. It might also resist "shothole," bleach itself, and

grow with sugar all around it. Unfortunately, such a nut is beyond our present knowledge. Who will wiser us?

### Almond Growing.

To the Editor: Where can I get a publication pertaining to the almond industry. I am contemplating planting almonds this year on soil that is deep and heavy. While it is not adobe, it is not far from it. What varieties would you advise setting out in this kind of soil? Nonpareil, IXL, Peerless and Drake's Seedlings seem to do well in this locality. Ne Plus Ultra seem to have a tendency to be sticktight, and IXL to be light bearers, especially in lighter soils. What distance apart would you advise? In more loamy soil, where the growth is more prolific, 25 feet seems to be sufficient. In heavy soil would 28 feet be sufficient, or is 30 feet preferable? What advantage, if any, have trees on peach root over those on bitter almond root? Are the almond root trees longer lived?—Enquirer, Yolo County.

The latest discussion of the subject will be found in the fourth edition of our work on "California Fruits," which is now ready for distribution by the PACIFIC RURAL PRESS, in accordance with announcements now being made in our columns.

Your observations as to varieties seem to be very correct. The varieties which are now being chiefly planted are Nonpareil, Drake's Seedling and Texas Prolific, the latter having made a most excellent record for regular bearing and as a good pollinizer for the Nonpareil. What you say about the greater distances seems to be perfectly rational, and yet very few growers begin that way. They seem to prefer to get more off the ground at first, and then remove some of the trees afterward, but still, planting 28 to 30 feet apart, using the ground for vegetables or other cultivated crops during the first few years, is on the whole an advantage. The almond root, for a good, deep, well drained soil is a better root than the peach. It has longer life and is deeper in its penetration, and, according to our observation, stands a rather heavy soil as well as peach root, but water ought not to stand in the soil for either root.

### Freaky Growths.

To the Editor: My cabbages have not headed properly. While they were young they grew very rapidly, but instead of heading, the leaves kept spreading, so that this fall the heads are no larger than a coffee cup, when they split open and the seed shoots come up through the middle. I have noticed all the small home gardens have the same results, but with different varieties. The regular gardens do not seem to have that trouble. I have had my ground well cultivated.

I found a strawberry among some I was picking which had a plant growing out of the top of the berry. There also seemed to be a number of smaller leaves started at other points. What causes them to grow? There is no connection with the stem. I have planted it, but don't know whether it will grow or not.—Amateur, Larkspur.

There are two possible causes for your disappointment with the cabbages: One is that you may have had inferior seed, gathered from plants that were themselves making such freaky growth; another is that your plants became dry and dormant and then started out again on return of moisture, which is apt to produce such effects as you describe. Nearly all our vegetables need to be growing continuously in order to secure satisfactory growth and development, and that is why the market gardeners, who are regular in their efforts, succeed better than amateurs, who are intermittent.

The plant starting out from the top of your strawberry is due to a little-understood phenomenon which is called "proliferation". It is similar to the starting out of green leaves from the center

of a rose. Fortunately, such behavior is too seldom indulged in to be considered of any importance. Presumably if your plant grows it will produce fruit with an increasing tendency toward this behavior, and you would be, therefore, selecting toward an undesirable character.

### Winter Greens for Chickens.

To the Editor: We have land in Pomona valley which is planted to prunes and apricots. We also have some 2,000 chickens among the trees. As late in the season as it is, what would be a good crop to plant the land to? What grain and garden crop will gophers injure? What do you consider the most effective destroyer of gophers? They are killing the trees. We have tried bisulphide of carbon, which killed some, though it is rather expensive. We are also using steel traps, though they are rather ineffective. The market prices for prunes and apricots are very low. In your opinion, if there is no change in the prices offered, what would be a good orchard tree to substitute?—New Comers, Pomona.

To furnish green feed for poultry beginning at this time of year you need a plant which will grow well during the winter, and ordinary wheat and barley would do this, but perhaps you would get better returns from Jersey kale, of which you can get seed from the Los Angeles seedsmen. This plant is now considerably used as a winter green feed for chickens in southern California. Gophers will injure nearly every garden plant that is worth growing. There is no royal way to kill them. Keep busy with your bisulphide and traps and use also pieces of fruit or alfalfa stems in which you have put strychnine in a knife slit.

We know of no deciduous fruit which would be more likely to be profitable during a period of years than prunes and apricots, if the conditions are such as to give good, thrifty bearing trees. Therefore, we cannot make any suggestions for a change. The prices of prunes and apricots this year have been exceedingly low, but they are not usually that way. As a rule they are profitable if you get good, large fruit.

### Brown Apricot Scale.

To the Editor: Please tell me if this is brown apricot scale—the old ones? On the new growth there are some small ones, the same as the large ones were last fall. I sprayed last March, just before the buds opened, with one pound of caustic soda to seven gallons of water. What can I spray with, and when is the best time to spray?—Subscriber, Del Rey.

Yes, you have young and old of the brown apricot scale. The best spray is the resin wash, thoroughly applied during the winter season. Get your pruning done and then give a thorough spraying.

## CALIFORNIA FRUITS: FOURTH EDITION.

The publishers of "California Fruits," by Prof. Wickson, have to announce an increase in price of the Fourth Edition, which is now ready to distribute. The book is much larger than expected, because of the great increase in contents which the author found desirable, and because of the multiplication of striking and significant engravings which the publishers thought the enriched and extended text demanded to fitly assist the grower in his work and to represent the present notable expansion of the industry. The new edition has a page one-third larger than its predecessors, and the illustrations are increased four fold, including a multitude of full-page plates, some in colors, all of which make it imperative that the price be advanced to \$3 per copy, to cover the increased cost of the work.



## Horticulture.

### PLANTING IN NOOKS AND CORNERS.

(Continued From Page 337.)

being palatable, must be attractive, nicely packed and otherwise inviting. I know of no other fruit that will stand the hardships of transportation so well as the pomegranate. If need be, it can be loaded loose in car like onions, and packed up at destination, if necessary, without deterioration. No icing of cars is required enroute, making it a hardy shipper. Furthermore, the fruit stand man, when he receives a consignment of pomegranates, does not have to hurry up his sales in order to prevent the fruit from rotting on his hands. This fruit can be exposed for sale at least three weeks and it will remain firm and otherwise in good condition. I will wager that anyone who grows at least a car of this fruit will find it profitable to grow. The time is coming when there will be a ready sale for assorted cars of fruit, instead of solid cars containing one variety of fruit. I am quite sure that cars of assorted fruits, when consigned and shipped to the East, will find ready sale among the dealers, and will be preferred to solid shipments of one commodity.

**Figs.**—Speaking about figs, I would recommend the planting of the Black Mexican variety for avenue, border and ditch bank planting. The black fig does not sour, and will stand a good deal of water without souring, as is the case with the white varieties, especially the commercial sort known as the White Adriatic. In addition to being one of the best eating varieties, this fig is largely used for making a healthy substitute for coffee. It is a well known fact that coffee, when blended with ground figs and put up in hermetically sealed packages, is preferred by the ordinary layman to the real coffee. The figs give the coffee a peculiar agreeable flavor, and the demand for this combination is increasing. The pure food laws will never interfere with a product as long as the product does not contain an injurious ingredient to affect the health (providing you do not label it "coffee." Ed.)

I know of a party near Fresno that has forty Black Mexican fig trees growing in an out of the way place on his vineyard. His annual returns from these forty trees, some ten years old, has been for the past three years \$6 a tree net. If this is demonstrated with a small number of trees, why can't it be done on a large scale? This man, I understand, sells his crop every year to a coffee firm for 2½ cents a pound sacked, and he tells me that at this price his figs are money-makers. Besides the black fig is easily handled inasmuch as they dry themselves on the tree, dropping every day and all that is required is to gather and sack them. The white figs have to be dried on trays and processed more or less, to brighten them. The black figs do not require this labor, for, being black, no sulphur is needed to make them of a lighter shade.

**Olives.**—The olive tree makes an elegant as well as profitable border tree. Aside from the value of the fruit, I consider the olive in a class by itself as an ornamental tree. There is nothing looks prettier than a vineyard or orchard bordered with olive trees, and there will be many seasons, after the trees have attained a good size and growth, when the returns from them will be almost as great as the commodity grown on the land proper. I do not recommend the planting of fig and olive trees in solid orchard, for the reason that they have to be planted at least forty feet apart, and this would require a good deal of ground. Some other crop could be planted on the same ground, closer together which would bring quicker returns. But as border and avenue trees they are ideal.

**Chestnuts.**—Japanese chestnuts in many localities, I am sure, would be a good crop to grow as a side issue. They are dwarfish in habit and very productive. Many of the Japanese chestnuts in the San Joaquin valley fruit the second year after planting. The nuts are large and of the best quality.

**Persimmons.**—I consider the Japanese persimmon one of the best fruits to grow as a side issue or by-product. The tree is very ornamental, bears

young and the fruit is gradually finding favor in the markets. This fruit is a good keeper, of large size and very showy. It can be packed and shipped when firm, as it ripens gradually very much after the same manner as bananas ripen.

**Pears.**—Pear trees are also ideal for border and avenue planting. They grow upright and hence do not shade the ground in their immediate vicinity. However, until the pear blight problem is solved and some remedy is found to correct this condition, I would not advise the heavy planting of pear trees except in localities where the blight has not made its appearance.

**Plums.**—The plum tree, especially the Japanese varieties, such as the Wickson, Kelsey Japan, Burbank, Climax, Satsuma and Prunis Simoni, makes a very good avenue and border tree. They are upright growers and do not interfere with the growing of other crops in their immediate vicinity.

**Grapes.**—Where one has an orchard, it is a good plan to surround their orchard with a row of grapes. These can be grown on the fence and will prove profitable. I would recommend for this purpose the variety known as "Lenoir," a wine grape, used for coloring. When the ordinary wine grape fetches \$12 a ton the Lenoir sells for at least \$16 per ton. They have a running habit, and will do well either by allowing them to run on a fence or trellised. This is one of the very finest coloring grapes grown, and in my opinion are superior to the Alicantes so largely planted for coloring purposes. Furthermore, the Lenoir are somewhat resistant, being strong growers and able to withstand phylloxera or other vine diseases.

**Family Orchards.**—An average vineyard and orchard of forty acres can be so planted that returns can be obtained from fifty-five acres proper, if due care is exercised in embellishments. I contend that a forty-acre vineyard, for instance, if bordered with olive, persimmon, chestnut, pear, plum, pomegranate, fig or some other suitable tree, will yield an income fully equal to a place of fifty-five acres planted in the regular way with no embellishment. If the additional trees were planted on the land proper, in other words, they would occupy fifteen acres of actual land.

Nearly all beginners when planting out family orchards devote too much of their ground to too many varieties of trees. How often do we see parties starting a new place order from their nurserymen one of everything grown and for sale in their catalogue. These family orchards sometimes occupy five acres of ground on a twenty-acre ranch. What is the result? They cannot possibly use all this fruit for their own consumption and they do not have enough of any one kind to market, the result being that the fruit is left to rot and is a very unprofitable investment. Parties planting out a family orchard should be very careful not to grow too many sorts. One or two good peaches, apricots, plums, chestnuts, almonds is sufficient.

### THE JAPANESE FLORAL CALENDAR.

California can probably do much better than Japan in a year's significance of floral symbols. Reference is frequently made to the floral calendar of Japan. What this calendar is is explained in the Housekeeper. The Japanese are extremely fond of flowers, and they have therefore made a calendar for them, giving to each month a favorite blossom or leaf. Thus, the pine, the emblem of lasting prosperity and life, belongs to January, and all its branches are used to decorate all houses on New Year's day. To February belong the blossoms of the plum tree, which stand for purity, and the beautiful blossoms of the peach tree, to which young girls are compared, are associated with the month of March. Next the cherry blossom, the most beloved of all flowers, is held to belong to April, and to May are assigned the gorgeous clusters of the wistaria vine.

The iris flower, to which is compared the strength and beauty of young boys, belongs to June, and July has the glory and perfume of the water lily. The flowering hibiscus tree attaches its beauty to the month of August, while September lays claim to the exquisite charm of the azalea. The royal flower of Japan, the chrysanthemum, which forms a part of the crest of the royal family,

belongs to the month of October, while to November is given the maple leaf, admired for its decorative quality. Finally, with December is associated the beautiful camellia, which blooms in the gardens even in the midst of snow.

### HOTBEDS AND TRANSPLANTING IN HILLS.

We have in California relatively much less need of hotbeds than they have at the East, and can do much more with cold frames which omit the manure for bottom heat. We also practice transplanting in hills to some extent. Still what we find in the Canadian Agriculturist from the famous cantaloupe region around Montreal, Canada, may be suggestive to some of our newer subscribers who have recently come to the State.

While we grow fewer muskmelons than are grown in Rocky Ford, Col., we consider that we make up in quality to some extent at least what we fall short in quantity. Our first melons go to market about July 1, and bring \$12 a dozen wholesale. In other words, we get more for a single melon than the southern usually get for an entire crate of thirty to forty-five. My neighbor says he has sold \$3,000 worth of melons from three acres. It will be seen, however, from the following statement of our methods, that we put ourselves to much greater expense than the southern grower.

Seeds are sown the end of March in a hotbed, in four-inch pots, strawberry boxes, or inverted sod, buried in the earth in rows close together. Five melon seeds are planted to each pot, or box, and the seeds are buried about half an inch deep. When the plants come through the ground air is given by raising the sash when the sun shines during the day, closing and covering it at night to retain the heat and keep out the cold. By the end of April, the plants should be large enough to set out in the permanent hotbeds. Any light soil, that will give a good crop of corn or potatoes, should grow melons. Trenches should be dug the previous autumn eighteen inches deep and thirty inches wide, and as long as required for the number of hotbed frames. The action of the frost through the winter pulverizes the soil and puts it in good condition to receive the plants. These trenches are filled with hot manure trampled down firmly to within four inches of the surface, and covered with about eight or nine inches of soil. In growing melons on a large scale we cover the manure with the plow, putting in little posts to mark the center of the trench, making a ridge or bed about eight feet wide (a foot broader than the hotbed frame), raking this smoothly, leaving a slight rise on the middle of the ridge, and then putting on the hotbed frame and sash. In a day's time the soil should be warm enough to receive the plants from the nursery hotbed. They are watered freely, so that they may come easily from the pot. (I prefer the berry boxes, as they cost less and can be easily broken away from the roots.) One pot containing four stout plants is put to each sash. They are watered after planting and shaded with boards or matting for a few days, till the plants take root. Shallow cultivation is practiced, for the roots extend near the surface as far as the vines above ground.

When the vines have filled up the frames and little melons appear the size of a cocoanut, the glass and frames should be removed, doing this gradually to harden up the plants.

### GOOD DEMAND FOR DRIED FIGS.

According to reports from Fresno, there are but few prunes now held by growers, and that as the crop was short 2¼ cents will be paid for what is left of the fig crop, in the sweat box.

The fig crop throughout the State, in both white and black figs, was much below the average this year. The normal crop will perhaps run about 4,500 tons of white figs through the whole State. Of these, 400 to 500 tons are grown in the northern part of the State. A good crop of white figs will run 4,500 tons in the San Joaquin valley, but it is stated that there were not 2,000 tons of this kind grown in California this season.

This is ascribed to the excessive heat during the past summer, the fruit ripening before it had attained size. For this reason the proportion of standard and cooking figs is greater this year than is usually found. Ordinarily, 10 to 15 per cent of a crop will be fancy, 70 to 80 per cent



choice and 5 to 10 per cent cooking fruit. But this year, probably 5 per cent is fancy, 65 per cent is choice, and 30 per cent standard and cooking fruit. This applies to white figs only. The visible supply of the old crop in this State is about 600 tons.

In black figs, practically no new crop fruit is left. Five hundred tons would cover the year's crop. This is against 1,800 tons, approximately, in an ordinary year. The old crop is still somewhat in evidence, 400 to 500 tons of old-crop black figs being in sight in the northern part of the State.

#### NEW WAY OF PACKING GRAPES.

A successful experiment of interest to grape growers and shippers is announced by the Lodi Herald which may revolutionize grape shipping:

"A shipment of ten one-half lug boxes were shipped by the Producers' Fruit Company on October 25 and sold in Chicago November 5. They brought the fine sum of \$5.20 per box, while the highest price of the regularly packed crates brought from 80 cents to \$1.35. This demonstrates the success of the experiment to a remarkable degree, and forms one of the most important events in the history of Lodi grape producing for the market. The grapes that were packed in half-lug boxes were placed in boxes in the vineyard, picked from the vines and laid into boxes with no pressure on the lids. The grower of the grapes is R. G. Williams, who founded the new idea of packing. He intends shipping his grapes that way next season, and says that the half-lugs held less than ordinary crates, but the plan proved eminently successful in every way. He advises all growers to follow this idea.

#### FREIGHT ON FRUIT PRODUCTS.

Just how much freight rates are to be increased on various commodities beginning January 1 on transcontinental shipments to and from California has been officially made public by George W. Luce, the general freight agent of the Southern Pacific.

Only three classes of California products will have a higher East-bound rate. They are beans, canned goods and the various kinds of dried fruits, including prunes and raisins. There will be no increase in the rate on green fruit, deciduous fruit, citrus fruit or wine from California. Wine is having a hard time because of the temperance wave and more than 500,000,000 gallons remain in California wineries unsold, say the railway officials.

East-bound California products: Dried fruits, prunes and raisins in boxes, now \$1 for each 100 pounds, will be \$1.10 after January 1 for shipment across the continent; same commodities sent in sacks, now \$1.20 a hundred, will be \$1.30 a hundred; beans, now 75 cents, will be 85 cents, and canned goods, now 75 cents, will be 85 cents.

#### PROTECTION FOR POTATOES.

To protect the potato industry, which is conducted on larger lines in San Joaquin than any place in the State, the Stockton Chamber of Commerce recently passed a resolution urging Congressman Needham to take up the question of duty on potatoes shipped into the middle States from Mexico and urge upon the Tariff Revision Committee that the duty upon tubers be greatly increased. At present a duty of 25 cents per bushel is charged, while the freight rates from California to the middle States points is 75 cents per 100 pounds.

There is a district about thirty miles south of the boundary line in Mexico, known as Fronteras, and it is producing large quantities of potatoes, which are shipped into the United States. The cost of growing there is far less than in this State.

#### PRUNES FOR THE NAVY.

It is reported from Washington that the Navy Department is taking kindly to the new method of preparing prunes in compressed form with thick syrup. The tests made have been satisfactory. A final series of tests in tropical zones will be made to determine its value under the influence of climatic changes. Reports are expected in De-

cember, and there is little doubt of the change in the ration in this respect. Several large requisitions for the old ration now in use have been cut down to the actual needs, and only enough allowed to carry over the period yet remaining for the completion of the official tests.

#### VARIATION IN SEEDLINGS.

One of our southern California exchanges, in describing a seedling peach, says: "It is well known that a peach will not reproduce itself in exact kind, but these peaches proved a real surprise, as the Crawford is a freestone peach, while the fruit from the seedling clings tight to the seed, and is much larger than the Crawford. The flesh is yellow like its progenitor, but the outside is entirely different, being a bright mottled red."

Such variation is not at all surprising. You will always get a number of clings from freestone seedlings, depending upon the fixedness of type in the variety you choose for sowing. The Muir and Wager are notable for truth to type; the yellow Crawford is very variable and will give you almost anything in the line of a peach.

### The Vineyard.

#### VARIETIES FOR THE HOME VINEYARD.

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

There is hardly a farm or town lot in California, except in the highest mountains, where some varieties of grapes cannot be grown with success. Every household which possesses an acre of land should have a few vines, even in those districts where grapes are not a commercially profitable crop.

Grapes can be used in the home as fresh fruit, as grape juice, as grape syrup, and as preserves of various kinds. In most parts of California, by a judicious selection of varieties, ripe grapes may be on the vines for three, four or more months of the year, and by properly storing the late varieties the season can be prolonged one or two months more.

The diversity of the various kinds of grapes is very great, and a home vineyard should possess enough of them to prolong the season as much as possible and to provide fruit suitable for various purposes.

Grapes vary in time of ripening, size, color, shape, flavor, and texture, and a judicious selection will add much to the pleasure and utility to be obtained from a few vines. The following list is given to aid those unfamiliar with vines in making this selection. The number of vines and varieties to plant will depend on the size of the vineyard and on the amount of grapes that can be used. If the vines are planted 8 feet by 8 feet and properly looked after, each plant should produce from 10 to 25 pounds of fruit, depending on the variety, the soil and the climate. One hundred vines, therefore, should produce all the grapes an ordinary family could utilize for the purposes mentioned. Vines which are planted farther apart or grown on trellises may produce very much more than this, depending on the space and soil at their disposal.

Most of the varieties in the list give their best fruit when cultivated in bush form. Some are suitable for trellis, and a few will hardly fruit at all unless allowed to extend themselves on wires or trellis. Most fruit well with short pruning, but a few need canes of 1 to 4 feet for good crops.

**Very Early.** Lugliena. This variety can be very highly recommended, and is much superior to most of the very early kinds, such as the various varieties known as Madeleines. It requires long or half-long pruning, and is very well suited to growing on trellises and arbors. The grapes remain upon the vine in good condition for a long time after they are ripe. The bunches are large to medium, the berries oval, of medium size, firm but tender and of agreeable taste. The skin has a peculiarly pleasant smoothness, which is the origin of its German name of Seidentraube (Silk Grape).

There are no very early red or black grapes that can be recommended.

**Early.** Chasselas doré. This, usually known as the Sweetwater or Gutedel, is a white or yellowish variety, with spherical berries of medium size and agreeable flavor. The Chasselas rose and the Chasselas de Falloux are pink or red variations of this variety.

**White Frontignan.** This variety, often called Muscateller, is much appreciated by many. The bunches are over-medium, compact and cylindrical; the berries round, of medium size, golden yellow, very sweet, and with a very high muscat flavor. There is a red variation known as the Red Frontignan.

**Blue Portuguese.** Most of the early red or black grapes are more suited for wine-making than for eating. This is perhaps the best for the latter purpose. The bunches and berries are of medium size, the latter round, juicy and black.

**Mid-Season.** Sultanina. A white seedless variety. The bunches are large and the berries small and oval. This is a very attractive grape, and the red form, Sultanina rosea, seems to be even more so. They both require long pruning.

**Perruno.** This is the best, for eating purposes, of a group of white grapes from the south of Spain and Portugal which are distinguished by a peculiar and agreeable crispness of the flesh and a pleasing transparency of the skin. The bunches are large and the berries of good size and nearly spherical.

**Pizzutello.** This is a very remarkable and ornamental variety of fair eating quality. The berries are white and very much elongated and curved. It requires trellising for the best results.

**Barbarossa.** This is a red, oval fruited variety, with large berries, much superior to the Tokay for eating.

**Black Hamburg and Rose of Peru.** These are black, round fruited varieties, of excellent quality.

**Madresfield Court and Muscat Hambró.** These are black muscats that are very pleasing in appearance, texture and flavor.

**California Black Malvoisié and Cinsaut.** These are large, black, oval grapes and both very desirable.

**Late.** Muscat of Alexandria. Large, oval, in loose bunches. This variety should be in every garden, and also the red fruited form of the same variety.

**Bakator.** A heavy bearing red grape with large bunches of spherical berries. Agreeable but without special flavor.

**Zabalkanski.** A very ornamental variety, but not of very good eating qualities. The bunches are long and loose, the berries very large, of brilliant flesh color and much elongated. For good results this variety requires trellising.

**Gros Colman.** The largest of all the spherical black grapes, the berries being sometimes over an inch in diameter. Very agreeable to eat but without special flavor. Often cracks in rainy autumns. Seems more suited for the interior.

**Moscato fino.** A large, round, black Muscat, of good quality.

**Very Late.** Ohanez. This variety, usually called the grape of Almeria, is large, ovoid, with a flat end, white and hard. Its only merits are its lateness and its wonderful keeping qualities. It requires trellising.

**Cornichon.** This is the best, in quality, of all the very late grapes grown in California. The berries are large, black, very much elongated and slightly curved. It requires half-long pruning and would probably do best trellised.

**Black Morocco.** This is a very large grape, whose berries are normally round, but owing to the extreme compactness of the bunches they are usually angular. By proper thinning of the berries when they are about a quarter to a third grown, bunches of very striking appearance can be obtained.

Besides the varieties mentioned, most people would like a few vines of the Eastern or "ship-skin" kinds. They all do as well or better here than in their native States, but have been little tested owing to the superiority of the vinifera varieties. The best seem to be Niagara and Diamond among the white, Delaware among the pink, and Concord and Isabella regia among the black. They all have a strong "foxy" flavor, appreciated by some, and are suitable for making jellies and grape juice. They should all be trellised and are very suitable for covering arbors.



# TREES

SEASON 1908-9.

ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

INC.  
Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

### IMPROVED BERRY PLANTS

Strawberry, Raspberry, Blackberry, Dewberry, Logan, Phenomenal, Mammoth Black and Giant Himalaya berry plants. Crimson Winter Rhubarb. Send for Catalog.

G. H. HOPKINS & SON  
BURBANK, CAL.

### TREES STANISLAUS NURSERY

Formerly Anny Nursery, of Sebastopol.  
T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

### CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
J. B. WAGNER, Pasadena, Cal.  
The Rhubarb and Berry Specialist. Dept. 1.

CHICO NURSERY COMPANY  
FRUIT AND ORNAMENTAL TREES, GRAPE VINES.  
Walnuts grafted on Black Walnut Root.  
Small Fruits, Shrubs, Plants, Roses, Palms, etc.  
CATALOGUES FREE.

CHICO NURSERY COMPANY  
Office: Cor. Third and Walnut Sts. Phone: Red 1241.

SEED GRAIN BLACK and RED OATS,  
WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.

BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

The Stanford vineyard, at Vina, produced over 670,000 tons of grapes the past season.

The prune market is opening up at San Jose on a 3 cent basis, with the larger grades at a premium.

The fruit shipping season closed at Newcastle last week, making a total for the year of 2050 cars.

About forty-five cars of oranges per day were sent out of the Porterville district last week, to catch the holiday trade in the East.

The Valencia orange crop of last season held on longer than any previous year. Seven cars were shipped from Riverside last week.

The district about Oroville has shipped over 80 cars of oranges already this season. The prices received have been very good, being from \$2 to \$2.50 f.o.b.

A car of prunes is being prepared at Winters to be shipped direct to Germany. The American Fruit Products Co. has purchased large quantities of prunes at Winters the past week to ship East.

Pear trees on the Wolfskill place, in the Suisun valley, planted 50 years ago, are still in bearing. These trees were imported from France in the early fifties, and have borne fruit continuously.

Few new orchards are being planted around San Jose this season, although there is a brisk demand for nursery trees in the line of prunes, peaches and apricots for replanting, cherry trees not being in demand.

State Horticultural Commissioner Jeffrey, while in our office this week, stated that the next trip of the railway agricultural demonstration train will probably leave Sacramento December 10, for a trip east as far as Colfax.

The Porterville Enterprise states that weather conditions there have been very bad for the early ripening of oranges, and now that the holiday shipments have been made, the balance of the crop will be held back till thoroughly ready for market.

A. G. Kendall, manager of the Citrus Protective Tariff League, with headquarters at Los Angeles, will spend the winter at Washington. He will endeavor to have Congress leave the present tariff on oranges alone, and to advance the rate on lemons one cent per pound.

It is stated that there are about 150 cars of walnuts of this year's crop still unsold, belonging to the Association. The reason assigned is that walnut growers outside of the Association have undersold the price a cent and a half. However, as the quality of the nuts on hand is of the best, there is no apprehension that the nuts may not move soon.

The California fruit men had their claims presented to the tariff committee at Washington last week by growers in the different branches. E. F. Woodford of Santa Rosa appeared as chairman of the California tariff commission and asked that the present tariff on California products be maintained, except on hops and lemons, which he wished increased.

The raisin pool at Fresno, now represented by five growers as a selling committee, met with raisin packers from all parts of the valley at Fresno last Monday. A committee of five packers was appointed at this meeting to arrange with the growers' committee for the sale of the crop. The growers claim they have all the raisins of this year's crop in the pool except 2000 tons, while the packers claim there are 10,000 tons not in the pool. The

## MILL

TO

## MAN

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



Importers of

Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

Hawaiian Fertilizer Company, Ltd.

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

## IT'S FREE

### BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

CALIFORNIA FERTILIZER WORKS

OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## ORCHARDISTS and FARMERS

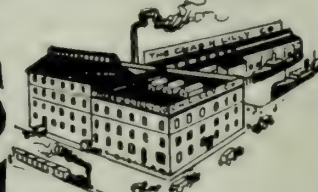
who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

THE PACIFIC GUANO & FERTILIZER COMPANY  
268E Market St., San Francisco, Cal.

### SOW GOOD SEEDS

Largest Seed House in the West

# LILLY'S BEST



Established 1885

Send Now  
For Free  
Catalog

# SEEDS

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you.

Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.

## THE MARSHALL NURSERIES

FOR FRUIT TREES, GRAPEVINES,  
PALMS, ROSES.

FULL LINE OF EVERYTHING GROWN BY US.

### S. W. Marshall & Son, Nurserymen.

BOX 652, FRESNO, CALIFORNIA.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
EKSTEIN & EKSTEIN, Modesto Euc. Nursery, Modesto, Cal.  
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.



growers hope to sell the entire crop in one lump or, at the most, in three or four large blocks.

For the purpose of raising the standard of the products of their citrus orchards by packing and shipping their own fruit, nine of the prominent growers of the valley, representing 200 acres of orchard, have organized the Escondido Fruit Growers' Association, having just commenced receiving lemons in one of the finest packing houses in southern California, the building having only recently been completed.

Next week, commencing December 1 and lasting till the 4th, will be held the 35th annual Fruit Growers' Convention, at Sacramento. Among the notable papers to be presented are: Thrips, by Prof. A. L. Quaintance; New Insects, by E. M. Ehrhorn; Present Status of the Apple, by A. N. Judd; Spraying, by W. H. Volck; Latest in Fumigation, by R. S. Woglum; Berry Culture, by W. I. Newcomb; Walnut Culture, by Prof. H. J. Ramsey; Humus, by Prof. G. W. Shaw; State Forestry Work, by G. B. Lull; Bay Cities Markets, by John Wetmore and E. F. Adams; Marketing Table Grapes, by Judge C. W. Norton; Grape Shipping, by A. V. Steubenrauch; Protection of Vineyards, by G. H. Hecke. Special sessions will be devoted to horticultural commissioners, and the question of co-operation in marketing.

#### AGRICULTURE.

G. C. Hinshaw is preparing to plant 160 acres to rice near Biggs.

The Leaf Tobacco Co. offers farmers in the Coachella valley to furnish seed and to sell all the tobacco they can raise.

A carload of cabbage plants was set out by Brawley growers last week. The Imperial valley will have lots of cabbage for early spring markets.

During the past season there was raised in the Pleasanton section, Alameda county, 60,000 sacks of grain, 11,000 tons of hay and 595 cars of sugar beets.

The first car of celery from the Sacramento valley to be shipped East was sent out last week, and another will follow soon. The car contained 165 crates, representing about 23,000 pounds.

The farmers and fruit growers around Gridley are talking of forming an organization to handle and ship products of the irrigated section. The large increase of land being brought under cultivation and irrigation in that section is causing growers to look for wider markets.

The farmers of Orange county raised over \$500,000 worth of beans this year. Most of the crop was produced on the San Joaquin ranch of Jas. Irvine, near Santa Ana, where 15,000 acres was planted as one great bean patch. The average crop on this ranch was 10½ sacks per acre, a total of 199,500 sacks of 56 lbs. each.

A quarter section of land on the bank of Tulare lake was seeded to hay last April and the crop harvested August 1. The land was reseeded August 13 and is now nearly ready for the second harvest. The owner expects to plow and seed it to wheat again in January, making three times the same land has been planted in one year.

#### LIVE STOCK.

Glenn county now pays \$5 bounty on each coyote scalp.

A train of 850 head of cattle has been shipped from Arizona to the Imperial valley for winter feeding.

The Penn Valley Creamery Association of Nevada county has declared its first dividend of \$2.50 a share.

The Alpine Evaporated Cream Co. is a new incorporation, with headquarters at San Francisco. Capital stock, \$300,000, with \$600 subscribed.

Messrs. Ward and Martin are crushing many tons of horse beans at Gilroy, which are used by being mixed with other foods, for horses and the fattening of hogs.

I. C. Lilly, a wealthy stockman of Le-moore, was found guilty last week in the Federal Court at Fresno, of maintaining a fence enclosing 112,000 acres of Government land in Fresno county. Of this large body of land fully 75,000 acres was vacant.

Owing to an outbreak of a contagious foot and mouth disease among cattle in New York and Pennsylvania, these States have been quarantined. It is stated that children have contracted the disease, and the national Department of Agriculture is making an investigation.

The co-operative wool scouring plant recently installed at Marysville is stated to be a great success. The wool growers are now getting 19c. a pound for their scoured wool, when heretofore they had been receiving from 3½ to 4c. This difference in price, however, is not all profit, as the wool loses 60 per cent in the scouring, but even with this difference the net gain is good enough.

From three cities dispatches state that the great holdings of land of the Miller & Lux Co. have been sold to a syndicate of Eastern men. This is denied by Mr. Miller in an interview given recently. The Miller & Lux holdings include more than 450,000 acres in the San Joaquin valley, besides stock, butcher business and other enterprises. The deal is said to call for \$20,000,000.

#### MISCELLANEOUS.

The wine made in the lower San Joaquin valley this season will be about 35 per cent short of last year.

The California Eucalyptus Co. is endeavoring to raise 2,000,000 gum trees in its nursery at Tulare this winter.

The Butte County Canal Co. has raised the price of water per acre, under its system, to \$15, the raise to take effect December 1.

The Hughson ranch of 965 acres, near Hickman, Stanislaus county, was sold last week. The land is under the irrigation system and will be divided into small tracts.

The Elk Grove Wine Growers' Association, in Sacramento county, will build a winery to handle next year's crop. The capacity is to be 7000 tons of grapes, making 1,000,000 gallons of wine.

Nearly all of the 140,000 gallons of wine made at Woodland this season by the California Wine Association will be shipped to the company's distributing headquarters at Point Richmond, where there is a storage capacity of 5,000,000 gallons.

A big 15-inch well is to be sunk at once on the famous 10,000 acre Rideout ranch, south of Willows. If water is found in sufficient quantity many other wells will be sunk and the whole ranch put under irrigation.

The Hesperia Land & Water Co. has sold its land and water rights to the Victorville Land & Water Co. This transfer is thought to mean that Hesperia will have plenty of water next year to irrigate 10,000 acres.

A meeting was held at Watsonville last week to discuss the feasibility of establishing a cold-storage plant at that place for the benefit of apple growers particularly. A committee was appointed to make a careful investigation of the proposition and report at a later meeting.

Dr. A. Schneider of San Francisco is superintending the transplanting of 800,000 young belladonna plants, which have been raised in hot beds, to lands in the Castro valley. If the belladonna growing proves successful, enough of the drug will

be grown there to furnish a sufficient quantity for the trade in this country.

Irrigation canals are being built through the Cressey ranch to the Hammett tract, near Livingston, in Merced county. This tract, covering 2000 acres, will be placed under irrigation with water received from the Crocker-Huffman system.

The Tehama County Irrigation Co. will send a representative to Washington to ask that the United States Reclamation Service take up their project, which calls for the construction of a great reservoir in the Coast Range mountains, and build a great ditch system to distribute the water upon the land about Corning. It is estimated that the system will irrigate about 60,000 acres.

#### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

HAVING had 20 years experience in the management of orchard and vineyard work, would like to take charge of such property for owner. References, by permission, to W. H. Aiken of this place. Address F. M. Campbell, Wrights, Santa Clara County.

### EUCALYPTUS GROWN IN SUNSHINE

with roots balled while growing in flats. Saves all roots; make sure success when removed to the field and good growth the first season.

Sample lots at wholesale rates. Can take from flats and send in tight packages to save cost, risk and time.

HENRY SHAW,

320 River St., - - - Santa Cruz, Cal.

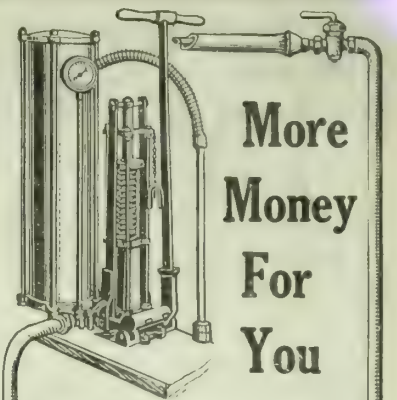
### MAN, OH MAN!!

Why do you neglect your orchards when Warnocks Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**

Loomis, Cal.

AGENTS WANTED



**More  
Money  
For  
You**

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

**BEAN SPRAY PUMP CO.**

211 West Julian Street  
San Jose, Cal.

## SEED

### TREES PLANTS BULBS

If you are interested in the best seed, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you Free.

### Trumbull Seed Company

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - San Francisco.

Please mention this paper.

## Plants SEEDS Trees BULBS

**WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS**

Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of Alfalfa, Clovers, and Grasses are requested to write us before planting.

**Remember**—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

**C. C. MORSE & CO.**

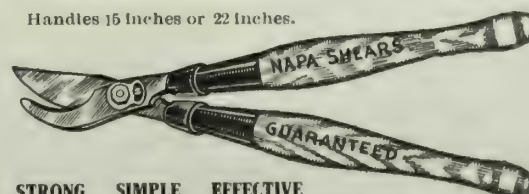
44 Jackson St. Also Market St. San Francisco, Cal.



## Napa Clean Cutting Tree Shears

Handles 15 inches or 22 inches.

**MADE FOR PRACTICAL USE IN  
PACIFIC COAST ORCHARDS.**



**STRONG SIMPLE EFFECTIVE**

If you cannot secure Napa Shears from your local hardware dealer, send your order to us. Price \$2.50, express prepaid.

**CALIFORNIA SUPPLY CO.**

288 Market St.,  
San Francisco, Cal.

**PATENTS** OBTAINED IN ALL COUNTRIES Trademarks Registered. Opinions as to Patentability and Infringement  
DEWEY, STRONG & CO., 1105-6 Merchants Exchange Bldg., San Francisco



## Apiculture.

### GOVERNMENT HELP IN API-CULTURE.

#### II.—National Work.

Written for the PACIFIC RURAL PRESS  
By MR. RALPH BENTON of the  
University of California.

In the issue of the PACIFIC RURAL PRESS for October 10 we began the general subject of "Governmental Help in Apiculture" with an initial article discussing in outline the work done in past years under the several State auspices, reserving the review of our own State work for some future issue. This week I wish to present something of the work that has been done by our National Government in the interest of apiculture, with particular reference to literature created as a result of this work, which contains much of the best that is known about certain important phases of beekeeping which every beekeeper should be, for his own profit, acquainted with.

Away back in the Patent Office Report for 1857, the same year the Michigan Agricultural College opened its doors to students, we find an excellent article treating with the natural history of the honey bee. This was followed, in 1860, by a review of Dzierzon's system of beekeeping as practiced by him and his followers in Germany, presented by Mr. William Buskirk of Texas. It was about the same time that the U. S. Government secured the introduction of the first Italian bees into this country, which so greatly influenced the early development of beekeeping and set the tide in the direction of the problem of bettering the stock of the apiary. Again, in 1865, Mrs. Ellen S. Tupper, of Iowa, presented, in an influential way, her system of beekeeping in the report for that year. During all these years, and down to the present time, market reports of wax and honey have been given, forming in themselves an index of the development and growth of the beekeeping industry in this country.

In 1877 there was appointed to the position of Entomologist in the Department of Agriculture a man who must always be looked back to as a friend of the farmer and beekeeper alike, Dr. C. V. Riley. As State Entomologist of Missouri he had laid the foundations of economic entomology, and later as a member of the Entomological Commission, and Entomologist at Washington, paved the way for the development of what is now a highly organized Bureau of Entomology. Instead of a working force of one, as at the beginning, there is now a force of specialists and clerks numbering over seventy. Although not a beekeeper by profession, Dr. Riley was perhaps better acquainted with bees and their management than is the average entomologist of today, having himself handled and kept them. In view of the great need for the study of insect pests, coupled with the meagreness of appropriations for this great work, it was not until 1885 that Dr. Riley saw his way clear to direct any of his funds for experimental work in apiculture. In that year Mr. N. W. McLain, of Illinois, was commissioned a special agent in apiculture, and for three years experiments were conducted at a substation established in Illinois for the purpose of experimenting along apicultural lines. Dr. Riley was greatly interested in the possibility of controlling the mating of queens, and this was one line of the work taken up, as was also an elaborate series of experiments resulting in definite proof to the effect that bees do not injure fruit.

In 1888 the work was discontinued, in view of a shortage of funds, and it was not until January 1, 1891, that any more

experimental work was possible. At that time Prof. A. J. Cook, of Michigan, was appointed a collaborator in apiculture, and experiments were conducted for a year and a half at the Michigan Agricultural Experiment Station, with Mr. J. H. Larrabee of Vermont in charge as apiarist. These experiments were chiefly upon the secretion of wax and upon honey yielding plants. In 1892 this work was discontinued.

Meanwhile, in the latter part of the year 1890, the wave of interest in the introduction of new varieties and possible races of bees had grown so high that Dr. Riley took active steps to follow up the early work done by the Department in this line, with an attempt to introduce the giant bees of the Far East, together with the blastophaga insect, needed for the pollination of the Smyrna figs being grown in this State. To do this work he secured a commission for Mr. Frank Benton, then in Austria, to proceed to India, and since the future development of the national work in apiculture is intimately identified with Mr. Benton, it may be well to pause here and view briefly the work done by this investigator up to the time of his entrance upon official connection with the work at Washington.

Mr. Frank Benton was born in Coldwater, Branch county, Michigan, on July 5, 1852, and very early became interested in the study of bees. He learned the printer's trade as an apprentice in his father's printing office, and at 15 went to sea, sailing before the mast for two years, rising to the position of third mate of a barkentine on the Great Lakes. But he carried with him ever his interest in bees, and this he took with him when he entered the Michigan Agricultural College in the spring of 1870, where for two years he continued his studies, coming under the influence of Prof. A. J. Cook in the latter's early work in beekeeping. He early formed a liking for linguistic study, and so in 1875, after several years at teaching school and practical work in beekeeping, he took advantage of an offer as instructor in apiculture in the East Tennessee University, to pursue studies in modern languages. After two years in this institution he returned to Michigan as principal in the public schools, until 1878, when he became instructor in French and mathematics in the German-American Seminary at Detroit. A year later he was called to an instructorship in French in the Michigan Agricultural College, where in November of 1879 he was granted the degree of B.S. In December of that year he was married, and in company with his wife and D. A. Jones of Canada sailed on the steamship Italy, on the 21st of January following, from New York for Europe and the Orient, in quest of new races of bees. A year later Mr. Jones returned, leaving Mr. Benton in Palestine. The winter of 1880-'81 was spent in a trip to India, Singapore, and the Dutch East Indies, with a view to domesticating and importing the bees of those countries. Representatives of these bees were secured and placed in hives, and some of them gotten as far as Beyrout, Syria. Owing, however, to having contracted the "jungle" fever in India, Mr. Benton was unable to give his charges the best of care on the homeward voyage. This, coupled with a long period of quarantine on shipboard in the port of Beyrout, on account of Indian cholera, resulted disastrously to the bees, and the fruits of the undertaking were lost. The following winter was spent at the University of Athens, during which time also the Hymettus bees of Greece were investigated. Mr. Benton then established himself and family at Munich, where he resided for several years, in attendance a part of the time on the University of Munich, and as manager of the Bavarian Apiary, established by

# TREES TRUE TO NAME

—AND—

**Propagated from the Best Specimens of Their Kind**

**TWO IMPORTANT FACTORS**

## PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches  
Plums  
Pears

Apricots  
Almonds  
Cherries

Apples  
Persimmons  
Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

**ORDER NOW**

**WRITE US**

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

### TREES

### GRAPE VINES

#### YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES,  
ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

### THE FRESNO NURSERY

F. H. Wilson, Proprietor, - - - - Fresno, Cal., Box 615.

### 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman, Petaluma, Cal.**

### SMYRNA PARK NURSERIES

**Trees, Vines, Plants all kinds and varieties.**

Let us know quantity wanted and we will give you special prices on same.

**CAMPIN & MOFFET - - - - - Ceres, Cal.**

## EUCALYPTUS

Large Assortment—All Varieties  
Hardy and Selected Rapid Growers  
Write for prices, giving amount wanted  
LLOYD R. TAYLOR, Modesto, Cal.



## YELLOW MONEY — AND — YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor  
SAN DIMAS, - - - CALIFORNIA

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock; grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

LEONARD COATES NURSERY CO., Inc.

ESTABLISHED 1878. INCORPORATED 1905.  
Morganhill, Santa Clara County, Cal.

### EUCALYPTUS TREES

Eucalyptus Globulus (Blue Gum).  
Eucalyptus Rostrata } (Red Gum).  
Eucalyptus Viminalis }

#### MONTEREY CYPRESS.

Transplanted in flats 100 each.

W. A. REINHOLDT

Main Street Nursery, - - - Petaluma, Cal.

him as a shipping center for foreign varieties of bees. Each year during this period trips were made to the East, where the Cyprus and Syrian apiaries were kept in operation, from whence queens were annually brought for shipment to the United States and other countries. It was during this time that the mailing of queen bees was perfected, and that the first fight for the acceptance of queen bees in the German mails was fought, until now queens are mailable in all lands in the International Postal Union. During these repeated trips to the Orient stops were made in Austria and Italy, and on one of them Tunis was visited and the Tunisian or Punic bees imported and sent to this country. In view of these investigations and study abroad, in 1885, upon the presentation of a dissertation written in Germany, Mr. Benton was honored with the degree of M.S. from his alma mater, Michigan Agricultural College.

In 1886 the Bavarian Apiary was discontinued, and the Carniolan Apiaries established, first at Laibach, and two years later at Krainburg, in the Province of Carniola, in southern Austria. This resulted in the study and introduction of that most valuable variety of bees, the Carniolans.

Through all these years Mr. Benton had been hoping for the opportunity to present itself to undertake again the importation of the giant bees of India, but the prospects for the undertaking of this work appeared more remote than was really the case, and in December of 1890 Mr. Benton, accompanied by his family, set sail from Hamburg for New York. Shortly after his arrival in New York he received by mail, forwarded to him from his last address in Austria, the commission from the U. S. Department of Agriculture to proceed from Austria to India for the giant bees of the East, and with them the blastophaga or fig insect. Owing to technicalities, Dr. Riley could not at the time secure the recommissioning of Mr. Benton, now in this country, to undertake the work in the Orient, and on July 1, 1891, Mr. Benton took up his duties at Washington as a special agent in apiculture, in the hope of soon being recommissioned to proceed to the Orient.

I expect to take up the course of this narrative again in a later issue.

## The Field.

### GROWING CANTALOUPE.

Mr. C. F. McIntosh, who recently went from Colorado to Utah to advise growers in the latter State how to handle the melons to grow, gives the Desert Farmer some hints about growing and handling the crop which our California growers will be interested to consider:

PUTTING IN THE CROP.—Clear the field well of all trash, such as old weed stalks, etc.; then plow to a depth not to exceed six inches; harrow well, both lengthwise and crosswise of the plowing, then level well with field drag harrow lightly, and you will have a very good seed-bed, if your soil is the kind which should be planted to cantaloupes, viz., a sandy loam or most of the good "bench land." No one should attempt to raise them on low, wet or gummy soil.

Next comes the seed proposition, and a very important one it is too. I have in mind now a field grown from "grocery store seed," and in that field are melons looking very much like the old-fashioned musk melon. Some even verge onto the cucumber as for shape, while there are a few fairly good cantaloupes in the field. So when you get your seed, get it from someone who knows where to get you some of the genuine seed of some of the good strains of cantaloupe.

We are now ready for the planting. This may be done in a number of different ways. You may mark your field crossways, marks being five and one-half or six feet apart, then using a hoe, planting at top of the edge of the furrow, smoothing a nice hill where the mark crosses the furrow, planting an inch to an inch and a half deep; then when you irrigate, make sure that the moisture gets to every hill. Another good way to plant, and especially where you are troubled with mice or other vermin, is to use an ordinary beet seeder. Raise the two inside runners and tie them up with wire; put the outside runners or drills as far to the outer ends of the axle as they will work well, and you will have your rows about five and a half feet apart; lengthen out your marker so you can drive leaving the rows uniform in width apart; this way of planting requires some more seed than hill planting, but you are more than repaid in time and labor saved, and almost sure of a stand, regardless of mice, etc. You may use your small furrowing shovels if you wish, then enlarge with another furrowing plow, being careful not to throw soil so as to cover the seed to deep.

IRRIGATING.—After the first irrigation, or when the plants are up, transfer the furrows so they will be all on the same side of each row.

When the plants are about two or three inches in height, if planted in drills, cut out with hoes and then to one good healthy plant about every 18 inches or 2 feet apart. If planted in hills, never leave more than two plants for the final stand. Always remember when you are hoeing and cultivating, that the root system of the cantaloupe is near the surface, and spreads out almost as fast as the vines and runners, and when the plants are small hoe very shallow near the plants, and do not in cultivating keep the soil torn up like newly plowed ground. If you do, you keep the plants back and you are losing on your crop by making it later.

I notice in going over the fields this year that a great many growers had furrowed out on both sides of the rows. It is better to water on one side all the time, as the roots on the one side have been going out near the surface, while those on the other have been trained under the original furrow.

Always be careful in irrigating to not let the water get around or too near the plants, or they will become weak or diseased.

PICKING.—We will pass on now to the picking. We have the crop raised and the cantaloupes look fine; they are commencing to ripen, for we find a yellow one, then we find enough to fill a few crates, and take them down to loading station; the inspector is there in all his glory, and meets us with a smile (which is more like a grin), and says, "Dear sir, your melons are too ripe, and they are not packed right." He takes an empty crate, commences and lays three uniform melons side by side in the bottom at one end, then another three, and another, till he has five threes, making 15 melons in one layer, all filled closely. He does this three times, and the crate is well packed with 45 nice uniform melons, but all too ripe; so he tells us how the melons should look when they are just right to pick for shipment. We go back into the field again, and all the yellow cantaloupes look ripe to us, and all that are not yellow look green, but we commence to try to pull off some of the best looking green ones and pretty soon we find one that pulls off more easily than the others, yet it looks green, but when we look very close we see it has a peculiar mellow green, so we go ahead picking and find more that look like that one; some pull

## Winegrowers, Take Notice

I am now receiving orders for

### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSER SEED CO.,  
113 N. Main St., Los Angeles, Cal.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

FOWLER NURSERY CO.,  
Fowler, Cal.

## 300,000 BERRY PLANTS

Trees, Roses, Oranges  
Lemons, Etc., Etc., Etc.

Send for Catalogue, now ready.

A. MITTING, SANTA CRUZ,  
CALIFORNIA.

Lock Box 380.

### MODESTO NURSERY.

Complete Line of Citrus and Deciduous  
TREES,

BERRIES, VINES AND ORNAMENTAL STOCK.

Write for PRICES NOW.

SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

off easily and some more hard, but they all look about alike to us, so we pack them just as the inspector did, but they don't fit just right for us, but we get it done and down to the loading station again.

Then we are met with, "Well, your pack is fair, and you are getting some of the right melons, but say, you pulled off a lot of green ones." And now we feel like cussing a little, but we change our mind and are determined to get the things right, so we go into the field and look again for the right kind, just that one stage when the melon is bidding farewell to the vine. It is fully matured, has all the sweetness it needs, but has not turned yellow, which color indicates the first stage of decay. We pack up again, and down to the loading station. The inspector's smile is there in earnest this time. "You have the real things this time; that's O. K. It's blue ribbon stuff; just keep it up." So we are happy now; we whistle on the way home and from that time on cantaloupes are a nice crop to raise, and like other things, "It's easy when you know how."



## Live Stock and Dairy.

### Money in the Business.

Aye ban a yust gude farmer for more as sixteen yare.  
Aye raise some wheat and corn, and fat some hog and steer;  
Aye watch the farmer business close and where that money gits,  
And Aye find it koming kwickest when you ban apullin' titts.

Dam fella what ban raising grain, and hauling dam to town,  
Got no money in the pockets, hay ban broke the whole year round;  
Dam fella what fattening stock, ban rich and dan been poor;  
Some time dey make a plenty money, some time day losing more.

But dam fella wid da brindle cow, he got a bully ting, you bet;  
Hay never loose hims whole yare crop, if ground ban dry, or ban too wet;  
Ven hale ban striking down the crop, and yust ban raisings fitts,  
At night he calls dam brindles in, and yust ban pullin' titts.

Hay got da separator what makes a lot of cream;  
Hay got da money coming in yust like a pleasant dream,  
Hay got a money in the bank, hay got da money in da mitts;  
Hay ban no Rockafellow, hay yust ban pillin' titts. —Florida Farmer.

### DESIRABILITY OF BETTER PROVISION FOR RANGE STOCK.

Mr. A. S. Mercer, whose earlier writings we have sometimes copied from the Denver Field and Farm, continues in that journal some suggestions which are particularly applicable to California in some respects. He writes: I have previously endeavored to show the advantage that would accrue to small ranchmen by cutting down their herds one-half and breeding better stock. There are plenty of instances to demonstrate the force of my argument. Many experiences have been recorded in the range country that will greatly aid in the determination of this problem. Farmers living near Reno, Nev., have for years been buying two and three-year-old steers from southwestern Oregon ranges in the autumn and feeding them through the winter for the California market. I investigated results of these feeding operations and found that the cattle had been purchased by weight, placed in the feed lots for from four to five months, shipped to San Francisco, 400 miles, and sold by weight on the market. The weights when put on feed taken from the weights in the market of course gave the amount of gain in the feed lots. This divided by the number of days fed gave the average daily gain, which was two pounds a day for the full term. This was not for one shipment of tops, but it was the average of six or eight shipments, and for the three years of investigation the variation was not more than one ounce a day. A number of experiments have established the fact that a gain of two pounds a day may be put on feeders with alfalfa as the only ration. None of these cattle were given anything but alfalfa hay. They were fat and compared

favorably with the finished corn fed beef of the East.

**AN ALFALFA ADJUNCT.**—Practically every ranchman in Colorado, Wyoming and Montana has been forced to provide alfalfa hay for winter feeding. Then why can he not secure the same results as do the Utah and Nevada farmers? In order to do this, however, there must be a change in the manner of putting up our hay. The alfalfa must be cut as soon as it begins to bloom. It must be cured and put in stack in such condition that there will be no loss of leaves and the stems will be soft and full of nutriment. In our climate this can generally be done. In feeding such hay there will be no loss and its fattening quality will be double that of hay cut after the stems have turned to woody fiber and left to wither in the field. We know we can make beef with alfalfa hay, but the further question is, can it be done as cheaply as in the corn-feeding districts?

**FIGURES ON AN ALFALFA BASIS.**—With our range holdings cut in half the cattle will come in for winter strong and vigorous, the calves having good growth. The calves being weaned and put on prime alfalfa with pure water in the lot will have to be fed five months. Ten pounds of alfalfa a day, if fed in racks so none is wasted, will be ample for the first seventy-five days. The remaining seventy-five days they will eat fifteen pounds, making an average of twelve and a half pounds a day, or 1,875 pounds for the five months at actual cost, \$2 a ton or \$1.87. Taken up the next fall as a yearling and fed for five months, the steer will eat say twenty-two pounds a day, or 3,300 pounds in all at a cash value of \$3.30. It goes on to the summer range well grown and fat. In the lot again as a two-year-old it will consume thirty pounds a day, or 4,500 pounds, equal to \$4.50. We have now a steer that will weigh 1,400 pounds fat and ready for the local market at top prices for beef.

An alfalfa-fattened steer, while the choicest of beef for local consumption, will not stand long shipment to market, 500 miles being about the limit. If we have first-class range, two months on it will harden the flesh and add something to the weight, making the animal ready for the long haul. Not having abundant grass, we must grain-feed for three weeks to harden the flesh. Native blue stem hay may be substituted for alfalfa during the last three week's feeding to harden the meat so that it will bear transportation. On the supposition that we use grain for hardening the flesh allow \$5 thus far. This makes a total cost of \$14.67 for feeding, which is less than one-third what it costs to feed a three-year-old steer in the corn-growing States. This steer on the market in May or June will bring six cents, or \$84, as against about \$30 for the same steer under our present system. Fifty steers, 1,400 pounds, at six cents, make \$4,200. Twenty cows, 1,100 pounds, at four cents, is \$880, making a total income of \$5,080. In fixed charges ten per cent interest on \$12,000 invested in the outfit is \$1,200; taxes, \$240; summer range, \$300; hay feeding, proposed plan, increase amount of hay, \$2,400; grain for finishing seventy head, at \$5, \$350; shipping expenses, \$262.50. Total, \$4,752.50, or a net profit of \$327.50. These figures show a small profit on an investment of \$12,000, but as ten per cent interest has been counted and all labor charges, taxes, etc., paid, men can continue in the cattle raising business on this basis, always hoping for a change for the better. Possibly the beef price is placed too high, but spring and early summer shipments as here contemplated are usually in demand at advanced prices over other seasons. However we can make the selling price

five cents on the market and still pay all expenses of labor, feed and interest, which is \$2,000 better than we are now doing. Cows standing at the rack and getting a full feed every day would keep up their milk supply and lay on meat at the same time, thus going on the summer range fat.

### SORGHUM AS HORSE FEED.

Though we are growing much sorghum in this State it is probably used less for horses than it might be. The Breeders' Gazette has been looking into this subject in the West and has secured several records of experience which are of interest.

**SORGHUM HAY.**—W. E. Richards writes of growing and curing sorghum hay in Illinois: We have been raising sorghum continuously for twelve years, and have found a small acreage of sorghum very profitable. My experience has been that it is nutritious and wholesome for horses even up to a time when they may be turned upon grass. It is perhaps true that they do not eat it with so keen a relish through the months of March and April as they do earlier in the season or in colder weather. I have never experienced any injurious effects from its use at any time when properly cured.

We usually sow from the first to the tenth of June, sowing in a well prepared seedbed with a broadcast seeder, dragging it in thoroughly. Our custom is to sow one hundred pounds of seed to the acre. With this thick seeding we get fine stalks, all of which will be consumed. We cut with mower when the larger part of the seed is ripe or nearly so. We then put it up in large cocks, commencing about twenty-four hours after it has been

## Any-where and Every-where



no matter where, or the conditions prevailing in that locality, you can rest assured that the

### Tubular Separator

will meet the requirements easily and well—because it has been proven to meet dairy requirements under all conditions; not only in your locality, but all over the world.

The Tubular's careful and scientific construction assures clean skimming, easy filling, turning and cleaning.

Its saving of oil, labor, time and attention are also worth looking into.

For full particulars write for Catalog 131 Sent free.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,  
President John Crouch Land Company.

## KENDALL'S SPAVIN CURE

For Spavin, Curb, Splint, Ringbone, All Lameness

THE REMEDY USED ALL OVER THE WORLD

Cures where anything will. Leaves no mark or scar. Get it and be ready for emergencies.

Not Safe Without It

Wiggins, Sask., Dec. 26, 1907.  
Dr. B. J. Kendall Co.,  
Enosburg Falls, Vt.

Gentlemen:—I have used a great many bottles of your Spavin Cure. Out here on the prairie, where we are so far from a doctor, we do not consider ourselves safe without it. Kindly send me one of your "Treatise on the Horse."

J. McMillan.

A Liniment for man and beast. Sold by all druggists. \$1 a Bottle; 6 for \$5. The great book, "Treatise on the Horse," free at drug stores or write to

DR. B. J. KENDALL COMPANY  
Enosburg Falls, Vt.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CA.  
West of San Pablo Ave.

## Horse Owners! Use GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.



cut down. Under no circumstances should it be allowed to lie upon the ground and bleach and dry out for several days. Where this is permitted much of the nutriment and palatable qualities are lost.

Experience has taught us that there is no danger of it spoiling by putting it up so soon after cutting, providing there is no dew or moisture on it when put up.

We usually allow it to stay in the cock until hauled from the field as we need it. A better way, however, is after the corn husking is done, some time in December, to haul it to the barn or shed and mow it away as you would hay. There need be no fear of it spoiling or heating, and it will come out green and sweet.

Where it is sown as thick as we recommend it can be handled with a hay fork without difficulty.

A MISSOURI REPORT.—S. H. Wells of Missouri writes: We have raised cane for ten or more years and have never had any bad results. We feed it to all our horses all winter. Horses prefer it to timothy hay. We commence feeding it in the fall as soon as it gets cool and feed it all winter if it does not get too cold. We have never fed it very much in the spring, after we commence work, but it has been because we couldn't get enough to last so long. A neighbor fed it to his horses last season and liked it so well he is saving some to feed this year while making his crop. We have always fed it to brood mares and cows in calf and they have always thrived and kept in better flesh with less corn than when fed hay. It makes a fine feed for cattle on pasture in the hot weather in August and September and it pays to feed some and save the grass even if the pastures are not too short.

We aim to plant it about the first of June. We plow the ground and work it down fine, then either furrow it out or plant it on top. We use a corn planter and plant it like corn, using from one-half to one bushel of seed to the acre, according to the fertility of the soil. Then we plow it once if we have time or harrow it, but we have raised some very good crops with one harrowing. It grows so rank and fast that weeds do not bother much.

We cut as late as it is safe to let it stand, as it is better not to be cut when there is too much hot weather, as it will mold. We cut with a corn binder and shock in pretty large shocks and let it stand in the shock until fed out if we do not need to turn stock into the field. Sorghum will respond to a good coating of barn-yard manure quicker than any other crop on the farm, I think. We do not, as a rule, cut off more seed than we wish to plant, as we try to grow more forage than seed.

IN OKLAHOMA.—A. T. Maxwell writes: We have used sorghum for seven years, ever since coming south, and think it is ahead of anything grown, alfalfa not excepted, for the alfalfa is hard to cure here and apt to mold and mildew. We sow by drilling in two bushels to the acre as early as we can in spring from April 1 to June 1, and get two or three cuttings. We like it thick, but not very large in stems, as they are hard to handle when grown very rank. We cut when about one-half to about two-thirds are headed, lay in swath until leaves are cured on top, then rake in large windrows and let lay until leaves are cured, then put in big shocks, 400 to 500 pounds, and let lie two weeks, when we stack. We have learned to cure leaves only, as the stalk will remain juicy unless it sours.

Our horses relish it, and for milk and cream, clover only can excel it. Many plant in drills and cut with binder, but in this damp climate it is apt to mold under bands and live stock will not eat the stalks after they get woody.

### COYOTE-PROOF FENCE.

Fencing the range to protect sheep from the attacks of predatory animals has met with excellent results in the Wallowa National Forest, Oregon. The problem was to find a strong fence that would keep the sheep secure, even without the care of a herder. The chosen fence, which is built of woven wire with barbed wire on top, has kept out all the minor animals, such as wild cats, lynxes and coyotes, but has not withstood the attacks of grizzlies, which are apparently able to pass through it with little trouble.

Sheep numbering 2,200 head were placed in the inclosure with their lambs upon June 20 and have been allowed to graze at their free will, with no attention whatever from any herder. They have done splendidly, and as far as the observation of those in charge of the experiment goes, a given area grazed by sheep under such conditions will carry more sheep per acre than one grazed under the charge of a herder.

Tracks along the fence show that predatory animals come to the fence constantly and follow it around, but, with the exception of the bears, do not seem able to enter. The hunter employed by the service for hunting predatory animals in the vicinity of this fenced inclosure has killed no less than six large grizzlies this season, besides numerous other animals of the predatory class.

The results of this experiment are so satisfactory thus far that private individuals are profiting by it. Mr. J. W. Emmons of Oregon has a large area of private land fenced with a special wire fence in which he has this season lambed a herd of 670 ewes without a herder's care and with very little attention and great success. Mr. Emmons is extending his fence, for he finds that it pays.

### TESTING COWS OF THE HOWARD HERD.

The Howard Cattle Company have recently undertaken the testing of their milking Short-horn herd, and have installed a complete testing outfit, including a large turbine tester for this purpose. The herd will be tested each month and a careful record of the performance of each cow is expected to show good results. This herd has been a good money-maker, but the results of these tests will increase its earning capacity by eliminating the "boarders" which every large untested herd carries at a loss.

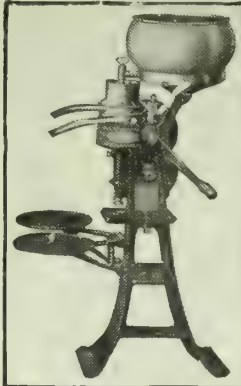
The company expects to have over one hundred head of this herd tested each month for at least one year. It is expected that some interesting data will be added to Short-horn history from the records and results of the testing and handling of this herd. Mr. L. W. Symmes has been engaged to carry on these tests and records for the company, and visits the ranch each month for this purpose.

**Stickney Gasoline Engines**  
ARE THE BEST

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine.

SEND FOR FREE CATALOG Stationery and Portable 1½ to 16 h.p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO • LOS ANGELES • PORTLAND • SEATTLE



## EVERYBODY BUYING DE LAVAL CREAM

## SEPARATORS

The wonderful improvements made in the 1908 DE LAVAL CREAM SEPARATORS—added to their THIRTY YEARS record of ONE MILLION prosperous users throughout the world—have convinced practically all WELL-INFORMED buyers of their overwhelming superiority, as well as actual cheapness, and they are being bought in even greater proportion this fall than in the spring or ever before.

A catalogue to be had for the asking shows the reasons WHY.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## COMPARE PRICES AND RESULTS

Analysis (from Bulletin 164, Jan. 1905—University of California.)

DIGESTIBLE PROTEIN IN			
Linseed Oil Cake Meal	24.4 per cent	Shorts	12.2 per cent
Cocoa Cake or Meal	16.4 "	Mixed Feed	9.6 "
Wheat Midlings	12.2 "	Corn Meal	6.4 "
Wheat Bran	11.2 "	Wheat Hay	3.6 "

If you feed for Protein you get Results.

Ask your jobber for prices or write

PACIFIC OIL & LEAD WORKS, - - SAN FRANCISCO, CAL.  
PORTLAND LINSEED OIL WORKS, - - PORTLAND, ORE.

**SAWS** ANY WOOD IN ANY POSITION ON ANY GROUND 4 in to 5 ft. Through

1 Man with a Folding Saw Beats 2 Men with a Cross-cut Saw 5 to 6 cords daily is the usual average for one man.

NO BACKACHE NO BURNING NO SPLITTING

Our 1000 Model Machine saws faster, runs easier and will last longer than ever. Adjusted in a minute to suit a 12-year-old boy or the strongest man. Send for catalog showing latest improvements. First order gets agency. Folding Sawing Mach. Co., 158 E. Harrison St., Chicago, Ill.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Hogs and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

**GLIDE BROTHERS**  
Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide French Merino Sheep.  
Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
RAMS FOR SALE AT ALL TIMES  
P. O. Box 297 Sacramento, Cal. Home Telephone Dixon, Cal.

## Pure Bred Holsteins

At present we are offering a fine lot of Young Bulls and Heifers at very attractive prices. All of this stock have large Advanced Registry Records in their pedigrees and are from the famous Riverside Premier Herd of the Pierce Land and Stock Co. now owned by the OAKWOOD STOCK FARM LATHROP, CAL.

TULARE LAKE STOCK FARM.  
REGISTERED  
Jacks and Jennets For Sale.

We breed the Best. Don't write—come and see. We can show you.  
JAS. W. McCORD,  
Hanford, Cal.

HENRY B. LISTER,  
ATTORNEY AT LAW.  
Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts. San Francisco.



## The Poultry Yard.

### DUCK RAISING ON THE COAST.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

In considering this branch of the poultry industry it is well to strike a balance between the following points in comparing ducks and chickens: Ducks require more space, are much heavier eaters, hatchability of eggs some 50 per cent lower, ducklings more delicate than chicks up to the fourth week. On the other hand, the expense of housing and yarding is less; ducklings grow twice as fast as chicks, after the first three weeks loss almost nil.

If a person has direct communication with a city market, and has a piece of sandy pasture land with a creek running through it to devote to them, he is ideally situated for duck raising. Many duck raisers on the Pacific Coast provide no shelter for the mature ducks; but for best results they should have low sheds built on high, well drained ground, where they can dry off and sleep. These should be frequently cleaned and furnished with dry bedding, for ducks are subject to "cold feet"—in fact, this is their one vulnerable point, and it affects the duck like a frozen comb does a hen, by checking egg production and inducing disease. Ducks can withstand any degree of cold if they can keep their feet warm. They are nervous, active birds, and cannot bear the close confinement that chickens can. A swimming pond is not essential, though their plumage is cleaner and finer for a daily swim or wash, and many breeders assert that the fertility of their eggs runs much higher. On the big duck farms of the East they are successfully kept in both ways. Their natural food is the succulent plants and grasses along the water edge and on swampy ground, small fish, insects, bugs, and the like. They have no crops, and the food passes direct to the gizzard, and must be swallowed in a mushy, watery condition; this is why they run to the water with every mouthful of dry food; also why hard grain does not agree with them. They require wet mash of cooked vegetables, feed-stuffs, and considerable animal food, in the form of meat meal, or better, ground fresh meat.

The two breeds which are displacing all others for practical purposes are the Pekin and the Indian Runner.

THE PEKIN DUCK has no equal as a market fowl, and it is also a good layer, averaging from 100 to 150 eggs per year. The plumage is creamy white, legs reddish orange and bill pure orange yellow; the latter point is considered so important in show birds that the faintest tracing of black in the bill disqualifies. The standard weight is 8 pounds for the drake and 7 for the duck, though they often reach as high as 20 pounds for the pair. At 10 weeks the ducklings should weigh some 5 pounds and be marketed; it is considered unprofitable to keep them longer, as they "shrink" when they begin to feather out. They are marketed as "green ducks," and bring from 25 to 30 cents per pound in the Eastern markets in the beginning of the season or the month of May; later they fall as low as 14 cents per pound. Their cost averages from 10 to 12 cents per pound. On Long Island, New York, alone, the Pekin duck farms turn out over 360,000 ducklings each season, and 90 per cent of this output is marketed in New York City. While it costs as much or more to produce ducks on this coast, it affords no such market; our quotations range from 10 to 15 cents per pound.

THE INDIAN RUNNER DUCK is described

in its name: it came from India, and it runs instead of waddling in approved duck fashion. It is small and active and a good forager, and is known as the Leghorn among ducks. In small flocks, when well fed, they have made the 200-egg record. Standard weight, 4½ pounds for the drake and 4 pounds for the duck. The meat is yellow in color and of good quality, but for market purposes they are sold mostly as broilers. A very successful Santa Cruz breeder of the Indian Runner reports egg-farming the profitable branch of duck raising on this coast. He fed his ducks a rich mash twice a day, containing ground fresh meat in proportion of some 4 pounds to each 100 ducks, or an average of about 1 ounce of meat each day per duck. On this forcing mash his ducks began to lay in October and continued through the season of high prices, averaging, he assured us, considerably over 200 eggs. The eggs are large and pure white, and find a ready sale at top figures.

Ducks intended for breeding stock should not be forced for fall and winter laying. On the large Eastern duck farms the breeding stock is selected from the pick of the April hatches at 8 weeks of age and turned out on free range when the market ducklings are put in the fattening pens. About the middle of December or sooner, they are taken from the range and yarded in flocks of some 30 each, allowing from 3 to 5 ducks with each drake, and are fed more generously. One breeder reports a 15 per cent higher egg fertility by letting his breeding stock run on free range in one flock (160 ducks).

Both the Pekin and Indian Runner are non-sitters, and their eggs must be hatched by hens or in incubators, but in either case the ducklings are raised in brooders.

The breeding season lasts some six months from the time they begin to lay in January or February, until July.

Two year old ducks are considered the better breeders, but the young ducks lay a month earlier.

In starting with ducks, the breeding stock should be gotten into their quarters in December at the latest, in order to become wonted to their new home; otherwise their laying will be greatly delayed.

Ducks are timid, nervous creatures and require gentle treatment. Like cattle, they will stampede when frightened, especially at night, and crush the weaker to death.

Ducks should never be kept in the same yard with chickens; they foul the water and the ground and, together with their mushy food, are deadly to the health of chickens.

### Questions and Answers.

SCALY LEG.—MRS. E. N., of Modesto, writes: "I am a new subscriber to the PACIFIC RURAL PRESS, and would like to ask a question. My hens, which I have just bought, have queer looking legs and feet; they seem covered with bark; sometimes a piece falls off and the leg bleeds. The hens are Plymouth Rocks. What can all them, and what must I do for them?"

Your hens have what is called scaly leg; it is caused by a parasite that burrows under the scales of the legs. Evidently your fowls have come out of filthy quarters, and the trouble is of long standing to be so pronounced. Dissolve a lump of soda in a basin of hot water; make the solution strong; when cool enough to bear your hand in it, place the fowl's legs in it and let them soak, being careful not to wet the feathers. Remove and wipe them with a soft cloth, gently working off all the loose scale. Now rub in thoroughly under the scales a salve made with a cup of lard to a large spoonful of

carbolic acid and mixed into a paste with sulphur. You can prepare a quantity of this salve and keep it in a tin or jar with a tight lid, and it will always be ready for use. Continue this treatment till the legs are smooth and free from this loathsome disease. It will be a tedious job if you have many hens; but you must make a thorough job of it, for it is an infectious disease and all the chicks you raise will catch it from the mother hens; besides, it checks the egg yield in the hens. Every evening, just before the hens go to roost, dampen their perches with coal oil; this will help along the good work.

The large breeds of fowls are more liable to scaly leg than the more active ones, but all fowls will have it if kept in dirty quarters with filthy perches to roost upon.

### Notes.

By order of the Collector of Customs of the Port of New York, the Tribune says, a large quantity of stuff imported from China as "egg yolk" was recently dumped into the ocean as unfit for use. In the report of the case, which was widely circulated, the fact was stated that this commodity had been used for years in the manufacture of "factory custard" and pastry, and the incident had a depressing effect on the custard business of the pie as well as the cup kind. The proprietor of a luncheon place, as quick to see a business point as to serve his patrons with coffee and "sinkers," eased the minds of many of his custard customers by posting this sign: "Now that people know what some custard is made of, they will surely appreciate our pure article. Only American eggs here."

The subject of food in relation to color is of much interest to breeders of the fancy in fowls; and the assertion is generally accepted as a fact that yellow corn gives a creamy tinge to pure white plumage. Even such an authority as U. S. Fishel advises feeding only white corn to white plumaged birds. Now comes the result of an interesting experiment by L. F. Van Orsdale of Pennsylvania. He says in the Reliable Poultry Journal: "For seven years I have used trap-nests in keeping tab on my White Plymouth Rocks, and for the past six years have carefully pedigreed and recorded each and every chick. These birds have been regularly reared on a ration containing yellow corn meal, and have been hopped fed on wheat and yellow cracked corn until they were large enough to eat whole yellow corn, which, incidentally, is cheaper to feed. The results have been surprising, and at variance with the opinions usually advanced. Knowing the fathers and mothers of these birds of

mine, and their grandfathers and grandmothers, I started a little experiment, just to learn the truth, with the following results: The offspring of certain hens is white, no matter what the ration, and their progeny is equally pure in color.

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements Cal. Large size, good plumage, early maturity

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

### E. F. Adams

364 Main St. Petaluma, Cal.

## COULSON'S NO. 3 CONDITION POWDER

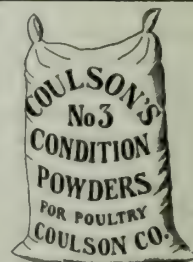
### BEST AID FOR GETTING HIGH PRICED EGGS

A splendid tonic and digestive. Enables hens to lay lots of eggs during fall and winter.

Sold by Dealers.

Manufactured only by

**Coulson Poultry and Stock Food Co.**  
PETALUMA, CALIFORNIA.



## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

**L. W. CLARK, 615 Main St., Petaluma, Cal.**



## The Home Circle.

### Whom First We Love.

Whom first we love, you know, we seldom wed;  
Time rules us all; and life, indeed, is not  
The thing we planned it out ere hope was dead;  
And then we women cannot choose our lot.

Much must be borne which is hard to bear,  
Much given away which it were sweet to keep.  
God help us all! who need indeed His care;  
And yet I know the Shepherd loves His sheep.

My little boy begins to babble now,  
Upon my knee, his earliest infant prayer;  
He has his father's eager eyes, I know,  
And they say, too, his mother's sunny hair.

But when he sleeps and smiles upon my knee,  
And I can feel his light breath come and go,  
I think of one—Heaven help and pity me!  
Who loved me, and whom I loved, long ago.

Who might have been—ah, what, I dare not think!  
We are all changed; God judges for us best;  
God help us do our duty and not shrink,  
And trust in Heaven for the rest.

But blame us women not if some appear  
Too cold at times, and some too gay and light;  
Some griefs gnaw deep, some woes are hard to bear.  
Who knows the past? And who can judge us right?

Ah, were we judged by what might have been,  
And not by what we are—too apt to fall!  
My little child he sleeps and smiles between  
These thoughts and me. In Heaven we shall know all. —Our Scrapbook.

### A SIMPLE TALE.

#### Part II.—The Captain's Story.

Written for the PACIFIC RURAL PRESS  
By M. J. R.

When the captain looked across the rose hedge and saw the new occupants of the cottage, a lone woman and a sissy-boy, he was indignant at the duplicity of the real estate dealer. Perhaps his request had been foolish and unwarranted; still a promise is a promise. It is a woman's privilege to change her mind, but a man should stand by his word. He would have it out with the dealer.

Yet something akin to sympathy tugged at his tough heart as he saw the woman trying to unlock the door with one hand while she held to her headgear with the other; for the rude south wind, bringing a mist of rain, was making free with her draperies and seemed like to lift the bit of a woman off her feet; and when she succeeded in opening the door the wind and rain rushed in ahead of her with a dreary swish and whistle. The captain turned to the cheerful glow in his grate almost with compunction.

In due time the winter rain blew itself over the mountains and the wonderful sunshine brightened the lonely cottage and dispersed the blueness of their home-coming. The new-comers met each day with the eager delight of children turning a page in a book of fairyland.

On the other side of the rose hedge the captain was busy all day in the rush of spring work, and though giving little heed to his neighbors he came to know much of their daily lives. The dainty airs which the rough cottage put on and more the neatness and order of it appealed to his ship-shape habits; but the attempts of the mistress at gardening and poultry raising made him smile. Such a nondescript lot of fowls as she was collecting; they overrun the premises and scratched out the seeds as fast as she planted them. Joe, the help, "soldiered" at his work, and altogether it was a gossamer sort of arrangement which could only result in outlay. However, they

filled in the landscape with artistic effect. The fair mother and child in delicately tinted garments feeding and petting the fussy hens and downy chicks; and Joe leaning on his hoe in the background made pretty pictures under the orchard trees. In blossom time the falling petals gave them a fairy-like setting. But the captain resolutely turned his back upon them while he mentally exclaimed, "foolish, impractical!" Yet something twitched at the fossilized tendrils of his heart—it was the charm of the eternal Motherhood which runs through Nature.

In the meantime Tommy was undergoing an astonishing transformation. As he put on flesh and color a spirit of mischief took possession of him—the boy was coming to his own. The mother was at a loss to know what had become of her good, quiet boy and hardly knew how to manage the boisterous chap left in his place. He was learning to throw with effect; if he didn't hit what he threw at he was sure to hit something else and was just as happy. Sometimes the captain caught him shying a stone at his turkeys, "to make 'em gobble," as he explained. One day he was almost paralyzed to find Tommy in his feed-room standing on top of a keg grinding eggs in the bone mill. "Madam, step this way," he called to Mrs. Wilkins, who was in the lower part of her grounds looking for her truant boy.

"Heavens!" cried the mother, aghast. "What are you doing, Tommy?" "Des grinning eggs; hear 'em crack, mum!" gleefully returned the boy, not one whit abashed.

"What shall I do with him!" exclaimed the distressed mother.

"Well, madam, a keen, little switch would seem to be the ticket."

"But I have never struck him in my life; he has always been so delicate." "An excellent time for a starter," dryly remarked the brutal captain.

"You are right; this is a serious offence—to trespass and injure another's property."

Mrs. Wilkins had come through at the loose picket where the boy had entered the captain's grounds. She picked up a twig and took the child down from the keg.

"Mummy, 'our not doing to whip me!" cried the boy, half in terror and half in indignation, as he threw his arms around her neck.

"Yes, I must, darling," in heart-broken tones. She brought the twig across his little hand with nearly enough force to brush off a fly; but it almost broke the heart of both mother and child, and they wept in each other's arms.

The captain stood by, looking exceedingly foolish and feeling wretchedly guilty. Suddenly he broke the strain by catching Tommy from his mother's arms and setting him in the pony cart. "Hold the lines, young man, while I open the gate and we will go for a drive."

That was the beginning of the comradeship between the captain and Tommy which resulted in the latter growing more manly and the former more human. The child rode to town in the pony cart, trotted about the orchard and poultry yards after his new friend and had but one cross in life—his curls. The village boys called him "sissy" on the sly, and Tommy himself felt that his curls put him in the girl class. Each morning, as his mother dressed them with loving care, he cried and begged to have them off, but his parent could not be moved to sacrifice the lovely hair.

"Ou tell mummy to cut 'em," he coaxed the captain, who was in agreement with him on the subject. "Mummy'll mind 'ou." The child pulled his companion toward the fence on the other side of which Mrs. Wilkins was industriously putting in seeds for the chickens to scratch out.

The captain raised his hat as the widow looked up at the call of her son, and remarked gruffly:

"Madam, is this child a boy or a girl?" "What do you mean?" was the half angry reply. "You know that he is a boy."

"Then what is he doing with these?" raising the shimmering mass of curls in his hand.

"He is only a baby," faltered the mother.

"I'se four years old and I hate sissy curls; cut 'em off, do please, mummy!"

Thus reinforced the child at last gained his point. The captain proposed taking him to the barber on their morning trip to town, to which the mother consented. She kissed the soft curls in sadness as she brushed and wound them about her finger for the last time; but Tommy

# Glowing Heat

## From Every Ounce of Fuel



When the mercury drops out of sight, and you just *can't* keep the house warm, you'll find it wonderfully convenient to use a

## PERFECTION

## Oil Heater

(Equipped with Smokeless Device)

It's very light—carry it about—heat *any* cold room. Turn the wick high or low—no danger—no smoke—no smell. Easily cared for and gives nine hours of cozy comfort at one filling of brass font. Finished in nickel and japan. Every heater warranted.



The **Rayo Lamp** with its flood of steady, brilliant light is ideal for the long winter evenings—read or sew by it—won't tire your eyes. Latest improved central draft burner. Made of brass, nickel plated. Every lamp warranted. If your dealer cannot supply the Rayo Lamp or Perfection Oil Heater, write our nearest agency for a descriptive circular.

**STANDARD OIL COMPANY**  
(Incorporated)

LEARN

## Plumbing, Electricity, Bricklaying or Plastering

NO BOOKS—TOOLS TAKE THEIR PLACES

Our Scholars make \$6 per day after 3 months instructions. You can enter at any time.—Day and Night Classes.

Our Scholars are from 15 to 50 years old. No previous knowledge required. POSITIONS SECURED. WRITE FOR FREE CATALOGUE.

**COYNE NATIONAL TRADE SCHOOL, 239-249 8th St., San Francisco.**

kissed her in the fulness of joy as he eagerly climbed into the cart beside the captain.

Later he bounded into the house and threw a package into his mother's lap. "Deres 'our curls!" he exclaimed triumphantly.

"Oh, my poor, shorn lamb," she cried, taking him on her lap and kissing the smooth, round pate.

Tommy pulled himself out of her arms and asserted proudly: "I'm a boy now; an' if any feller calls me a sissy aden, I'll punch his head."

With falling tears his mother laid away the curls in the cedar cabinet with her other treasures. She knew that her baby had forever flown from her arms.

That afternoon she saw Tommy coming across lots almost hidden behind a fluffy mass of white feathers.

"Dis is my biddy hen and cock-a-doo, the cap'n give me!" he exclaimed with all the pride of ownership.

It was a pair of her neighbor's beautiful fowls; and later when the captain was explaining to her the standard requirements of such birds Mrs. Wilkins realized what a valuable present he had made Tommy.

"How good you are to us—to Tommy!" she cried, and her soft hand stole into his with a movement as impulsive and as innocent as the heart which prompted it.

### FURNITURE LUSTRO.

The best article on the market for polishing and removing scratches from pianos, furniture and all finished woodwork is LUSTRO. If your grocer does not keep it, we will send you a full-size 8-ounce can for 50 cents, express prepaid. Every lady ordering before Dec. 1 receives free a handsome package of our sachet powder. **LUSTRO SPECIALTY CO.**  
Agents Wanted. Oakland, Cal.

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.  
SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

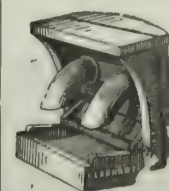
Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909. For further particulars address

**Miss Sarah D. Hamlin,**  
2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.



Did the captain clasp the little hand and press it to his lips as every instinct urged? No; he dropped it as though it were a viper.

The lady's face went crimson, then white, and as soon as she could lock herself in her room she buried her face in the bedclothes and wept in humiliation.

The captain once safe in his study was no less perturbed—in fact he was frightened; and well he might be when the mere touch of a hand could thrill to his heart's core. He was a brave man in the ordinary crises of life; but when every guard to his heart turned traitor what was there left for him but flight? He had put behind him the hopes of youth as well as its follies; before him was the settled plan of a quiet life—he was too old to enter Cupid's tournament.

From that time on, however, he had little cause to fear the widow. In some inexplicable way an invisible wall had grown up between them. His neighbor smiled and said good-morning just as before, but he was somehow made to feel that to continue the conversation would be presumption on his part. Tommy came as of old and followed him around at his work, with childish chatter; and though the captain cut him off when he prattled too much of "mummy" and home matters, it was borne in upon him that financial difficulties were hovering over the little cottage. This knowledge worried the captain and kept his mind from his beloved nature studies, upon which it was his pet ambition to write a book. One morning he was working near the border line, so deep in considering some means by which he might assist his neighbors that Mrs. Wilkins accosted him twice before he raised his eyes. He colored when he saw the object of his thoughts before him. Her face was pale and the slightly reddened eyelids betrayed recent

tears, while a nervous tremor ran along her words as she said abruptly:

"I have decided to put my property up for sale. I felt that I ought to notify you—you are particular about neighbors."

Her words gave the captain's tough heart a sudden twist. "What—why?" he stammered. "I thought, madam, that you were satisfied here."

"Oh, I am!" she cried impulsively. "I love the place and Tommy is growing so strong; but I can't keep it up. Mr. Blank told me when I bought it that some people couldn't make a success with poultry, and I find that I belong to that class. It is simply astonishing how much I have paid out and not even a prospect of anything coming in. Tommy's grandparents in New York have always begged us to live with them, and my small income will suffice there."

"But, madam, it takes time to put any business upon a paying basis. Don't give up the ship yet," he said, almost pleadingly.

She shook her head. "I dare not use up the little I have laid aside for my boy's education," she said simply.

The captain pulled his hat over his eyes to hide a sudden moisture in them; then an inspiration seized him. "Let me manage your poultry for a year. I will insure you against further outlay even if the profits are slow."

"Oh, that would be lovely—but I couldn't afford to pay you what it would be worth," she faltered.

"Pay," growled the captain, "who said anything about pay!"

"Indeed, though," and the gentle creature suddenly became as hard as a rock, "I could not consider it otherwise."

"Perhaps it would be better to put it on a business footing," assented the wily captain. "You are to give me a commission on the profits—that's the way they work the poultry business in Petaluma. Say five per cent, the regular commission rate. It won't be much at first, but after awhile it will be great."

"That would suit me," the lady said, with evident relief; but added after a moment's thought, "I am afraid five per cent isn't enough. You should have at least one-half the profits."

The captain turned away his head. "Five per cent is the regular rate," he said decidedly.

The new manager made a clean sweep of the motley collection of worthless and ailing fowls and the useless part of the equipment, all of which had cost the inexperienced woman much of her small capital. But the manager reported astonishingly good bargains in their disposal. Mrs. Wilkins was surprised, as well she might be, when he assured her that the proceeds would meet the expense of the new poultry houses, fences and of restocking, and he met her incredulity with such carefully kept accounts and long lines of figures that there was no gainsaying them. He stocked the place with pure-bred young fowls from his own yards. These pullets, like everything else about the little ranch, became animated with the manager's spirit to work for profits, and at once started on an egg-record. By the first of October weekly shipments of eggs were being made; and with the second monthly returns from the same, the manager declared a dividend and received his five per cent of the amount. The little woman handed it over with joy, but blushed at the smallness of it—it was just one dollar; but the most precious dollar the captain ever earned. He has it yet—it is his mascot.

The bit of a ranch was a record-breaker in profits that winter and is still cited by outsiders as an example of what a delicate woman may accomplish with poultry. The manager was carefully training Mrs. Wilkins and Joe in profitable poultry culture with a view to an early withdrawal from the management; for, truth to tell, he found the association more fascinating to him than safe to his peace of mind. In launching his neighbor upon the sea of success, the unfortunate captain had lost his own moorings and was adrift upon an unknown sea without chart or compass. In fact, by spring he was so far gone that he would gladly have sacrificed his chances of a quiet life and even the manuscript of his nature studies to have had that soft hand which he had once repulsed extended to him. But he felt that it never would be. Women are queer. They will absolve great sins and are unforgiving of small offences. The most friendly relations naturally existed between them, to which Mrs. Wilkins added an amount of gratitude out of all proportion to any favors received. Yet when the captain—who is a timid man where women are concerned—blundered

upon anything nearer than good-fellowship, the gentle creature became so hard and cold that he hastily drew within his shell.

One spring day he was in his neighbor's brooder house helping out with the March hatch and in a most desperate frame of mind, when Mrs. Wilkins, all unconscious of danger, opened the door and entered. The brightness of all the springtime came with her and in her hands she carried a hen with a droopy expression of countenance.

"O, captain," she said, "Tommy's hen has indigestion again."

"Been stuffing her on mince pie, I suppose," he grumbled as he reached for the fowl.

In the transfer of the bird their hands met. Mrs. Wilkins drew hers away with unnecessary quickness, but the captain unceremoniously dropped the fowl and caught the little widow in his arms.

"I need attention more than that fool hen. Don't struggle. I will never let you go till you promise to be my wife!"

For a brief space—probably a moment, though it might have been an age, for the bliss of a lifetime was in it—the universe slipped away from them and they were conscious of only each other. A shrill and indignant voice brought the existing order of things to their notice:

"How dare 'ou kiss my mummy!—an' what 'ou been doing to my biddy hen?"

### At the Dedication of Gettysburg Cemetery.

It would seem to be fitting that these immortal words of Lincoln should be read in every American school and household on the 16th of each recurring November. On that day in 1863 when this whole land was in mourning and a great republic hung in the balance, Lincoln was called to the dedication of a portion of one of the most bloody battle fields of our Civil War as a soldiers' burial place:

"Four-score and seven years ago, our fathers brought forth upon this continent a new Nation, conceived in liberty and dedicated to the proposition that all men are created equal. Now we are engaged in a great civil war, testing whether that nation, or any nation so conceived and so dedicated, can long endure. We are met on a great battle field of that war. We have come to dedicate a portion of that field as a final resting place for those who here gave their lives that that nation might live. It is altogether fitting and proper that we should do this. But in a larger sense we cannot dedicate, we cannot consecrate, we cannot hallow this ground. The brave men, living and dead, who struggled here have consecrated it far above our power to add or detract. The world will little note nor long remember what we say here, but it can never forget what they did here. It is for us, the living, rather to be dedicated here to the unfinished work which they who fought here have thus far so nobly advanced. It is rather for us to be here dedicated to the great task remaining before us; that from these honored dead we take increased devotion to that cause for which they gave the last full measure of devotion; that we highly resolve that these dead shall not have died in vain; that this Nation under God shall have new birth of freedom; and that government of the people by the people and for the people shall not perish from the earth."

When the lid cannot be budged on the fruit jar, run the thin blade of a knife all around between the glass and the rubber band; if this is not effective the sticking is up higher under the lid. Invert the jar into warm water above the rim of the lid for 10 or 20 minutes and the difficulty will be overcome.

When the air is heavy in the flues and the stove smokes furiously on first lighting a fire, lift the back lid and place a lighted twist of paper directly under the stove pipe. Instantly the blaze heats the air in the flue and the smoke goes the right way.

A plumber of many years' experience says that an easy and effective way to clear flues is to put a piece of old zinc on the live coals in the grate. The gases generated by its burning carry out the soot from the clogged flues.

**TOWER'S FISH BRAND**  
WATERPROOF  
**OILED**  
**GARMENTS**

are cut on large patterns, designed to give the wearer the utmost comfort

**LIGHT-DURABLE-CLEAN**  
AND  
**GUARANTEED WATERPROOF**

**SUITS \$3.00**  
**SLICKERS \$3.00**

BE SURE THE GARMENT YOU HAVE BEARS THE TOWER'S SIGN OF THE FISH.

A. J. TOWER CO. BOSTON U.S.A.  
TOWER CANADIAN CO. LIMITED TORONTO CAN.

## THE MARKETS.

San Francisco, Nov. 25, 1908.  
(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

The local wheat market remains quite firm, but prices show no advance over the figures prevailing for some time. Supplies are by no means heavy, and holders have been asking higher prices in some cases, but the buyers show no disposition to pay more than present quotations. The movement is accordingly limited.

California White Australian	\$1.75	@ 1.80
California Club	1.67 1/2	@ 1.70
California Milling	1.70	@ 1.72 1/2
California lower grades	1.45	@ 1.60
Northern Club	1.65	@ 1.67 1/2
Northern Bluestem	1.72 1/2	@ 1.77 1/2
Northern Red	1.62 1/4	@ 1.65
Turkey Red	1.75	@ 1.80

### BARLEY.

There is still a liberal movement of this grain for export, but arrivals in this market are moderate, and the cash grain is firmly held, though futures are somewhat lower. The advancing movement seems to be about over, as buyers are now holding off, and prices show practically no change. Ordinary feed is a little stronger, but the top price for choice feed is \$1.42 1/2.

Brewing	\$1.50	@ 1.52 1/2
Shipping	1.50	@ 1.52 1/2
Chevalier	1.57 1/2	@ 1.62 1/2
Good to Choice Feed, per ctl.	1.45	@ 1.47 1/2
Common Feed	1.40	@ 1.42 1/2

### OATS.

There has so far been no material change in this market, as holders are still very firm, but buyers have held off up to the present time. Offerings of all lines except reds are very light. Red oats for seed are somewhat higher. A strong inquiry for seed is expected, as the market has only been held back by lack of rain. The Northern markets are decidedly strong as the crop is short, and the small lots held in the country are not being sold at present figures.

Choice White, per ctl.	\$1.70	@ 1.75
No. 1, White	1.65	@ 1.67 1/2
Gray	1.65	@ 1.70
Red, seed	1.75	@ 2.00
Feed	1.50	@ 1.70
Black, seed	2.45	@ 2.65

### CORN.

No further arrivals are reported since last week, and the market is extremely quiet, with very little stock on hand. Western State white and mixed are being offered for December delivery at reduced rates, as quoted below, but buyers are taking little interest.

California Small Round Yellow, per ctl.	Nominal	
Large Yellow	\$1.85	@ 1.90
White	Nominal	
Western State Yellow	1.90	
White, in bulk	1.55	
Mixed, in bulk	1.53	

### RYE.

Offerings of this grain are light, but there is practically no demand at present, and the market is inactive. Prices are quoted as before.

Rye	\$1.45	@ 1.50
-----	--------	--------

### BEANS.

Arrivals of beans continue rather light, and the heavy movement following the harvest seems to be about over. The market is quite firm, with some advance in most varieties, and the demand for shipment to other markets is fairly strong, as it has been for some time. Both large and small whites show another advance, and bayos are considerably higher. Limas also are again higher, as was expected, and this variety has been in strong demand for shipment to other markets. Garvanzos continue to move freely, at unchanged prices. Blackeye and cranberry beans are a little easier. Reds show considerable advance.

Bayos, per ctl.	\$2.80	@ 3.05
Blackeyes	3.00	@ 3.15
Cranberry Beans	2.30	@ 2.60
Garvanzos	1.50	@ 2.50
Horse Beans	1.50	@ 2.00
Small Whites	4.40	@ 4.60
Large White	3.80	@ 3.90
Limas	4.35	@ 4.40
Pea	4.50	@ 4.75
Pink	2.35	@ 2.50
Red	3.75	@ 4.00
Red Kidneys	3.25	@ 3.50

### SEEDS.

The seed market locally shows a little more movement this week, owing to the general rain. So far there is no great activity, but by next week a general inquiry is expected. There is already a fair

## Talks on Teeth

BY

## THE REX DENTAL CO.

(INCORPORATED.)

## TEETH REPLACED WITHOUT PLATES

The Rex Dental Company's New Method of Alveolar Dentistry—the greatest achievement of the profession.

It is natural to suppose that a person in need of the services of a dentist will wish the most skillful attention obtainable, more especially so when it costs no more than by the old inadequate methods. There is, therefore, no doubt that all who need dental work done will investigate this Rex Method of Alveolar Dentistry thoroughly before taking any other.

We are the discoverers and originators of this method which has created more talk among dentists and laymen than all other inventions in that profession. That a man can replace missing teeth without a plate or bridge work, would scarcely be believed were it not for the many living examples that we can show you right in your home city. When you call you can see the work of that nature that we are doing every day and you can arrange to see a large number of people who were told by other dentists that their case was hopeless, but who are now wearing this Alveolar Method with perfect satisfaction.

### WELL PLEASED

I am pleased to recommend the superior work that the Rex Dental Co. of this city has just done for me. Besides the fine Alveolar teeth by which they have adorned my mouth, they have also been successful in curing a severe case of pyorrhea, which had bothered me for some time. I sincerely recommend them to any one who needs such services.

L. ESMOL.

1257 Broadway, Oakland.

Remember, there is no charge for examination. If we can't convince you that this is the best work obtainable, then you are under no obligations to have the work done. This work has stood the intelligent scrutiny of all classes of people and they have been unable to pick a flaw in it.

If you cannot call now, send for our booklet which goes into the Alveolar Method thoroughly. A line to us will bring you the booklet by return mail.

CAUTION.—Do not be deceived by imitators and impostors, for this Method can only be obtained at the addresses given below.

## REX DENTAL COMPANY, DENTISTS

SAN FRANCISCO,  
228 Pacific Building,  
4th and Market.

OAKLAND,  
80-81 Bacon Bldg.,  
12th and Washington.

LOS ANGELES,  
201 Severance Bldg.

Hours: 8:30 to 5:30. Sundays, 10 to 2.



demand for alfalfa seed, and this variety is firm at the recent advance.

Alfalfa, per lb.	16 @ 17 1/2 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	4 1/2 c
Flaxseed	2 1/4 @ 3 c
Hemp	4 1/4 @ 4 1/2 c
Millet	2 1/4 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

## FLOUR.

Some small lots of Oregon flour which were being marketed under California brands have been seized by the Government, under the pure food laws. There is a moderate export movement from this market, but there is no unusual activity, local business being about the same as usual. Prices are unchanged.

Cal. Family Extras, bbl.	\$5.40 @ 6.00
--------------------------	---------------

Bakers' extras	5.40 @ 5.65
----------------	-------------

Superfine	4.20 @ 4.50
-----------	-------------

Oregon and Washington,	
------------------------	--

Family	4.90 @ 5.40
--------	-------------

## HAY.

Plenty of cars are now available for hay shipments, and arrivals in San Francisco for the past week have been materially increased, causing an easier feeling in regard to prices. The market, however, is in a strong position, and local dealers are still looking for considerably higher figures. Advices from the country confirm the idea that supplies available for this market are very short, and the demand in interior points is as large, if not larger, than last year. Los Angeles has secured large amounts, and dealers in other cities are making large purchases, while many of the farmers are feeding more hay than usual, owing to the lack of pasture. Supplies are plentiful, however, in Oregon and other neighboring States, and at present prices there has been some shipment from outside points.

Choice Wheat, per ton	\$20.00 @ 22.00
Other Grades Wheat	16.00 @ 19.50
Wheat and Oat	15.00 @ 20.00
Tame Oat	15.50 @ 19.00
Wild Oat	14.00 @ 18.00
Alfalfa	11.00 @ 15.50
Stock	11.00 @ 13.00
Straw, per bale	50 @ 95 c

## MILLSTUFFS.

All classes of feedstuffs are in good demand, and the market remains firm, with prices practically the same as they have been for some weeks past. Bran, shorts and middlings are especially strong, as supplies have not been materially increased, but at present prices stocks are sufficient to supply the market.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Broom Corn Feed, per ctn.	1.20 @ 1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	28.00 @ 32.00
Oil Cake Meal, per ton	38.00 @ 39.50
Rollod Barley	30.00 @ 31.00
Shorts	33.00 @ 33.50

## VEGETABLES.

Arrivals of onions in this market have been lighter this week, and while the demand is limited to local requirements, the surplus has been reduced, and prices are a little higher. The larger stocks of tomatoes that were offered last week have also cleaned up, and fair prices are now received for all offerings. Miscellaneous stock from the South is firm and in good demand. Both beans and peas are higher. Celery is now plentiful, and while there is still a wide range of prices, according to quality, the returns are much better than last week. Rhubarb is also more plentiful and lower in price.

Onions, ctn.	55 @ 75 c
Garlic, lb.	7 @ 8 c
String Beans, lb.	7 @ 9 c
Green Peas, lb.	7 @ 9 c
Cabbage, per ctn.	15.00
Marrowfat Squash, per ton	10.00 @ 15.00
Tomatoes, box	40 @ 75 c
Turnips, sack	60 @ 75 c
Green Peppers, box	75 @ 1.50
Cucumbers, box	1.50 @ 1.75
Egg Plant, box	1.00 @ 1.25
Cauliflower, doz.	65 @ 75 c
Summer Squash	75 @ 1.00
Celery, doz.	25 @ 40 c

## POULTRY.

Dressed turkeys have been arriving in large quantities, and while the total of Thanksgiving arrivals is not yet known it will probably be larger than was expected. At the opening over 160 tons were offered, the larger portion being local stock, though there were large arrivals from Oregon. Choice stock, however, has been very well received, the market being well cleaned up at 25 to 27 cents. There is a great deal of thin stock offered, however, which should have been held back, and this is hard to dispose of at the lowest price quoted. Live turkeys are in good demand. Chickens of anything like choice quality are moving freely, and prices on some lines are higher, especially on fancy roosters. Squabs are also higher.

Broilers	\$4.50 @ 5.50
Small Broilers	3.00 @ 4.00
Fryers	5.50 @ 6.00
Hens, extra	7.00 @ 9.00
Hens, per doz.	5.50 @ 6.50
Small Hens	4.00 @ 4.50
Old Roosters	3.50 @ 4.50
Young Roosters	7.50 @ 8.00
Young Roosters, full grown	8.50 @ 9.00
Pigeons	1.00 @ 1.25
Squabs	2.00 @ 3.00
Ducks	4.00 @ 8.00
Geese	2.00 @ 2.50
Turkeys, live, per lb.	21 @ 23 c
Turkeys, dressed, per lb.	21 @ 27 c

## BUTTER.

There was some revival in the butter

## BUTTER.

market at the close of last week, with a slight advance, and the same feature has continued. There is a large demand for extras, which has sent the market 5 cents above last quotations. A large supply arrived at the opening, but is about cleaned up. Other grades are also firm, the movement of Eastern and storage stock being about as usual, and fresh seconds are higher.

Cal. (extras), per lb.	37 c
Firsts	27 c
Seconds	24 c
Thirds	20 c
Eastern extras	27 c
Ladles, extra	22 c
Cal. Storage, extras	26 1/2 c
Pickled Butter	23 1/2 c
Packing Stock, No. 1	21 1/2 c

## EGGS.

The demand for eggs, particularly of the extra grade, shows a marked increase, and while supplies are fairly large, the market is in a good condition. Prices are steady as last quoted on everything but fresh seconds, which are a little higher. There was a slight advance in extras a few days ago, but it was not sustained. The following prices are quoted by the San Francisco Dairy Exchange:

California (extra), per doz.	54 c
Firsts	51 c
Seconds	40 c
Thirds	28 c
Storage, Cal., extras	35 c
Storage, Eastern, extras	28 1/2 c

## CHEESE.

Last week's firmness in cheese still continues, and there has been a further upward movement on most grades. The demand is fairly large, while supplies of fresh stock are limited. Fancy new flats are a cent higher, and fancy Y. A.'s now stand at 17 cents. New Oregon stock is also higher. The following prices are quoted by the San Francisco Dairy Exchange:

Fancy California Flats, per lb.	14 1/2 c
Firsts	13 c
New Young Americas, fancy	17 c
Oregon Flats	14 c
Oregon Y. A.	16 1/2 c
Storage, Cal. Flats	12 1/2 c
N. Y. Cheddars	17 c
Storage, Oregon, flats	13 1/2 c

## POTATOES.

There is still a large oversupply of potatoes, and while the choice river stock is steady, inferior offerings are weak. The best Salinas Burbanks are slightly lower. Sweet potatoes have been dragging for some time, but the market is now well cleaned up and considerably higher prices are realized.

River Whites, fancy, ctn.	65 @ 85 c
Common	50 @ 60 c
Salinas Burbanks, ctn.	\$1.25 @ 1.55
Oregon Burbanks	1.15 @ 1.30
Sweet Potatoes, ctn.	1.50 @ 1.75

## FRESH FRUITS.

Arrivals of berries have fallen off, and prices have been advanced, as the rain has damaged the remaining crop. About the last of the fresh grapes have also been marketed, and the prices are accordingly higher for good offerings. Most fancy varieties of apples are higher, Christmas apples being held for as much as \$2, and some Oregon stock at \$1.75.

Apples, fancy	65 c @ 1.25
Apples, common	40 @ 75 c
Strawberries—	
Chest	\$9.00 @ 10.00
Raspberries	9.00 @ 10.00
Cranberries—	
Cape Cod, bbl.	13.00
Coos Bay, box	3.50 @ 3.75
Grapes, crate	75 @ 1.25
Pears, box, Winter Nellis	75 @ 1.25
Other varieties	50 @ 75 c
Quinces, box	50 @ 75 c
Pomegranates, box	1.75 @ 2.00
Persimmons, box	75 @ 1.00

## CITRUS FRUITS.

Citrus fruits are in somewhat better demand than last week. Arrivals are larger, but the stock is more desirable, and both navels and tangerines are higher. Valencia fruit is higher, and limes and lemons are as formerly quoted.

Choice Lemons	\$2.00 @ 2.50
Fancy Lemons	3.00 @ 3.50
Standard	1.25 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Valencias	1.50 @ 3.50
Navels	2.25 @ 4.00
Tangerines	85 c @ 1.00
Grape Fruit	4.00 @ 4.50

## DRIED FRUITS.

A much firmer and better feeling prevails in the dried fruit market, both here and in the East. While there has been no particular advance as yet in the local market, the tendency of several descriptions is decidedly upward. Apricots are now closely cleaned up, and higher prices are looked for at any time. Apples are also a strong feature, and peaches, which have been very weak, are in better demand. There has been a fairly large movement of prunes, both for export and to Eastern markets. Figs are strong, stock in first hands being well sold up. With the adjustment of the misunderstanding in the Fresno pool, the raisin situation is taking on more strength, and it is reported that some outside growers have received as high as 4 cents recently. While the local packers place a rather high estimate on the amount of stock unsold outside the pool, they show a disposition to buy. The Eastern market is also buying more largely than before, and higher prices are looked for. Prices quoted by local packers are as follows:

Evaporated Apples	5 @ 6 c
Figs, black	2 1/2 @ 3 c
Figs, white	3 @ 4 c
Apricots, new crop	7 @ 10 1/4 c
Peaches, new crop	4 @ 5 1/2 c
Prunes, 4-size basis	3 1/4 @ 3 3/4 c
Pears, new crop	5 @ 7 c

## RAISINS—NEW CROP.

Loose Muscatels, 4 crown	5 1/4 c
3 Crown	4 3/4 c
2 Crown	4 1/4 c
Thompson Seedless	4 1/2 c
Seedless	4 1/4 c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

Arrivals of nuts from the growing districts are still liberal, and offerings meet with a ready demand locally. Outside markets, however, are not buying as heavily as was expected, and shipments from some points to the East have fallen off somewhat in the last few weeks. Some of the districts, however, have already disposed of their entire crop. Chestnuts are lower in this market.

Almonds, Nonpareils	11 1/2 @ 12 c
I X L	10 1/2 @ 11 c
Ne Plus Ultra	10 c
Drakes	9 1/2 c
Languedoc	8 1/2 @ 9 c

## WALNUTS.

Softshell, No. 1	12 1/2 c
Softshell, No. 2	8 1/2 c
Hardshells	less 2 c
California Chestnuts	10 @ 12 1/2 c
Italian Chestnuts	10 @ 11 c

## HONEY.

Fancy honey is still practically out of the market, no supplies of water white, either comb or extracted, having come forward for some time. There is some demand for white, but amber grades attract little attention.

Water White, Comb, lb.	Nominal
White	15 c
Water White, extracted	Nominal
White	7 @ 8 c
Light Amber	6 1/2 @ 7 c
Dark Amber	4 1/2 @ 5 1/2 c
Candied	4 1/2 @ 5 1/2 c

## HOPS.

Shipments of hops were unusually large last month, 648,580 pounds having been moved by sea alone. The great part of the crop, however, has been disposed of, only a few growers holding out in hope of higher prices. Some lots have been sold at a reduction, but the supply of choice grades is light.

Hops, per lb.	6 @ 9 c
---------------	---------

## WOOL.

This market is in fairly good condition, and some clips are said to have been sold at some advance over prevailing quotations. Oregon clips are well cleaned up, and California clips are rapidly being marketed.

Red Bluff (f. o. b. Red Bluff) free	6 @ 7 1/2 c
Defective	less 2 c
San Joaquin (at S. F.) free	5 @ 6 1/2 c
Defective	4 @ 5 c
Mendocino, free	7 @ 9 c
Defective	5 @ 7 c

## MEAT.

While supplies are still quite sufficient for the requirements of this market, they are somewhat lighter than they have been recently, and the market is consequently a little firmer. Large veal, mutton and lamb are higher, and live steers and light hogs also show some advance. Calves are plentiful.

Beef: Steers, per lb.	6 @ 6 1/2 c
Cows	4 @ 5 1/2 c
Heifers	4 @ 5 1/2 c
Veal: Large	5 1/2 @ 7 1/2 c
Small	8 @ 9 c
Mutton Wethers	6 1/2 @ 7 1/2 c
Ewes	5 1/2 @ 6 1/2 c
Lambs	9 c
Hogs, dressed	8 @ 9 1/2 c

## LIVESTOCK.

Steers, No. 1	3 3/4 @ 4 c
No. 2	3 @ 3 1/2 c
No. 3	2 @ 3 c
Cows and Heifers, No. 1	2 3/4 @ 3 c
No. 2	2 1/2 c
Bulls and Stags	1 1/2 @ 1 3/4 c
Calves, Light	4 1/2 @ 4 3/4 c
Medium	4 c
Heavy	3 1/2 c
Sheep, Wethers	3 3/4 c
Ewes	3 1/4 c
Lambs, lb.	4 @ 4 1/4 c
Hogs, 100 to 150 lbs.	6 c
150 to 250 lbs.	6 @ 6 1/4 c
250 to 325 lbs.	5 1/2 @ 5 3/4 c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.	

The world's production of cotton for mill consumption during the year ended August 31, 1908, exceeded by 2,340,000 bales the production of the previous year, according to the census bureau's report on the supply and distribution of cotton. It is a significant fact, the report says, that the fluctuations in the world supply are measured practically by the variations in the annual production in the United States.

The great property of the Bear Valley Irrigation Co., near Redlands, was sold at foreclosure sale last week for \$1,234,534, the successful bidder being the Citizens' Trust Co., of Cleveland, Ohio, the holders of the trust deed. By a previous arrangement the property will be transferred at once to the Bear Valley Mutual Co., an organization of all the water companies in Redlands and most of those in Mission and Highland.

The Department of Agriculture at Washington issued a preliminary estimate last week of the principal crops in the United States, showing that corn, wheat, oats and eight other crops, representing approximately 70 per cent of the value of all farm crops, this year aggregates about 3 per cent greater than a year ago, and 2.4 per cent greater than the average for the past five years.

## The "South Bend"

NO. 10 A PLOW.



THE BEST CHILLED PLOW IN THE WORLD.

The No. 10-A is a general purpose, two-horse plow, and is one size larger than the No. 4-A. It has all the fine features of the regular South Bend line, and is probably adapted to a greater variety of soils than any other make of plow of its size. For the farmer desiring a plow of liberal capacity, but somewhat lighter than the No. 15, the No. 10-A is highly recommended. Furrow capacity 12 to 13 inches. Weight 112 pounds. Shares are made plain chilled and slip nose chilled. Wheels, jointers and rolling coulters are made to fit the No. 10-A, and will be furnished when ordered.

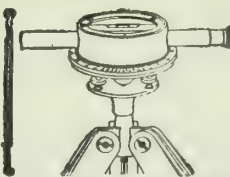
Write us for catalogue describing the complete South Bend Line of Plows.

GENERAL AGENTS,

PACIFIC IMPLEMENT COMPANY

135 Kansas St., San Francisco.

## BOSTROM'S IMPROVED FARM LEVEL



Cheapest and Best Level yet Invented for Farm Use.

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.

Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco

Coast Agents.

Send for Circular.

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.

HANDSOMELY ILLUSTRATED

Price \$3 per copy, postpaid.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO

PACIFIC RURAL PRESS, Publisher,

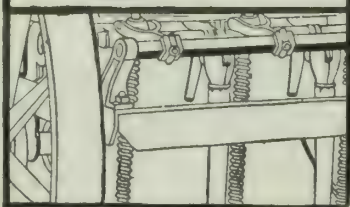
667 HOWARD STREET,

San Francisco, Cal.





**ANY BOY**  
CAN DO A  
**MAN'S WORK**  
ON A  
**SUPERIOR**



## ALL DRILLS LOOK ALIKE AT A DISTANCE

Close Up the SUPERIOR Shows  
to Advantage Over All Others

LARGER AXLES than in others,  
STEEL WHEELS,  
WIDE TIRES,  
SOLID GREASE CUPS,  
Barley and Oats Agitators,  
SPRING SCRAPERS, Etc.

OUR SINGLE DISC DRILLS DO  
BETTER WORK THAN ANY  
OTHER STYLE OR MAKE.

SEND FOR SPECIAL CATALOGUE.

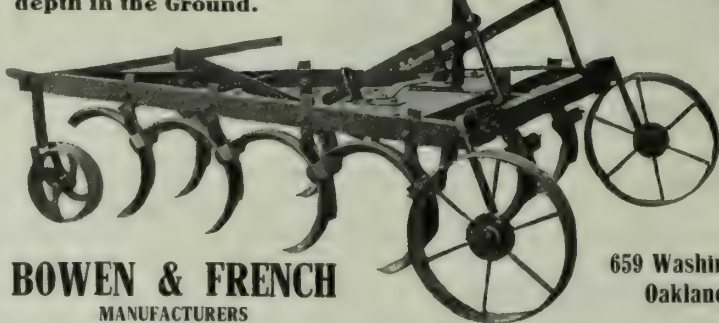
**The H. C. Shaw Co., Stockton**

## THE EVANTS CULTIVATORS

The Evants Cultivator, with 9  
Circular V Teeth and Seat,  
Cutting 4 1/2 feet; also with  
Wheels and Levers for Lift-  
ing Teeth out of Ground and  
Ratchet for Regulating their  
depth in the Ground.

1st Premium at State  
Fair 1907-8.

The Best Summer Fall-  
low Plow.

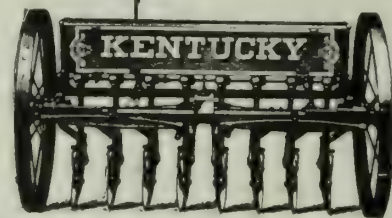


Light  
Draft and  
great  
saver of  
horse-  
flesh.  
See Cata-  
log for  
testimo-  
nials.  
Send for  
Catalogs.

**BOWEN & FRENCH**  
MANUFACTURERS

659 Washington St.,  
Oakland, Cal.

## Kentucky Disc Drills



meet every requirement of particular  
Farmers. Constructed on correct me-  
chanical principles, of the best material  
obtainable, they are strong and lasting.  
KENTUCKY Conical Disc Bearings  
are unique. Of fairly large diameter,  
they are narrow, giving greatest clear-  
ance between discs. Dust proof, oil  
retaining and adjustable. Over 250,000 in use, giving perfect service, have  
demonstrated the superiority of the Kentucky Disc Bearing.

WRITE US FOR CATALOGUE OF THE COMPLETE KENTUCKY LINE.

**PACIFIC IMPLEMENT COMPANY**

135 Kansas St., San Francisco.

## Was Your Last Catalogue Satisfactory?

- 1. IN TRADE-PULLING POWER.**  
Was the general get-up genuinely attractive, and did it present your stock  
so that the reader became interested and in a frame of mind to give you an  
order? First impressions go a great ways in establishing a friendly attitude  
toward the offerings of a good book.
- 2. IN QUALITY AND ARRANGEMENT.**  
Did the manner of its mechanical appearance and literary expression im-  
press possible patrons of the superiority of the seeds and plants you are  
offering? Was it correct in nomenclature and reliable in cultural directions?
- 3. IN VOLUME AND NUMBER PRINTED.**  
Did you meet the demand by ending the season with just enough to carry  
you over, or did you have a surplus, or did you fall a few shy? This is  
important either way you look at it.
- 4. IN MATTER AND ILLUSTRATIONS.**  
You don't always discuss with your printer all these points,—but then,  
The Kruckeberg Press is different from the general run of printers; it is  
fitted up to be really helpful to the seed and nursery trade, the live stock  
and agricultural interests, to do this class of work, from the preparation of  
the copy to the finished product.  
Correspondence invited.

## THE KRUCKEBERG PRESS

HORTICULTURAL PRINTING AND ENGRAVING  
CATALOGUE MAKERS. TRI-COLOR PRINTERS

123 South Los Angeles St. A 1420 Home. Los Angeles, Cal.

## REX YOUR TREES WITH

## LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the  
California Rex Spray Company, at Benicia, is no longer an experiment. Of  
the thousands of customers that used it last year, we have scarcely a single  
report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is  
prepared on scientific principles; is absolutely uniform; every barrel that is  
made at the factory being of just the same strength, namely, 33% solution,  
Baume test; is free from sediment; is ready for use in the orchard without  
having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest  
spray, and is by far cheaper, at the reduced price at which it is offered this  
year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

## WOOD PIPE

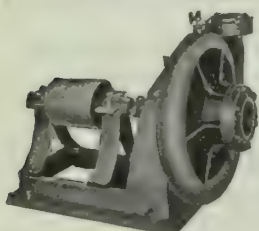
Made from California Redwood  
or Selected Washington Douglas  
Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—401 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

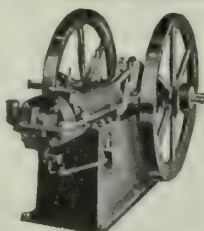
Prices, specifications, hydraulic data and general information  
furnished upon request.



**Gould's Centrifugal Pump**  
Has a greater efficiency  
and takes less power to  
operate. All sizes up and  
including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right.  
Runs in light wind. Has ball  
bearing Turntable and outer  
thrust.



**Stover Gasoline Engines**  
Built upon honor. They  
develop more than the  
rated horse-power. Sim-  
ple, durable, easily op-  
erated, economical in  
fuel consumption and  
guaranteed. We carry in  
stock from 2 to 50 horse-  
power.

PUMPS FOR EVERY SERVICE AND USE.

## WOODIN & LITTLE PUMP HOUSE

70 - 72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors,  
Gasoline Engines, Spraying, Whitewashing, Wine  
Pumping, Wind Mills, Hand and Power  
Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings.  
Send for Catalogue.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not in-  
jure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 23.

SAN FRANCISCO, SATURDAY, DECEMBER 5, 1908.

Thirty-eighth Year.

## Short-horns as Dairy Cattle.

Written for the PACIFIC RURAL PRESS  
By JOHN LYNCH, of Santa Rosa.

Criticism of the Short-horn as a producer has induced us to say a few words in their behalf. We have no quarrel with the brethren of the other breeds. There is room for all, for the scrub is consuming feed that the pure-bred may turn into wealth. The man who used to have good one, and the man who is "going to buy" are a multitude. That our lot was east where cattle were large; that our fancy dwelt with the red, the white and the roan; that we found them good producers and ready sellers—can account for our being a Short-horn breeder. In normal times they are almost legal tender, and in hard times they are about the only cattle that sell. Our faith in them is strong; we add new blood to the herd with the same regularity that we make a change of seed-grain for the fields.

That pioneer breeder, the late John Redmond, admitted that he ruined his herd by in-breeding. The first results deceived him, and he continued the in and in breeding; at length the results were disastrous. There may be a genius or two in the world who breed thus and show good results, but it seems safer for stockmen to avoid it. New blood adds strength, constitution and a feeding capacity, which are necessary in all. Those other qualities may be sought after for the purpose required.

California has as good Short-horns as are to be found anywhere. The early importations were of the best, and it is complimentary to those California breeders who journeyed to the Middle West or farther East within the last decade that their call was for the best. No second-class goods were wanted; they looked for the animal, not the price-list. The beef growers of California were fortunate in having a Howard, a Rush & Pierce, a Glide, an Eakle, a Gibson, and probably a few others, who brought to their door the pick of those herds, and offered their produce for the improvement of their cattle.

The late Robert Ashburner, J. W. McCord, and ourself have handled our Short-horns as dairy cattle, therefore have supplied largely to the

darymen and dairy farmers. California suffered a distinct loss in the scattering of the Ashburner herd. It was the result of a lifetime of labor, and, I may add, of love, for he loved his cattle. We have seen him grow eloquent on beholding some young animal that yielded well to feed and care, the produce of mating the two best animals in the herd. He was like the picture builder on behold-

We read in a recent account in Dairyman of London's great dairy show: "The Short-horn holds a very high position today as a dairy cow, while the improvement in its milking qualities is gratifying to those British enthusiasts who have stood valiantly by the red, the white and the roan" (90% of the milch cows of England and Scotland are Short-horns).

Our friend, a breeder and co-laborer with the milking Short-horns, writes us he has 20 cows with average tests of 4.8, and they are heavy milkers as well.

"The Minnesota Experiment Station believes that the dairy Short-horn is to have a great future, and has organized an association of Short-horn breeders, whose purpose it is to maintain and improve the milking qualities of this breed."

There are some milking Short-horn breeds that should be better known. I believe those breeders will have to plead guilty to being a modest set of men. Let us ask why cannot the American breeder put a little more enthusi-

asm into his breeding operations? He is the artisan of animal life. He is to show the better way.

Returning to our herd work, we are not visionary in the matter, but working along safe lines,

and when we compare results with other herds we have place for a bit of pride in the work of our milking Short-horns.

Often the sale of the first male calf got by a new sire covers the purchase price of the sire. And among the mothers of these or others are Dairy Maid 6th, 2000 lb. in 40 days; Idlewood, butter fat 6%, 7000 lb. per year; Marreth 1st calf, heifer, 8050 lb. 11 months; Maidee, 50 lb. daily; Bella Idle 5th, 48¼ lb. daily; Wildwood, 45 lb.; and a herd of persistent milkers.

If the dairy Short-horn cow is the all-important cow for the dairy farmer of England and Scotland, she is equally so for the dairy farmer of California. We herewith

show the dairy Short-horn sire. He exemplifies the type to a high degree, and his qualities are not a claim nor a chance. His grandsire is at the head of the Glenside herd, Pennsylvania. His sire is at the head of the best dairy Short-horn herd in Wisconsin. His dam has a butter-fat test of 6% and a milk record of nearly 8000 lb. Sales of \$1000 worth of his calves the past few months show how his qualities as a sire are appreciated.



Mr. Lynch's Great Short-horn Bull.



Short-horns on the Eakle Ranch Near Woodland.

Once in a while a millionaire will take up the breeding business as a fad or a toy, a "world famous" herd is collected today, but scattered tomorrow.

If there are a few who take up the work laid down by others, it is to the interest of California stockmen to sustain their hands. Anticipate your wants and purchase early, thereby serving your own interests the better.



Pacific Rural Press  
667 HOWARD ST., SAN FRANCISCO.  
Los Angeles Office, 123 So. Los Angeles St.  
TWO DOLLARS PER YEAR IN ADVANCE

Advertising rates made known on application.  
Entered at S. F. Postoffice as second-class mail matter.  
PACIFIC RURAL PRESS CO. - - - PUBLISHERS  
E. J. WICKSON - - - Editor  
FRANK HONEYWELL - - - Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., December 1, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.60	9.22	9.90
Red Bluff.....	.56	1.81	5.74
Sacramento.....	.98	1.83	3.70
Mt. Tamalpais.....	.12	4.47	4.30
San Francisco.....	.70	2.11	4.17
San Jose .....	.56	1.39	4.17
Fresno .....	.30	.83	2.06
Independence.....	.00	1.60	2.00
San Luis Obispo.....	.52	2.16	3.57
Los Angeles.....	1.04	2.63	2.38
San Diego.....	.90	1.99	1.38

The Week.

Westward Ho! Two weeks ago we reversed the course of empire and carried dreams of California eastward along the old "overland trail" in one of the rolling palaces of the Overland Limited of the Southern Pacific. Today we are joyfully responding to Kingsley's "Westward Ho!" in another rolling palace of the California Limited of the San Fe system, which follows approximately the old Santa Fe trail in its most direct route to California. Though the San Fe trail was much less in its contribution to California development in the early days than was the more northerly approach, and though the more direct avenue to and from the populous States of the northerly extensions of the Mississippi Valley is still the chief highway of modern travel, the Santa Fe trail did notable things for the State in the old days, and its modernization into a first class railway is possibly one of the chief agencies which made southern California great. Speaking generally, it is difficult to overestimate the influence which the overland lines have exerted in spreading the fame of the higher standards of living which rule in California by making the name of the State synonymous with everything elegant that they can command in the environment of the California traveler. No wonder the dwellers in all the Prairie States look upon California as an earthly paradise, when they study the chariots of electric fire in which people ride thither, and the sixty thousand earloads of glorious fruit and fruit products which these people send back eastward each year as the result of their labors in the new Garden of Eden!

Speaking of fruits, we remember that we were never before so deeply impressed with the distinctive character of California agriculture because of its content of fruit growing. We all know, of course, that California stood far in advance of any other State in fruit growing in the census of 1900, and that our present product is two or three times as great as the total credited to us at that time, but these facts do not carry adequate relaxation. We traversed in eight days of railway flying about six thousand miles—nearly a quarter of the distance around the world. We flew half the time

in the night and saw nothing; therefore halve the distance—say, three thousand miles of car-window gazing, watchful for everything agricultural and enjoying it all, but looking always and particularly for fruit trees. We venture to say, conscientiously, that all the orchards we saw, and all the fruit trees in dooryards, would not make five miles of distance if placed side by side. Of course, we did not traverse the "fruit districts". We simply went twice through the heart of the country, and saw country homes of all kinds and degrees, thousands of them environed with corn cribs, barns and sheds, dairy buildings and silos, grainfields and well stocked pastures, but aside from native shade trees there was almost nothing growing around these homes except a few dolefully trimmed-up evergreens of the cemetery type. Much of the country was perhaps unsuited by drouth and hard freezing for a large variety of fruits, but where corn will fill the large cribs we saw, certainly crab apples and sour cherries and sand pears will thrive at least, and give some temporary respite from a hog and hominy dietary and provide beauty for a much longer period. But so long as people will live as they do, without trying to grow their own fruits, in States whose names are synonyms for agricultural wealth and prosperity, so long will California advance in relative horticultural greatness and every canned or dried fruit label carried into these homes of well-to-do people will emphasize the distinctive character of California agriculture.

Another recognition of California and her sister States of the Pacific Coast in more definite terms, which we are glad to announce, is that the next meeting of the American Association of Agricultural Colleges and Experiment Stations will be held on our side of the Sierra Nevada mountains. It is significant that this tribute to the Pacific Coast came in advance of solicitation. President Kerr of the Oregon Agricultural College, Director French of the Idaho Experiment Station, and the Dean of the California College of Agriculture had conferred on the subject and agreed to urge the desirability of meeting on this Coast, leaving the choice of the particular locality to the executive committee of the association, as is usual. Before the invitation could be extended, a resolution was submitted by a Massachusetts representative that the Pacific Coast be designated as the region for the next meeting. When the matter came up for Discussion President Kerr presented the invitation of the Oregon Teachers' Association for a meeting in Portland, and an invitation was also extended to select a point for the sessions in California. It seems likely that the first objective point must be the Alaska-Yukon Exposition at Seattle, to secure the advantage of reduced overland rates, but undoubtedly arrangements will be made to traverse California, and possibly to hold some sessions in this State, if our people desire to make suitable arrangements for such session and visitation. These are matters for later conference with the executive committee of the association. As it now stands, it is a distinguished recognition of the advancement of agriculture and education upon this Coast, and the keen interest of all Eastern institutions working in these lines, in our phases of progress and development.

Another note of interest to California which may as well roll in along the Santa Fe trail is an echo from the hearing on tariff revision, which has been in progress before the Ways and Means Committee of the House of Representatives during the last two weeks. California has been well represented. We had the pleasure of hearing Messrs. Tarpee and Roeding endeavoring to enlighten the

committee on raisin and fig growing, olives and olive oil, etc., and we judge they lighted many dark places. Similar illumination for other phases of Eastern ignorance of California industries was furnished by Messrs. Morgan and Woodward of San Francisco, and Messrs. Chapin, Teague, Osmond, Call, and Johnson, of southern California. We are not sure that this is all, for Washington is a hard place to get sight or information of men you are seeking. Certainly alive to California interests is Hon. J. C. Needham of our sixth district, who is a member of the committee, and though quite out of health at present, is ceaseless in his endeavor that California shall be fairly dealt with. There is a question of how much this hearing will avail if the revision is deferred until another congress comes in next March, but as all the testimony given is printed, the record will be available in subsequent arguments.

To an observer from a distance, the attitude of some members of the committee toward the Californians who testified was not that of persons who desired to get at the truth of the questions in a statesmanlike manner and spirit. Every claim which was presented was kicked back and forth like a football, with apparent intent to drive it to some political goal. Witnesses who came bearing testimony in the public interest were badgered by pettifogging political lawyers into claims and admissions nearly opposite to what they knew to be true. One could hardly resist the conviction that several of the congressmen were merely getting out statements of conflict, and sharpening their wits for stump and gallery performances of their own hereafter. Outsiders who are more or less expert in legislation hold out the comforting statement that the committee hearing is only a sort of dress parade anyway, and that the large majority of the committee, which, like the ruling party of the House to which it belongs, is distinctly protective in its pledges and principles, will see to it that the peculiar productions of California which are now protected will not be uncovered to the advantage of importers and the cheap labor of countries whence rival products come. However this may be, California organizations are doing the best they can by sending well informed, representative producers to maintain the California point of view through both evil and good report.

Coming so freshly from the tariff discussions, and having our mind so filled with the statistical method of disclosing and obscuring facts, we found along the Santa Fe trail unmistakable evidence of a notable resource of California which is not adequately esteemed, and that is the winter population of nice old ladies who have apparently survived their life partners. By a more or less accurate count, there were twenty-three of these sweet old birds of passage on the train, hastening to their perches in the winter sunshine of California. They were real nice to see, with their tiaras of home-grown gray done up in all styles of the hirsute art, from the flat, overhanging halo of the candy-shop girl to the shooting geyser or rippling waterfall of the prima donna. Elegant were their costumes, too, of all quiet, restful hues, while out from laces, rings, combs and neck-chains came the startling flashes of the diamonds, tokens that there was once fire fit to burn a man to the heart in places which are now cool and placid as the bosom of a mountain lake. How from our distant corner of the car we have admired these belles of memory! How taking are their early morning get-ups! How charming the transformations for lunch, and how entrancing the sight when, just at three, during the long, warm afternoons on the Santa Fe trail, each of the ancient dames, with her own pillow at just the right angle, sinks to re-



pose, while the porter, big with pride in his convey, starts the electric fan, and a cooling zephyr soothes all into reminiscential dreams! They wake at four, and the porter has a busy hour with the teacups.

Is it not a grandly humane satisfaction to know that California winter homes give to these dowager queens of the drawing room a decade or two in which to live again in memory the joys of the chase and the conquest, and time to become more ripe and mellow for the harvest. The service of California in lengthening the lives and protracting the restful joys of the aged is a notable endowment of mankind.

How beautiful to glide through is a region of small farms, as contrasted with a land of large ranges and cattle establishments. We enjoyed this, especially as daylight favored in parts of Ohio, Indiana and eastern Kansas—probably others passed in the night. Many trim farm-holds we saw—missing only the fruit trees, as already noted. It is our boyhood's recollection of the East that the barns were so much better and bigger than the houses. Thus it also is today. Barns have to be bigger, when one remembers the need of housing the stock and the provender for them, but they should not be better. We concluded from many glimpses that the barns were notably better than a third of a century ago: large, tightly boarded and shingled, and well painted as a rule. There were many more and better outbuildings, silos, tool sheds, etc., all of which betokened good farming and recourse to modern methods. But though there were occasionally fine country houses, the inferiority of man's habitation, when compared with those for the lower animals, was quite depressing, and un-Californian, by the way. Many were evidently the same we passed thirty-three years ago, while the environment of farms and outbuildings was largely new. Nor had they been modernized with labor-saving and sanitary arrangements. In the early morning we saw the women packing water from the wells in the old-fashioned way—in fact, at one place we saw them going to the town pump in a little hamlet which we whirled through.

But, despite these signs of backwardness in the homes, the small farms which brought several families within sound of a dinner horn—so that Brown's family could pour forth sympathy for Smith because his wife was late with dinner, as usual—were doubtless promotive of neighborly emotion and regard. Then, too, the dozens of little farms seemed to glide so naturally into the little village churchyards—which caught them all in time, without the ponderous intervention of an urban "funeral director," so that people could peacefully live and die together. But, seriously, these little farms with a multitude of small products, largely for home use, looked mighty well to us, as indicative of a comfortable and well provided rural population. One car-window glimpse in Indiana revealed a barnyard view of a farmer with muffled ears feeding a flock of white turkeys, while red pigs in a near-by pen and a little bunch of sheep beyond the fence were all crowding close for attention, and the farm wife, with her apron twisted over her head, opened the house door to see the "limited" fly past—but not a fruit tree in the delightfully rural scene.

As we flew past, we could but think of the old man, who apparently had not more than twenty acres in his little outfit, saying to his neighbor's son, in the words of the Elizabethan poet:

Treat my daughter kindly and do to her no harm  
And when I die I'll give to you my little home and farm,  
My cow and horse, and pigs and sheep,  
And all the little chickens in the garden!

Such little abodes of rural contentment and simplicity have a place in California, and can be more productive of comfort and savings than in severer climates, when the requirements of intensive culture in California are better known and acted upon. We speak particularly of these little things of agriculture because the greater can and will take care of themselves. For the good of the State and for the success of her greater enterprises, we need an expansion of our small-farming population. It is from the small farms that the United States has taken leaders in all lines of national activity. California has many resources but needs more of this one.

#### THE FRUIT GROWERS' CONVENTION.

The RURAL goes to press this week as the 35th California Fruit Growers' Convention is in progress in Sacramento. The opening indications are for an unusually interesting and important assembly. The program covers sessions from Tuesday morning to Friday afternoon, as usual, and a notable improvement is noticeable this year, in that the number of formal addresses is reduced and the opportunity for free discussion and for handling unforeseen business is proportionately increased. Judging by the character of the men and women in attendance at the opening, this opportunity for impromptu proceedings will be used to good advantage.

The address of welcome by Mayor White of Sacramento conveyed a merited tribute to the comparative standing in intelligence and efficiency of the people who are working out fruit growing problems in California, as they were fitly characterized as among the foremost of the agricultural producers of the United States. Mayor White spoke also of the place in Eastern food trade now attained by California fruits and fruit products, as revealed to him by a recent extended tour through twenty-five Central and Eastern States. He was impressed by two things: The striking infrequency of orchards in the Eastern rural districts, and the abundance of California fruits in the Eastern trade centers. The Mayor's observations so closely coincided with our own, as described in other columns this week, that we could easily imagine ourselves again peering through the car windows, hunting for fruit trees in the Eastern landscapes. His observations of the dependence placed at the East upon California supplies led him to believe that we are still only at the beginning of our fruit production for Eastern markets, although something like thirteen thousand carloads of fresh deciduous fruits alone were sent forward during the current year.

Judge N. P. Chipman of the California Appellate Court, whom our readers all know as an honored leader in California development, addressed the convention as a substitute for Governor Gillett, who was prevented by illness from attending. General Chipman spoke first of the deep interest which Governor Gillett is manifesting in California industries, and of his earnestness and intelligence in their promotion—an assurance which was naturally welcome to the members of the convention, as supporting their own conception of the governor's attitude. General Chipman also spoke well of the fruit interest as the mainstay of California agriculture since general farming had become less liberal in its returns, and re-declared his belief, which he first established by his first report on the fruit industry as President of the State Board of Trade in 1890, that the fruit industry is the line in which California is able to make good industrially. He noted the striking advance since the date of that report which placed the distant shipment of surplus horticultural products at 16,000 ten-ton carloads, while the present movement totals 90,000 ten-ton carloads. General Chipman's address made a fine impression upon the convention and gave much assurance for the future.

The opening address of Horticultural Commissioner J. W. Jeffrey was one of the most suggestive and significant recently presented to a fruit growers' assembly, and we shall give parts of it in detail in a later issue. In addition to comments on current conditions in the fruit industry, it was a plea for research and instruction into the economic phases of fruit growing, including cost of

production, transportation, marketing, etc., on the general ground that the future profit depends upon proceeding more closely in accordance with sound economic principles in all the operations included in the course of the product from the orchard to the consumer. This was claimed because experience showed that no important producing or manufacturing enterprise nowadays could proceed without more knowledge of conditions than the fruit grower has, and none could secure the advantages which it is necessary to secure from those regulating transportation distribution, etc. It is a reasonable request that our students be taught, not only how to produce and protect the fruit product, but how to handle it in a large competitive trade. If the latter is not provided for, the former is likely to be unprofitable and disappointing. The proposition is a good one.

One of the most interesting features of this year's convention will be the dedication of the new insectary of the State Horticultural Commission, which has been built and equipped on the State Capitol grounds, in accordance with the plans of Mr. E. K. Carnes, who has had charge of such work for some time. The building is a good one, and it will bear a dedicatory tablet with this inscription: "Founded by Elwood Cooper, 1907." Mr. Jeffrey thus desires to acknowledge the public services of his predecessor in office. Mr. Carnes has a most interesting collection of pests and beneficial insects installed, and has also a very excellent general entomological and plant disease collection which will be of great public service in such a prominent place. In the building also excellent arrangements are realized for breeding and distribution of beneficial insects.

On the evening of the first day there was a symposium on horticultural laws in which many proposed amendments of present arrangements were discussed, with a view to advising the committee which will take up revisions with the next legislature. There was a two-hour discussion as to whether there should be a single county commissioner or a board of three as now provided. The existing plan was finally approved. It was also decided that availability for appointment as county commissioner ought to depend upon some sort of an examination as to knowledge and community standing.

As the meeting is in progress we can only make this general allusion to it. The proceedings will appear from time to time as the matters which seem to us to be of interest become available.

## Queries and Replies.

#### Peaches in a Coast Valley.

To the Editor: I am thinking of turning a large grain farm into a fruit orchard, and considering planting of prunes, apricots, and peaches. I have been advised to plant the French prune: Royal, Blenheim and Hemskirk apricots; Muir and Tuscany Cling peaches. Do you think it advisable to plant the Silver and Sugar prune? The apricots mentioned are the ones that produce best in this county, and ripen in the sequence given. The land may be a little heavy for the peach. The first fifteen inches of soil is a light adobe, and below this is a looser sandy loam. I would like your opinion as to the future of the peach industry, especially as to the two varieties named.—Farmer, San Benito County.

Both the peaches you mention are rather early, and if you want a succession of yellow freestone peaches you should plant Muir, Lovell and Salway; if you want clingstone peaches, Tuscany, Phillips and Orange Cling would do. As to whether you should plant peaches at all, or not, depends upon the market which is likely to be secured; also whether you can sell to canners to advantage, or whether your district is good for drying purposes. We believe there will be a good demand for all the peaches we can grow in good places—that is, where the peach develops well and where there are good facilities for shipping to canners, or good conditions for local drying. The Sugar prune is hardly worth planting, unless



you can sell it for a fresh plum. It is not a good drying prune. The Silver prune makes a good prune by bleaching, but it is often a shy bearer. There is nothing more sure yet than the old French prune.

#### What Will Choke Brakes?

To the Editor: Much of the land here is too high to irrigate, therefore clover and alfalfa cannot be raised. It makes good grain land, but is covered with a species of fern which is commonly called "brake." These brakes spoil the crop and kill horses if enough is eaten. The only practical way we know of killing this brake is to choke it with grass, and as our ground is too dry for that we are "up against it." I have heard lately of a grass which will grow where the ground is dry, but do not know the name of it. I would be very grateful if you could help in this or any other way to kill the pest.—Farmer, Eldorado county.

We regret that we do not know what particular plant you have reference to as capable of growing on dry land with sufficient vigor to overcome the growth of brakes. We have been trying for a great many years to find a plant which would make such a vigorous growth on dry hill-sides, but have not succeeded. Every little while some one recommends a plant which we know to be a failure. We cannot say that about the plant to which you refer because you are unable to give the name of it. If you should be able to do so later we will be glad to tell you what we can about it. At present the only method known to us to keep down brakes is to kill them by constant cultivation, cutting them off under the ground with a flat-toothed cultivator and not allowing the shoots to reach the light. This is, of course, expensive, and is not practical unless you can use the land for some cultivated crop which would pay for the extra labor. In Oregon some of the growers make a virtue of the brake, because they say it only grows with them in land which contains a great deal of moisture and by clean cultivation they are able to use this moisture for profitable purposes. This, of course, may not be of any practical value to you, but it is what other people are doing under their conditions.

#### Gypsum and Hardpan.

To the Editor: I have heard that a man in Kern county has been experimenting with gypsum on hardpan land and that it has proven a great success. The statement is that it dissolves the hardpan, or causes it to disintegrate. I would like to know if you think the statement correct. There is considerable hardpan land here, and if it can be treated successfully it would certainly be of vast benefit to the community. I would like to know just what kind of gypsum is used and how it is applied; also where it can be obtained in quantities.—Farmer, Riverside county.

It is true that gypsum does promote a disintegration of clay hardpan and an improvement also of surface clay soils commonly called adobe, but it is not at all certain that gypsum would have any beneficial effect on other kinds of hardpan; in fact, hardpan is a very indefinite term, because it is used to designate a good many different soil conditions. There is but one kind of gypsum, which is finely ground sulphate of lime, and we presume any of our fertilizer dealers who advertise in the PACIFIC RURAL PRESS will quote prices on it. The easiest way to determine whether it would be of any use to you would be to make an application to a small piece of land which you wish to include, and watch for any effect which may be produced.

#### Unthrifty Prune Trees.

To the Editor: I send you some twigs from my prune trees on which the fruit turned blue and dropped prematurely last July. Any information you can give me as to what the trouble is, its cause

and particularly as to a practical method of preventing its recurrence will be greatly appreciated. Farmer, Tulare.

It is impossible to tell definitely what causes the dropping of the prunes. The twigs you send contain some brown apricot scale, but hardly enough to cause dropping of the fruit. It is manifest, however, from the twigs that the trees are unthrifty, because of the exceedingly small, short and thin new growth which they are making. The short joints on the previous year's growth also show a lack of thrift. This is apparently due to some soil condition. No tree which cannot make more vigorous growth can be expected to hold its fruit or to develop it to satisfactory size if it should not be cast off. Do the trees get too little water, or too much? Is there any suspicion of the presence of alkali? We should give the trees a thorough pruning this winter, reducing the number of branches somewhat, in an effort to induce a more vigorous growth. Spray this winter with the resin wash. Then if you will inform us as to the behavior of the trees early in the next growing season, we will try to look into the matter for you while the trouble is in progress.

## Horticulture.

### APPLE MILDEW.

The mildew which strikes the young growth of the apple in some parts of California and more or less injures twigs and reduces the thrift of the new wood is considered, as many of our readers know, best checked by sulphuring, but there are difficulties about this and the pest is not arrested as it should be. Possibly good suggestions for work at least upon a small scale may be found in what we take below from a leaflet of the British Board of Agriculture:

**The Disease.**—The disease known as apple tree mildew (*Sphaerotheca mali*, Magnus) is a close ally of the hop mildew, American gooseberry mildew, and rose mildew. It is very prevalent, and is one of those pests likely to accompany apple trees to all parts of the world, as the mycelium is believed to tide over the winter in the bark or between the bud scales, and thus escape detection. The winter or asexual form of fruit is everywhere rare, and in this country has only once been recorded as occurring in very small quantity in an orchard at Mortlake. This form of fruit is certainly too local in its occurrence to account for the universal distribution of the mildew in the spring, which must, therefore, originate either from the conidia or summer form of fruit, which would imply the power on their part of germinating the year following their production, or from hibernating mycelium. For the former of these two alternatives there is no precedent. As a rule the fungus completely checks the growth of the branches, and, consequently, all the leaves that under normal conditions would have been scattered at intervals on a long shoot, are crowded into a rosette at the end of a branch of the previous season. Such leaves are stunted in growth, and covered with a dense white powder, consisting of the summer form of fruit of the fungus. When the fungus is present in less quantity in the spring, the growth of the shoot is not checked, and the leaves bear a small amount of mildew only. The disease is much more prevalent on old or full grown trees than on nursery stock, and when present on the latter rarely arrests the growth of the branches.

**Prevention and Remedy.**—1. When the disease is present in its worst form, the only certain method of arresting its progress is to cut off and burn all the infected rosettes of leaves. The cut should be made about two inches behind the tuft of leaves. Trees that have been treated in this manner throw out healthy branches and remain free from the disease. 2. When the disease appears in a mild form on the scattered leaves, the tree should be sprayed with a solution of potassium sulphide (liver of sulphur), 1 oz. dissolved in two gallons of water. Infection of the leaves only takes place when they are quite young, and

then is the time to look for the mildew. On the first symptoms of its appearance spraying should be commenced. If this opportunity is neglected and the mildew is allowed a start, spraying may be considered useless. 3. It would, under all circumstances, be advisable to spray trees where the disease had previously existed, commencing when the leaf-buds are expanding. 4. No definite proof is as yet forthcoming as to whether insects assist in distributing the spores of the fungus, or aiding in its attack in any other way. It is, however, quite certain that mildew is most abundant on trees that are infested with "woolly aphis" and "green fly," consequently these pests should be dealt with.

### BERRY GROWING IN SOUTHERN CALIFORNIA.

Mr. John Burr of San Fernando, Los Angeles county, who went to southern California after a successful horticultural career covering many years in San Mateo county, gave at a recent Farmers' Institute his conclusions concerning small fruit growing at the south, which contains many points of interest.

**Raspberries.**—In making a plantation of raspberries select a good, strong, rich piece of ground and prepare it as advised for strawberries. Mark off your rows four feet apart, then plant three feet apart in the rows, but before planting, unless the ground is very rich, I would advise digging holes and mixing up some well-rotted manure with the soil and planting the roots in it, and unless the weather is wet at the time, I would put some water in the holes to settle the soil around the roots. After the soil is settled, but in a stake about 4½ feet above the ground to tie the canes to as they grow. Fill the holes, if they have not been filled, and cultivate the ground. When the plants are established and growing they will throw out sucker shoots or canes, which will bear fruit the following season.

The first year after planting, four of those canes which grow out from the roots should be selected and the rest cut off. The ground should be kept well watered and cultivated, but in the fall when the foliage begins to show a change of color, let the plants or bushes go to rest, and when the foliage is nearly off, cut last year's wood down to the ground and tie up the four canes to the stake and cut them back to its height. Before the rains come, top dress with manure. Keep the ground clean and well cultivated and you will get considerable fruit. Some prefer growing the bushes spread out on wires, but I prefer the stake, as in picking you can get around the bushes and the air and sun can get at the fruit better.

During the season keep the ground moist and well cultivated, but instead of leaving four canes grow up I would leave six, as the bushes will be larger and better able to sustain their fruitings. Then in the fall cut back the old wood that was tied up and has fruited and tie up the six that you left during the summer and cut them back to the height of the stake again. Don't be afraid of manuring the bushes, as they are gross feeders. By feeding them well with water and cultivation, the raspberry will give you a certain income for several years, from seven to nine years being their profitable life.

**Blackberries.**—They will grow in almost any soil, although more vigorously, productively and of better quality on good rich land. Blackberries should not be planted closer than five feet between the rows and three feet between the plants, as they sucker so bad that it is hard to keep them clean after the first year. In place of using stakes to tie them to, it is better to put in posts about every twelve feet and stretch wires or build a fence to tie them on, and when the wood has ripened, say about the middle of December, it is well to thin out the old wood and tie the canes to the fence as regularly as possible and shorten them back at the same time.

If the winter season is not too cold they will begin to bloom in February after the fruit is set. Give them plenty of water and cut the suckers out, leaving enough to tie up to take the place of the older ones you cut out at the fall pruning. First-class blackberries are always in demand, consequently there is no danger of having too much fruit.



**TREATMENT OF POTATO SCAB.**

We have often suggested both corrosive sublimate and formalin as a soak for potatoes before planting, to prevent scab. A correspondent of an exchange gives this experience:

We use corrosive sublimate instead of formalin; it costs less and is more effective. We use 2 ounces to 15 gallons of water; this we dissolve in some wooden vessel and have it ready for use. We have found no way for treating the potatoes that will handle them so rapidly and with as little expenditure of muscle as to have some light, strong barrels—old sugar barrels, we use—placed on a platform high enough to have pails set under to draw the solution from a plug in the bottom. We fill the barrels with potatoes, so that when the solution is put in it will cover every one; we let them soak for an hour and a half to two hours; then draw the solution, pouring it into other barrels of potatoes, or back into the stock. In 15 or 20 minutes the potatoes will be sufficiently drained to pour out, so as to refill the barrel with potatoes and solution. With about three barrels one can treat a big lot of potatoes in a half day. If ready to plant, we cut the potatoes as fast as treated, and no one need fear ill effects from having the solution come in contact with any sore or cut, as it is one of the most effective antiseptics known. If not ready to use the potato when treated, it is a good plan to spread them thinly, so that air and light can reach every potato, and if they turn green it will do no harm. In fact, the exposure to light and air causes the eyes to start a strong, solid growth.

**MR. REED BESTS THE PEAR BLIGHT.**

Mr. Howard Reed of Marysville reports that he has raised this year a larger crop of Bartlett pears than ever before in his experience, and sold the fruit for \$40 a ton in the Eastern markets. He has succeeded in spite of the blight by systematically pruning against it and treating his trees according to the approved methods advanced by scientists. He is so well satisfied with the results that he will even go so far as to plant more trees this winter, and his example will undoubtedly stimulate other pear growers to give the industry at least another trial. It paid all the growers until the blight appeared and attacked everywhere almost simultaneously.

**QUAIL EATING BLACK SCALE.**

Dr. W. J. Chambers, a Los Angeles physician and citrus-grower, is the owner of a lot of pet quail, and noticed that a brood in his yard quickly cleared a cluster of marguerite bushes of the black scale. He turned the birds loose under an orange tree so infested with the scale that it had been condemned, and they at once went to work persistently among the branches eating the scale. He experimented in a general way and his conclusion is that three dozen birds will keep the pests down to the minimum in that many trees.

**Citrus Fruits.****WATER AND FROST.**

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

During the winter season there are nights on which the temperature falls to a point which chills the citrus tree. In average winters this chilling may do harm two or three times if the condition of the tree is not fitted to withstand the cold, or, rather, to recover from it. This condition is not so much a fault in the physical make-up of the tree as it is a soil defect. It is, of course, quite true that if the new growth on the tree is young, tender and immature it will not withstand much cold effect, but this is not at all a common condition on mature trees, unless in a very freakish season during which fresh growths have continued out of the natural run. This is, of course, so difficult to guard against and so seldom the case that it were comparatively idle to dwell upon it. The main point for consideration is, what rule or principle must the grower observe to guard his trees from cold harm. The main point of management seem to be to get his trees to rest by mid-

fall, so that the wood may harden up to be as cold-resistant as possible. To accomplish this the usual methods are the establishment of a cover crop in the soil to engage the surplus plant food and head off any forcing action arising from the soil, or to plow so as to destroy the fine system of rootlets in the surface soil which has been accumulating during the active growing season. Some grower swithhold water, but this is not wise, and is indeed the procedure which is most likely to cause the trouble sought to be guarded against. Water will not force a tree out of its season, but if there is a scarcity of water for the citrus tree during a cold spell the tree will suffer because the cells shrunken by the cold will be unable to recover turgor. Wood which has been chilled and unable to promptly obtain ample water will either die or become sterile, and this condition will show itself promptly in a season, or gradually, in accordance with the degree of damage done. This wood never fully recovers and generally has to be cut back before even new growths can emanate from it. The most noticeable result of dry chilled trees is a falling of fruit as the shrunken cell does not circulate sap rapidly. Owing to this noticeable result of badly irrigated groves and strikingly opposite effect of cold just preceded by or happening simultaneously with irrigation, growers are led to a false conclusion that the running of water in the land during a cold spell absorbs the frost and thus saves the trees from damage. It is quite true that if the soil surrounding the tree roots is dry the wetting of it is the first means of defence against cold, but it is quite superfluous to wet up an already properly moistened soil from which the tree can readily obtain water. In southern California we do not suffer from driving cold blasts, but from still falling cold which has done all the harm in its power before it reaches the ground, and unless we can cover the trees with a pall of smoke or in some way raise the temperature about them they must feel the falling chill about them. In fact, water on the surface of the soil seems to attract the cold rather than repel it. The best advice the grower can take is to see to it that there is plenty of water in the soil throughout the winter if the rains are not keeping up a sufficiently steady supply, but do not depend upon a night's run to in some mysterious way save his trees. It seems worthy of mention that plowing of the surface rootlets to insure partial dormancy is not such a safe procedure in case of the happening of an extreme cold spell, as in such case the tree may not have sufficient root surface to promptly absorb all the water it needs to meet the strain.

**DEEP FURROWING FOR IRRIGATION.**

Mr. H. D. Williams of Fair Oaks has drawn attention to our pleas for deeper furrowing of orchards for irrigation, and says: "I have noticed that irrigating water seemed to do (as Mr. Wallace says) much more good, and did not evaporate so quickly when the furrows were made as deep as possible"; and he asks what tool is best suited to deep furrowing. As far as we know, the single plow is more used for deep furrowing than any other tool at present, though a few growers, following the example of Mr. Macoun at Arlington Heights, are using a stout tooth bolted to the point of the irrigating shovel. This tooth cuts a narrow groove in the bottom of the shovel furrow and this increases the depth without raising more earth to the surface. But neither the plow nor the point tooth are ideal, and at the best they are but clumsy attempts at invention. They are steps in the right direction and should be encouraged until something better is obtained, because deep furrowing may be accepted as a crucial point in irrigation. There will shortly be in the market a tool specially designed for the work. I have seen the model of this new tool, and the advantages claimed for it are that it will make a furrow six or eight inches deep clean and open but quite narrow. It does not pile up earth on either side to make a dam for surface irrigation as the shovel and plow does, but leaves the ground level. The most difficult point to overcome, and which delayed the putting of this tool on the market, was the draft, which has been reduced to a practical extent. This tool has as well the advantage over the plow of not cutting out the mass of fine rootlets which fill a healthy orchard

soil during the irrigating season. Another advantage with this furrower is that the vetch can be sown broadcast and the soil opened up for irrigation at any time without destroying the cover crop. As soon as the tool is properly protected it will be announced in the PACIFIC RURAL PRESS.

T. C. W.

**The Vineyard.****THE WIRE-GRAFT.**

Written for the PACIFIC RURAL PRESS  
By F. T. BIOLETTI.

It is often difficult to persuade a farmer, even a grape grower who has lots of money and likes hard work, to adopt a new method which involves increased expense and labor. When a proposed improvement promises a saving in both of these respects, however, he is usually more easily convinced.

An exception to this rule, however, is the "wire-grafting of vines" described on page 110 of bulletin 180 of the Experiment Station.

Everybody who has tried this method, so far as I know, has found it a great improvement on the older ways of grafting. One nurseryman assures me that he can save from \$4 to \$5 per thousand on labor by adopting this method. From Australia and South Africa come favorable accounts of tests of the method. Yet after trying it and finding it both good and economical everybody goes back to the old way.

The cause of this seems to be that the buyer of the band-grafts—the man who plants the vineyard—is afraid of the small section of wire that remains in the interior of his vine. He fears that it will poison the sap, cause decay of the wood or otherwise work unfavorably on the health of the vine. Experience alone can tell whether the grower is right or wrong in this, and experience seems to be all against his theory.

Botanists tell us that iron axe heads have been found imbedded in the middle of large trees. The axe has been left sticking in the wood and the tree has grown over it, gradually surrounding it completely. In such a case the large mass of iron must have been in the tree for many years, yet the wood around it has been found perfectly sound and healthy. In the same way nails are often included in the substance of the trunks and branches of trees without any perceptible injurious effect. Iron bolts are often placed through the branches and crotches of trees to prevent splitting, with nothing but favorable effects. Finally, there are vines grafted by the wire method in a vineyard near St. Helena, Napa county, which have been bearing good crops for many years and are perfectly healthy, showing no injurious effects from the small particle of iron wire still imbedded in their hearts.

I have heard of one case where a grape grower cut open a grafted vein which had died in his vineyard and found the piece of wire which had been used in grafting. He jumped to the conclusion that the wire was the cause of the death. This was an illogical conclusion, because there were many other vines dying in this vineyard, some of which had been grafted without wire and some that had not been grafted at all.

Personally, I believe that not only is the wire harmless, but that vines grafted in this way make better and more complete unions and are therefore stronger, healthier and likely to be longer lived. The reason of this is that the healing tissue which joins the stock to the scion makes a complete uninterrupted ring all around the graft, while in other methods, where tying material is used, the healing tissue is broken in various parts where the tying material has prevented its formation or where the removal of the tying material has destroyed it.

The cost of bench grafts is so high and such a serious item of expense in starting a resistant vineyard that everything which tends to make them cheaper without sacrifice of quality should be encouraged. Undoubtedly nurserymen who are acquainted with this method would be willing to take contracts for wire-grafts at a lower price than they demand for the ordinary kind, but they dare not prepare them without a contract for fear the growers would refuse to take them.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

The fruit growers of Butte and Sutter counties will do more spraying than usual this winter.

E. K. Alpaugh is arranging to plant 100 acres to oranges the coming season in the Imperial valley.

The Pacific Fruit Cannery & Vaporizing Co. is contemplating putting in a \$15,000 plant at Oroville.

The re-establishment of the State Viticultural Commission will be asked from the next legislature by the various grape associations.

The Kerman, Fresno county, melon growers have formed an association to handle the coming crop. Membership fee is placed at \$1.

The packing houses of Redlands opened this week for the season. It is expected that 30 cars of oranges will be shipped by the 10th, for the holiday trade.

The apple shipping season practically closed at Watsonville this week. Prices have been especially good since election. Nearly 3000 cars have already been sent out.

A large acreage will be planted to oranges in the Porterville district this season. Last week A. G. Schulz gave an order to R. M. Teague of San Dimas for 12,000 nursery trees.

A new bulletin on the cause and prevention of "gummosis," a disease peculiar to citrus trees, has just been issued by the Department of Agriculture of the University of California.

The Minneola vineyard, located seven miles east of Fresno, has been sold, and the new owners will cut it into small tracts and place them on the market. The vineyard is in full bearing and produces over a ton to the acre.

A company has been formed to organize the Eastern markets in the interest of winter rhubarb growers. There is now growing in southern California several hundred acres of the Crimson Winter variety, and a market must be found.

It is now stated that the raisin pool recently formed by the growers at Fresno has control of the situation. As a consequence it is believed that the crop will be sold at the price set by the growers. At present very few orders are coming from the East.

Florida lands that have been planted to oranges, but which were found to be too cold, are to be planted to camphor trees. The tariff commission has been asked to place a tax on camphor imports, and it is thought that the 1000 acres to be planted to camphor trees in Florida will produce all the country will use. The value of the camphor imports is \$400,000 annually.

The price of orange shipping boxes this season is 12½ cents each, and 13¼ cents for lemon boxes. As the prices last year were 15 to 19 cents, and two years ago 31 cents each, the present price is a great reduction. The normal demand is estimated at upward of 14,000,000 boxes for oranges and lemons annually, which will make a saving of nearly a million dollars on the price paid two years ago.

An item from the Chicago Packer gives an account of a good advertising scheme carried out by the Hood River apple growers: In the main display room of the Fruit Auction building at 204 Franklin street, Steinhart & Kelly, who are handling almost the entire output of the Hood River Apple Growers' Association, Hood River, Ore., held an apple fair, beginning Wednesday and lasting until Friday evening. The fair was widely advertised in the daily newspapers, and the

consequence was the display room was thronged ever day of the exhibit. Perhaps an average of 5000 people a day, 90 per cent of the visitors being New Yorkers entirely outside of the business, attended.

An important case to fruit growers was decided at San Jose last week, when J. B. Morrell was awarded \$1180, the difference between contract price and the amount received for fruit, and \$300 besides as damages. Last year Morrell contracted with fruit buyers to take his entire crop of prunes on a 4¼c. basis. After delivering about half the crop the price went down, and the buyers refused to accept the rest of his fruit. Morrell sold the balance at auction and sued for the difference, which he can now collect.

### AGRICULTURE.

There has been more alfalfa seed threshed in Butte and Colusa counties the past season than ever before, owing to increased demand.

At the Los Alamitos, Orange county, sugar factory, the campaign just closed was the largest in its history. Over 66,000 tons of beets were handled, and the sugar content ran very high.

The Alfalfa Products Co. has recently been incorporated by E. C. Horst, E. H. Gerber, and F. A. Somers, which is given the right of buying and selling alfalfa, grain, and the manufacturing of alfalfa meal and other foods. The company controls large holdings of land in the Sacramento valley.

A press dispatch states that J. W. Philippi of Acampo has on exhibition a new potato which is a cross between the Early Rose and the wild potato of Brazil. The new potato has all the characteristics of the Early Rose and the solidity of the wild species, the two combining a potato of very good quality.

According to the United States Department of Agriculture, the farmers received \$8,000,000,000 for their products in 1908, which is a sum \$500,000,000 greater than in 1907. On the average, crops were better and prices higher than in previous years. The department says that farmers generally are better off than ever before.

### LIVE STOCK.

A car of draft horses was shipped from Yolo county last week to Los Angeles.

The recent rains have caused cattle to raise in price, as feed will soon be plenty.

The dairymen of Modesto give notice that after December 1 the price of milk delivered will be \$2.35 per month per quart, instead of \$2.

The dairymen around Modesto received 40 cents per pound for butter-fat last month. Even if feed is high, there is a good profit in 40-cent butter.

Andrew McInnes of Red Bluff recently purchased a flock of 4000 sheep at about \$1.50 per head. He is now looking for winter quarters for them in Yolo county.

The State Polytechnic School at San Luis Obispo has just added a four months' course in dairying to its work. The new course is to be taught during the winter.

A flock of 1500 sheep being shipped to San Francisco was recently held up by the State Inspector at Knights Landing. The sheep will all be dipped before being sent to their destination.

Preparations for the Fresno County Poultry Show, to be held from December 16 to 19, are about completed. This year only cash, cups and ribbons will be given as prizes. Entry fee for fowls will be 50 cents each, and 25 cents for pigeons.

The Sonoma County Co-operative Poultry Association recently closed a three-year contract with the Sonoma County Fruit & Product Co. to handle all the eggs of the association, on a guarantee of re-

## MILL

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



## MAN

Importers of

Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

Hawaiian Fertilizer Company, Ltd.

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

## IT'S FREE

### BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

CALIFORNIA FERTILIZER WORKS

OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

THE PACIFIC GUANO & FERTILIZER COMPANY  
268E Market St., San Francisco, Cal.

## SOW GOOD SEEDS

Largest Seed House in the West

# LILLY'S BEST



Established 1885

Send Now  
For Free  
Catalog

# SEEDS

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.

## THE MARSHALL NURSERIES

FOR FRUIT TREES, GRAPEVINES,  
PALMS, ROSES.

FULL LINE OF EVERYTHING GROWN BY US.

S. W. Marshall & Son, Nurserymen.

BOX 652, FRESNO, CALIFORNIA.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
ERSTEIN & ERSTEIN.  
Modesto Euc. Nursery  
Modesto, Cal.

ERSTEIN BROS.,  
Vignola Euc. Nursery  
Anaheim, Cal.



# TREES

SEASON 1908-9.

ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

## FANCHER CREEK NURSERIES

INC.

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## GOLDEN RULE NURSERIES

MRS. L. L. CROCKER, Proprietress  
Loomis, Cal.

The celebrated Crocker Bartlett Pear, guaranteed immune from blight.

Golden Rule Summer Apple, dormant buds.

Crocker's New Free Peach, 50 cents each; 5,000 left.

Deciduous Trees and Grape Vines.



ETTERSBURG GOOSEBERRIES

Are Worthy of a Trial in Your Garden.

New and distinct variety. Prolific and of highest quality. Skin very tender and seeds few, and half as much acid as other gooseberries. Cuttings root easily and are only 50 cents per dozen by mail, direct from the originator. Order before January 15. Stamps accepted.

ALBERT F. ETTER, Briceand, California.

ceiving not less than 19c. a dozen for No. 1 eggs and 17c. for No. 2.

The annual meeting of the Woodland Creamery Association was held last week, and the secretary's report showed that during the year 427,978 pounds of butter had been made, 178,431 pounds used by patrons, and 410,133 pounds sold, at an average price of \$0.296 per pound, making a total of \$121,399.36, and to this \$2876.84 has been received from cream sold and all other sources, making a grand total of \$124,275.49 for the year.

At the meeting of the Country Life Commission held at San Francisco last Saturday the statement was made by the doctor appointed by the Government to handle the bubonic plague in San Francisco a year ago, that the plague had been stamped out in this city and in the region around the Bay. But it was known that the ground squirrels had become infected and they were liable to carry the disease over the State. The doctor stated that until the last infected squirrel was killed there was danger of an outbreak of the disease at other points.

### MISCELLANEOUS.

Gathering holly berries for sale during the holiday in the cities is getting to be a large and profitable industry in many places in California.

The Ashland, Oregon, cannery has just purchased 40 acres of land near there, where the management will operate a model vegetable farm.

While drilling for oil near Coalinga recently, water was struck at a depth of 128 feet, in such volume that it has been impossible to shut it off, although the struggle to do so has continued for nearly two months.

By the completion of the fine artesian well on the Starn's ranch, near Kern City, a large acreage of land which had been used for dry farming will be brought under irrigation. More wells will be sunk and big pumps plants installed.

An association of eucalyptus growers was recently organized by State Forester Lull. The new association will help intending planters and investors, and will also publish figures as to the probable growth and earnings of groves.

Prof. John G. Lennon of Oakland, one of the best known botanists of the State, died last week, aged 70 years. At one time Professor Lennon was the only member of the California State Board of Forestry, he having most to do with its organization and work.

G. de Latour of Rutherford has secured the necessary apparatus and will establish a plant to manufacture sparkling wines. He will use the Sauternes and Burgundies of Napa valley, and expects to build up a good trade in his products, which are classed as next to champagne.

### SPRAYING FOR THE CODLIN MOTH.

One of our field men sends the following interesting method of spraying practiced by two prominent orchardists, which will be of value to those of our readers who are about to work in their own orchards:

Mr. G. F. Gallagher of Alviso, Santa Clara county, says that spraying as a check for codlin moth is a decided success, and the splendid quality of his apples bears out his assertion. Mr. Gallagher uses arsenate of lead instead of paris green. The dates for spraying with him are as follows: First spray just after the apple is formed and before the bloom closes. Second, owing to the date of hatching, from the 13th to the 20th of May, this being the time of the main hatch in this country, although there are straggling hatches all through the season. Third, spray the 10th of June. Fourth, between the 25th of July and the first of August, and, if considered necessary, another about the first of September.

A thorough knowledge of local condi-

tions is necessary, and great care in compounding and applying spray. His method is to coat the entire surface of the apple, instead of just spattering the surface, and to do this it is necessary to have the nozzle close to the apple. Mr. Gallagher has had about 25 years' experience in apple growing, and this year his crop will amount to about 34 cars.

Mr. F. H. Wilcox, of Santa Clara, has had about 25 years' experience in fruit growing, and is at present handling about 45 acres of bearing pear orchard. In his experience he has become convinced that the codlin moth in pears can be checked by spraying. He is using paris green, applied with a force pump, using the Cyclone nozzle, reamed out to the size of a 6-penny nail. In applying, drench the fruit well, until everything is well covered, even to having it drip on the ground. For San Jose scale Mr. Wilcox has been using crude oil every three years, this having been more effective with him than lime and sulphur.

### ALAMEDA COUNTY POULTRY SHOW.

The fifth annual poultry show of the Alameda County Poultry Association is now being held at Idora Park, Oakland, and will continue over December 6. The exhibit of birds is the finest we have yet seen on the Coast, and the 1265 birds shown make it one of the largest.

Fanciers have sent their best, from Seattle all along the line to San Diego. All classes are well represented, especially large are the exhibits of Orpingtons, Houdans, Rocks, Wyandottes, Langshans and Games. The display of fancy stock is very strong, and the pheasants and rabbits are a pleasing diversion. Bronze and buff turkeys and five varieties of ducks help to make the show complete.

Several exhibits of incubators, chick-food products, wire fencing, etc., are also made, notably by the Coulson people of Petaluma and the Petaluma Incubator Co. M. S. Gardner, of Auburn, N. Y., is the judge, his work seeming to be very satisfactory. The judging is by comparison.

Very handsome ribbons were furnished the winners, and the number of cups offered was lavish. The building in which the show is being held is well adapted to the purpose, the coops are all new, and being only single tiers, gave better chance for display.

We trust the public will attend, that the show may be as great a financial success as it merits, for the work done by the officers, notably Secretary C. G. Hinds and E. K. Healy, the superintendent, deserves generous treatment by both the public and the chicken fanciers.

### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

HAVING had 20 years experience in the management of orchard and vineyard work, would like to take charge of such property for owner. References, by permission, to W. H. Aiken of this place. Address F. M. Campbell, Wrights, Santa Clara County.

### The Seed House of the Great Southwest 1909 SEED CATALOGUE.

We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies ever published on this Coast.

If you do not receive yours by the 20th of December, write for it and get your name on the list.

AGGELER &amp; MUSSER SEED CO.

Successors to

Johnson &amp; Musser Seed Co.,

113-115 N. Main Street, - - - LOS ANGELES.

### Now is the Time for Ordering Trees.

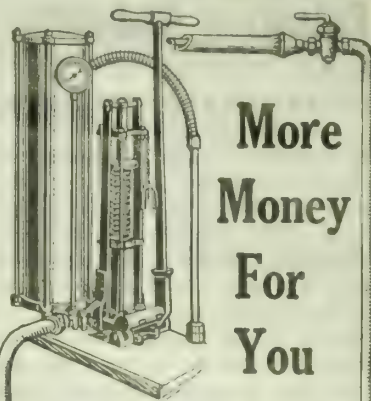
We have a large lot of EUCALYPTUS, CYPRESS, PINE TREES, transplanted in flats; also a large variety of ORNAMENTAL TREES and SHRUBBERY, EVER-GREEN AND DECIDUOUS, most suitable for planting along streets and sidewalks and for beautifying parks and gardens. Also PALMS, DRACENA, ROSES, ERICAS, CAMELLIAS, AZALEAS, RHODODENDRON, FRUIT TREES and BERRY BUSHES.

THE PACIFIC NURSERIES,

3041 Baker Street, - - San Francisco,

And Millbrae, Cal.

Send for Catalog. Mention Pacific Rural Press.



Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.

211 West Julian Street  
San Jose, Cal.

## Ready To Ship

10,000 Superlative Raspberry, 2 years old

10,000 Plum Farmer Raspberry, 1 year old

50,000 Crimson Winter Rhubarb, 1 year old

100,000 Strawberry Plants

5,000 Penderosa Lemons

Also Trees, Seeds, Bulbs, Etc., Etc., Etc.

WHOLESALE AND RETAIL.

Send for Catalogue—Ready.

A. MITTING, Nurseryman

17 to 25 Kennan St., Santa Cruz, Cal.



## Patrons of Husbandry.

### TULARE GRANGE MEETING.

On Saturday, the 21st, there was a well attended and interesting session of Tulare Grange No. 198, P. of H. Sister Howe, lecturer of her own subordinate Grange in Michigan, occupied the lecturer's chair when the lecturer's hour was called, and read the following address:

"Worthy Master, Brothers and Sisters of Tulare Grange, P. of H., California: Having been requested by your worthy lecturer to take the lecturer's chair today and having pledged myself to do so, I now open this session of the lecturer's hour in faith, in hope, in charity and with fidelity. The worthy lecturer, no doubt, intended to be kind, when he requested me to take charge of the program today, knowing all the time he was placing me in a difficult position. In my past work in the lecturer's work I have always kept in mind that in order to do justice to my work in the Grange I must be a leader in the work; that is unanimously conceded by all who have a true understanding of the objects and purposes of the Grange. That its educational features and possibilities are above and beyond all other lines of work, and I believe no other portion of the Grange field has been so well cultivated, or yielded better or more abundant harvest. At the very start every lecturer should have a full realization of the importance of his or her position and bring to it an earnest desire for a faithful performance of all its duties. It means work, plenty of it, faithful, conscientious work.

"Ever striving to bring better up to best, lecturer's work, like farm work, must be thought out, arranged, prepared for and then no time will be lost in useless labor. The lecturer should have a thorough knowledge of the Grange work, and of the magnitude and importance of the farmer's occupation, teaching the farmer to have a true respect for himself and his calling, for out of the abundance of the heart the mouth speaketh; all lecturers should be personally prepared, for, as the years pass by, our Grange membership and the outside will have a right to expect from the lecturer a higher grade of instruction than in the past. The lecturer must never feel loth to request the members of the Granges to assist him in his work. Make a study of the members in the Grange so as to be better able to reach each one, and so draw them on to their best. Phillip Brooks said, do not pray for easy lives; pray to be strong men. Do not pray for tasks equal to your powers; pray for powers equal to your tasks, then the doing of your work shall be no miracle; every day you shall wonder at yourself, at the richness of life which come to you by the grace of God.

The worthy lecturer expected a program for the young people today. As we have no young people with us, I thought a program of thanksgiving just as suitable. What has Tulare Grange to be Thankful for? That we are members of a national order organized for the betterment of farming life and our officers and members are earnestly working for such betterment, and our position, no matter how high or how humble in our order, calls to my mind a simile:

"There is a place in the wall for every brick, Whether they are thin or whether thick, Whether they are round or true or square, Whether they are rough or smooth or fair, Whether they are short or uncommonly long, Whether they are weak or mighty and strong, Whether they are large or very small, Crowned with beauty or no beauty at all.

There's a place for them all in the builder's wall, Whether they are hard or very soft, Even half bricks are wanted to fill up a space, But the finest and fairest to lay at the face; With bright red color, perfect and true, And used in the rear those of a paler hue, All laid in good mortar to make the wall strong, To battle for right and resist the wrong; This wall is the Grange, you and I are the bricks, And no matter whether we are thin or thick, Bright red, pale red, short, long, round or square, There is a place for us all in the wall somewhere."

For lecturer's hour consideration, the sister then passed round answers to the following questions:

No. 1. The aim of the lecturer's hour? Answer. To educate and elevate the American farmer.

No. 2. What has the Grange done for the farmer?

Ans. It was the Grange that taught farmers, after ages of isolation, to work together for their own general welfare.

No. 3. What does the Grange teach us? Ans. The Grange teaches higher ideals in farming, farming life, farm management and farm home-making.

No. 4. What has the Grange done for women?

Ans. It was the Grange that first recognized woman as the equal of man in all efforts for higher ideals in life.

No. 5. How to improve the lecture hour?

Ans. By having a complete system of literary exercises, discussions, music and social enjoyment.

No. 6. Why is the Grange like a tree?

Ans. A tree is known by its fruit, and from this standpoint the Grange stands out in bold relief because of its bold and multiplied achievements.

No. 7. What does the Grange say of true worth?

Ans. It was the Grange that taught that true worth can only be reckoned by the moral and intellectual attainments of men.

Various other answers were given to these questions and more than a half hour was pleasantly spent in their consideration and discussion. —J. T.

### SOQUEL GRANGE.

The Soquel Grange No. 349, in Santa Cruz County, is showing what a live, active chapter can do. Although it is one of the youngest, yet at the latest State Grange it had 25 more members than any other chapter, and since then has added almost fifty, making a total membership of 200.

Their success in co-operative buying is the leading feature of their work, and their membership being largely among the poultrymen, they have made a specialty of wheat and other chicken feeds, although they handle flour, sugar and other groceries. Extensive buying has been carried on for about twenty months. At present the business amounts to almost \$50,000 a year. The secretary, Mr. H. G. Sargur, is doing the buying. As an instance of their success: Wheat is being handled at from \$2 to \$16 a ton below the local market rate. At present arrangements are being made with a Rochdale store that is being started at Santa Cruz to furnish them goods on the same basis upon which they are paying for them now. Last summer the Grange took up the matter of transportation and forced the railroad to give them special service for cherries and berries shipped to San Francisco and at freight instead of express rates.

A wharf at Santa Cruz had been leased by the Southern Pacific and during their term steamship service had lessened materially. When their lease expired they refused to turn over the property. The Grange took up the matter and caused a plank to be inserted in the platform of both parties relating to this matter, and

# TREES TRUE TO NAME

—AND—

Propagated from the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

## PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches	Apricots	Apples
Plums	Almonds	Persimmons
Pears	Cherries	Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

ORDER NOW

WRITE US

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

## TREES GRAPE VINES YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES, ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

**THE FRESNO NURSERY**

F. H. Wilson, Proprietor, Fresno, Cal., Box 615.

## 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman, Petaluma, Cal.**

## SMYRNA PARK NURSERIES

Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

CAMPIN & MOFFET Ceres, Cal.

## EUCALYPTUS

Large Assortment—All Varieties Hardy and Selected Rapid Growers Write for prices, giving amount wanted LLOYD R. TAYLOR, Modesto, Cal.



## YELLOW MONEY —AND— YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor

SAN DIMAS, - - - CALIFORNIA

## SIX of the Most Valuable New Fruits

EVER INTRODUCED IN CALIFORNIA.

"IMPROVED FRENCH" PRUNE. Originated by Luther Burbank.

"CONCORD" WALNUT. French variety. Grafted trees only. Better than Franquette or Mayette.

"PAUL" CHERRY. Finest black cherry.

"PHILIPPI" GRAPE. Handsomer than Tokay; a month earlier. Disinfected cuttings only for sale; to comply with quarantine regulations.

All these, like Muir, Lovell, and Phillips Cling peaches, are of California origin.

"COMET" RED CURRANT. Much larger, earlier and sweeter than any other.

"MAY-DUKE" GOOSEBERRY. Earliest of all; large, smooth skin.

WRITE FOR FURTHER PARTICULARS

### EUCALYPTUS TREES,

by the 1000 or 100,000; no stronger stock: grown in the open, without lath screen or shade; therefore hardened to all weather.

### GENERAL NURSERY STOCK

LEONARD COATES NURSERY CO., Inc.

ESTABLISHED 1878. INCORPORATED 1905. Morganhill, Santa Clara County, Cal.

### EUCALYPTUS TREES

Eucalyptus Globulus (Blue Gum).  
Eucalyptus Rostrata  
Eucalyptus Viminalis (Red Gum).

#### MONTEREY CYPRESS.

Transplanted in flats 100 each.

W. A. REINHOLDT

Main Street Nursery, - - - Petaluma, Cal.

now it is in the hands of Senator Holahan and Assemblyman John B. Mayer.

One of their latest efforts is an attempt to start a Grange in Scott's valley for the convenience of those too distant to attend the local chapter. —E. R. D.

## Apiculture.

### CARNIOLANS AND SO-CALLED LONG-TONGUED BEES.

Written for the PACIFIC RURAL PRESS  
By MR. RALPH BENTON of the  
University of California.

The following inquiry is from Mr. P. L. Jones, of Washington, D. C.: "Kindly advise me if the Carniolan bee will gather as much honey for comb sale as any other bee. Is there any advantage in the long-tongued bees? Are they known to gather more honey?"

In general I would say that bees vary in the amount of honey they produce with their prolificness. Carniolans are among the more prolific bees, and as such are greater yielders of honey than perhaps the Blacks or Italians. Further, they cap their honey white, and so are valuable for producing comb honey. There has been considerable said about so-called "long-tongued bees"—long enough in some instances to effectively work in red clover, which ordinarily is not visited by the honey bee except in after crops, when the blossoms become smaller. The strain that Mr. Jones undoubtedly has in mind is the "Long Tongued Italian," for which it is claimed that the tongues have been lengthened by selection. In the Fourteenth Annual Report of the Colorado Agricultural Experiment Station, page 15, we find the following measurements given as the average length of the tongues of the several varieties of bees. The so-called Long Tongued Italians are included here under the head of Italians:

Hundredths Millimetre.

Germans .....	23.5—25.0
Italians .....	24.5—26.0
Carniolans .....	25.5—26.0
Cyprians .....	25.0—27.0

It will be seen that the length of the shorter tongued Italians is less than the longest tongued Blacks or Germans, and that the longest tongued Italians, including the so-called "Long Tongued" Italians, are at best no longer tongued than the longest tongued Carniolans, and not as long tongued as some strains of the Cyprians. This sounds like a death blow to the so-called long tongued bees. On the other hand, it is simply a statement of conditions as they exist, and we do not wish to discourage efforts to secure longer tongues in our bees, for we believe this can be done. We would suggest that among the Cyprians we have not only the longest tongued bees, but a still more important factor for the scientist to work upon, namely, a greater variation in the length of the tongue of the bee. The use of Cyprians, would give the investigator, in view of the well known law of sporting in plant and animal breeding, an opportunity, by the crossing of different strains of Cyprians, to undoubtedly secure better results, in view of their natural tendency to variation. This is a line of work of great possibilities, not only from the beekeeper's standpoint, in his being able to utilize a wider range of honey sources, but perhaps of far greater importance to the horticulturist, in the new possibilities of cross-pollination which a longer tongued honey bee would open up, since the honey bee is by far the greatest agency at work in the fertilization of our common fruits and seed crops. This is again a line of most profitable work legitimate for our State University to take up.

## IMPROVED BERRY PLANTS

Strawberry, Raspberry, Blackberry, Dew-berry, Logan, Phenomenal, Mammoth Black and Giant Himalaya berry plants. Crimson Winter Rhubarb. Send for Catalog

G. H. HOPKINS & SON  
BURBANK, CAL.

## TREES STANISLAUS NURSERY

Formerly Anady Nursery, of Sebastopol.  
T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
J. B. WAGNER, Pasadena, Cal.  
The Rhubarb and Berry Specialist. Dept. I.

## CHICO NURSERY COMPANY FRUIT AND ORNAMENTAL TREES, GRAPE VINES.

Walnuts grafted on Black Walnut Root.  
Small Fruits, Shrubs, Plants, Roses, Palms, etc.  
CATALOGUES FREE.

CHICO NURSERY COMPANY  
Office: Cor. Third and Walnut Sts. Phone: Red 1241.

## MODESTO NURSERY. Complete Line of Citrus and Deciduous TREES,

BERRIES, VINES AND ORNAMENTAL STOCK.  
Write for PRICES NOW.  
SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

## SEED GRAIN BLACK and RED OATS, WHEAT, BARLEY, BEAN SCREENINGS, etc.

constantly on hand and for sale at lowest market rates.  
BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans. San Francisco, Cal.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnocks Remedy cures blight and all the tree diseases. Send for booklet.

GOLDEN RULE NURSERIES  
Loomis, Cal.  
AGENTS WANTED

## Winegrowers, Take Notice

I am now receiving orders for

### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

JOHNSON & MUSSEY SEED CO.,  
113 N. Main St., Los Angeles, Cal.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

FOWLER NURSERY CO.,  
Fowler, Cal.

## EUCALYPTUS GROWN IN SUNSHINE

with roots balled while growing in flats. Saves all roots; make sure success when removed to the field and good growth the first season. Sample lots at wholesale rates. Can take from flats and send in tight packages to save cost, risk and time.

HENRY SHAW,  
320 River St., - - - Santa Cruz, Cal.

## SEED TREES PLANTS BULBS

If you are interested in the best seed, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you Free.

## Trumbull Seed Company

(SUCCESSOR TO TRUMBULL & BEEBE)  
61 California St., - - - San Francisco.  
Please mention this paper.

## Plants SEEDS Trees BULBS

### WE ARE HEADQUARTERS FOR GARDEN AND FIELD SEEDS

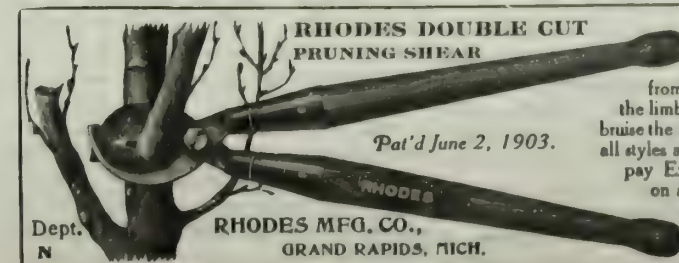
Those who are not yet in receipt of our Fall Catalogue, send for it at once.

Prospective planters of Alfalfa, Clovers, and Grasses are requested to write us before planting.

Remember—Our handsome new 1909 General Catalogue, ready for mailing in December, will also be sent to those who write us now.

## C. C. MORSE & CO.

44 Jackson St. Also Market St. San Francisco, Cal.



THE only  
pruner  
made that cuts  
from both sides of  
the limb and does not  
bruise the bark. Made in  
all styles and sizes. We  
pay Express charges  
on all orders.  
Write for  
circular and  
prices.

Dept.  
N RHODES MFG. CO.,  
GRAND RAPIDS, MICH.



## Live Stock and Dairy.

### BREEDS OF DAIRY CATTLE FOR THE IMPERIAL VALLEY.

Written for the PACIFIC RURAL PRESS  
By C. W. RUBEL, San Luis Obispo.

To the Editor: In the PACIFIC RURAL PRESS of October 17, page 249, second column, under heading, "Tulare Dairy Cow Contest," is a very short item. It would be of value as well as of interest if it had given a good full account.

I want to get some cows of the breed that will be of most profit to me. I want skim-milk for little pigs. I have alfalfa for pasture and will pasture unless cutting is more profitable. I wish to consider these items: Skim-milk, butter-fat produced, amount of feed needed per cow and time needed to milk and separate. I make no account of calves, because the heifers should be about equal. Steers also about equal for veal. If you take up this subject or refer me to some back copy of the PACIFIC RURAL PRESS or to some bulletin or other source, it will be of great help.—HARRY CROSS, Imperial valley.

P. S.—What is the best publication on diseases, etc., of hogs and pigs you can recommend.

Your correspondent brings up a most difficult question when he asks for information as to what breed of dairy cattle will be of most profit to him. If he were to put the question to a Jersey breeder, he would be assured that undoubtedly no cow would make him so much money as the Jersey. While if a Holstein man were to receive his query, he would be told that no breed is superior to the Holstein. Perhaps both of these men would be right. Any way it is yet to be proven if any breed of dairy cattle is superior to all others under all conditions. Both Holsteins and Jerseys have given excellent results in California, and where a man has taken hold of either breed with a proper understanding and an interest in his work his efforts have been largely crowned with success.

To attempt to draw conclusions from results of public tests and official records will lead us into difficulties. In the Tulare fair contest referred to by your correspondent, the first three places were won by Holsteins, the fourth being a Jersey. The cow winning first, Cantate Domino, produced in the seven days 369.5 pounds milk containing 13.457 pounds butter-fat, valued at \$3.97. During that time she consumed \$1.20 worth of food, making a net profit of \$2.77. This is a very good record, indeed, to be made at a fair. Many other records could be cited showing large yields for Holsteins; in fact, the world's record cow is a Holstein, having a record of 27,432.5 pounds milk, containing 998.26 pounds butter-fat, for one year. Yet in the St. Louis dairy cow demonstration and contest in 1904, perhaps the largest contest of its kind in recent years, we find the Jerseys heading the list in yield of butter-fat, and having quite a little margin on economy of production.

Up until 1907 the world's record for a yearly production of butter-fat was held by a Guernsey cow, Yeksa Sunbeam, with an official production of 857.15 pounds butter-fat in 12 months. So it is hardly fair to say that any one breed of dairy cattle are the heaviest producers or greatest money makers, but any breed will furnish individuals of high character.

However, we find certain conditions to which, perhaps, each breed is adapted. For instance, the Holsteins are the heaviest of all the dairy breeds, large framed, not very active and very heavy feeders. These cattle are good grazers, but give us best results when they do not have to cover too large an area to procure food. Being able to consume a large amount of food, they can handle a

lot of green feed, and give excellent results under conditions either of soiling or where a succession of green crops can be kept for pasturing and no large amount of concentrates are fed. We find Holsteins have been very successful in what is known as "The Islands" country about Stockton, where there is very rich lowland soil and abundant vegetation. These cattle are, as a rule, heavy milkers, though the milk is not rich in fat content. The cows are susceptible to good treatment, very tractable and not difficult milkers. The calves of this breed make the best veal of any of the special dairy breeds. In fact, Holstein calves are considered nearly the equal of calves of the beef breeds for veal. Being heavy milkers, these cows would furnish a large amount of skim-milk for pigs, but perhaps the milk would be not quite as rich in solids as Jersey skim-milk.

There is no reason why Holstein cattle should not prove a success in the Imperial valley, where with irrigation abundant crops of rough feed can be grown and green feed be on hand a large part of the year.

Jerseys and Guernseys are smaller kinds of cattle than Holsteins, perhaps not quite such heavy feeders, nor do they yield such a large quantity of milk. However, their milk, as a rule, is quite a little more rich in butter-fat and richer in color. The Guernseys, especially, are noted for the rich appearance of their milk, though not any higher in fat content than the Jersey. Guernseys are not at all common in California and have never been given the trial that the two other breeds mentioned have.

Jerseys are essentially adapted to intensive conditions. They are poor rustlers and when left to look out for themselves in a rough country do not give good results. However, when protected and cared for and provided with feed they are very economical producers. Jersey men as a rule do not make claims of exceedingly large production, but lay especial stress upon economy of production. The cows are perhaps not such heavy feeders as Holsteins, though in high-class dairy animals of any sort we look for large capacity for consumption of coarse feed; but still we find Jerseys along with Holsteins giving good satisfaction in the new alfalfa districts of California.

On the Island of Jersey we find most intensive conditions. The Island is devoted largely to the production of garden products for the large cities of England and the continent, the farms are small, closely tilled, and each farm having only a few cows. These animals are kept tied up most of the time, fed garden refuse, etc., and mill by-products. Under similar conditions there is probably no other breed that will give as good satisfaction as the Jersey. In this country these cattle have been criticised on account of small teats—making them difficult to milk—but this defect is being overcome in recent years. Jersey calves are of but little value for veal and are difficult to dispose of for that purpose. In deciding what breed of cattle will be of most profit to him, your correspondent will have to consider his particular conditions. Both Holsteins and Jerseys have given excellent results under conditions similar to those existing in the Imperial valley. As regards time required to milk and care for the milk there is practically no difference. The Holsteins would probably provide a little more skim-milk for pigs and Holstein calves would be worth more for veal.

The success of dairying in Imperial—and developments there promise to make that one of the leading dairy centers in the State—will depend more upon the dairyman and his methods than upon the breed of cattle. We would not hesitate

to advise the use of one of the special dairy breeds, the selection depending upon the taste or leaning of the dairyman and the selection being made, the breed should be closely adhered to. It would perhaps be a hard matter to start out with a herd of pure-breeds, but if breeding operations are begun with one kind of cattle, then stick to that kind. If a Jersey bull is used one year, then use a Jersey bull upon the heifers of this first bull, and keep on using males of the type selected. This will get a uniformity in type and production in a herd that can be secured in no other way. Many dairymen in California make the mistake of changing types every year or two. A Holstein is used a while, then perhaps a Jersey, and so on. This creates a lack of uniformity in a hard and oftentimes results in the undesirable features of all sorts used appearing in the herd.

With the conditions of economical production of feeds for dairy cattle as they are in Imperial valley, and with the prices for dairy products that exist in California, there is no reason why, with personal attention to details and adhering to type, that a man should not make quite a success of dairying in Imperial.

Bulletin No. 101, of the Nebraska Experiment Station, Lincoln, on "Dairy Herd Record for Ten Years," gives lots of valuable information regarding yield of different sorts of dairy cows and on cost of butter-fat production.

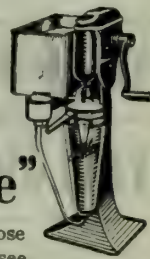
Bulletins Nos. 57 and 58, of the Missouri Experiment Station, Columbia, Mo., give information in regard to raising calves with skim-milk and on feeding dairy cows.

#### DISEASES OF SWINE.

In regard to disease of swine, "Swine Husbandry," by Coburn, treats of breeds and care of swine as well as diseases. This book can be procured from the PACIFIC RURAL PRESS office.

Bulletin No. 113, of Purdue University Experiment Station, Lafayette, Ind., discusses common ailments of live stock and general sanitary regulations and gives some attention to swine troubles. It

## "You've Got To Show Me"



Are you one of those men who have to see it—to believe it?

If you are, we want to do business with you, because we believe in letting a man see and try a

### Tubular Separator

before asking him to buy; for in the end it means a satisfied customer.

Compare a Tubular with any other make and see if it isn't easier to fill, oil, turn, handle and clean, and the simplest machine made.

To prove its efficiency, durability and economy, try one. Catalogue 131 tells how. Sent free upon request.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico. That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company

Warranted to Give Satisfaction.

### Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address  
The Lawrence-Williams Co., Cleveland, O.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

#### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.



gives information, among other things, of necrotic stomatis, or contagious sore mouth of pigs, a trouble which is not uncommon in the Imperial valley.

### A GOOD TALK ABOUT POISONOUS PLANTS.

A Pacific coast stockman who signs himself "Breeder" recently gave the North Pacific Rural Spirit an interesting talk on plants poisonous to stock and what to do to check their ill effects. In the range districts of California the same plants prevail and our readers encounter them or the evil they do the grazing animals.

**LOSSES THROUGH POISONING.**—It is probable in Oregon every year that between ten and fifteen thousand sheep are lost through eating the various poisonous plants that flourish upon certain of our ranges. These losses always occur in the spring or early summer, and a number of animals usually die at about the same time. For some reason or other nearly all sheepmen are imbued with the idea that saltpeter, maliciously placed upon the range, is the cause of this loss, and they seldom, if ever, take into consideration the fact that much of the forage upon the range when eaten under certain conditions, is highly poisonous to sheep and other livestock. In my opinion it is impracticable and impossible to maliciously poison sheep with saltpeter, as a dose of this substance that would be harmful to a sheep is certainly not less than one-half ounce. As this material is comparatively light, this quantity would furnish considerable bulk, and in order to place a sufficient quantity of it upon the range to do serious injury, even if the sheep would eat it, would require that it be distributed in such large quantities that its presence would be readily detected by the herder or owner of the sheep. When placed upon the range I am satisfied that the sheep will not consume to exceed one-fourth ounce of saltpeter, and this amount would not in any way impair their health.

These mysterious losses may all be attributed to the influence of poisonous plants, as throughout the entire mountain region of the West, there abound some six or seven different plants that are poisonous to livestock, and more particularly poisonous to sheep.

**HOW THESE POISONS ACT.**—The action of these plants when eaten by sheep is not entirely understood, as the conditions under which the plant is eaten seems to exert a profound influence upon its poisonous action. It is well known that many plants that are ordinarily non-poisonous may, under certain conditions, become highly poisonous. For example, alfalfa, a plant that is extensively used for feeding purposes is, under certain conditions, poisonous to livestock. We all recall instances where sheep or cattle have pastured on alfalfa for a considerable period without any loss, and then without any apparent cause whatever a considerable number of these sheep will develop bloat, and unless immediately attended to death will result. I know of many successful stockmen who are reluctant to pasture alfalfa on account of these mysterious losses. We know of no reason why alfalfa should be poisonous one day and not poisonous the next; but such is certainly the case. It is presumed that the weather has a considerable influence upon this cause. As with alfalfa, many other plants may become poisonous under unusual conditions.

**LOSSES DURING MOVEMENT OF SHEEP.**—The bulk of these losses occur during the period at which sheep are trailed from one range to another, or immediately after being turned upon their accustomed range in an extremely hungry condition.

Sheep that are ordinarily grazed upon a range do not consume these poisonous plants even if they exist upon such range; but if kept from the range until hungry, they naturally devour all green substances that come in their path when they are first turned on. Sheep that are being driven from one range to another naturally no not have time to select their food, and therefore consume a considerable quantity of these poisonous plants that they would not touch under more favorable conditions. In many cases I have seen sheep turned upon a new range and in a few hours great numbers of them would die. This undoubtedly was caused by the fact that they were unusually hungry, and that they were not thoroughly acquainted with the herbage of the region and, therefore, consumed everything with which they came in contact. Many will recall that in shipping sheep East, they are unloaded in certain grazing areas, yet the native sheep that usually grazed these districts never suffered from these poisonous plants. It is probable that all sheep grazing in regions where poisonous plants abound, consume more or less of these plants at all times, but they are always taken in connection with great quantities of non-poisonous grasses and plants, and consequently do not cause any loss.

**POISON PEA.**—One of the most poisonous plants is the Lupine or wild pea. This plant is ordinarily not looked upon as poisonous; and, in fact, I know of districts where sheep range among it constantly, and where it is largely used for hay, and does not occasion any loss of consequence, but should sheep unacquainted and unaccustomed to consuming this plant be turned upon such range the result would be appalling. I recall a train load of Oregon sheep unloaded at a point in Montana where there grew immense quantities of Lupine, and something like three thousand sheep died within a few hours. These sheep, of course, were very hungry, were not used to eating Lupine, and consequently under these conditions it was very fatal. Lupine grows throughout the entire mountain country and is extremely abundant in the foothills. The plant is probably poisonous at all seasons of the year, but more especially when the peas are ripening in the pods. I believe it is the one plant that occasions more loss in Oregon than all others combined, except the Death Camas.

**DEATH CAMAS.**—Death Camas is another widely distributed and highly fatal plant. It is commonly called the wild onion. Loss from poisoning due to eating this plant is generally occasioned where the plant is extremely abundant, and it is principally eaten during the months of May, June and July. It may be recognized as a tall, straight stem, somewhat similar to an onion, containing a white flowering top, and a bulb about the size of a marble. All portions of this plant are poisonous, but more especially the bulb, which remains in the ground and may be pulled up and eaten after the top has disappeared. This plant grows abundantly in high altitudes, but is generally more abundant in the little valleys and swales. Its poisonous principle has long been recognized by the Indians, and most any old Indian will tell you that two of these onions are sufficient to cause the death of a person. It seems that the Indians have used this plant for the purpose of committing suicide for a great number of years.

**WATER HEMLOCK.**—Probably the next poisonous plant of importance would be the water hemlock, or the water parsnip, which all recognize by its close similarity to the cultivated parsnip. This plant is particularly poisonous in the early spring, as it is one of the first of the mountain

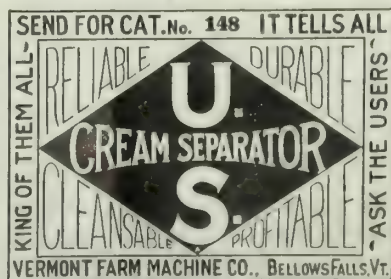
plants to make its appearance. The root, as well as the top of the plants, contains the poisonous principle. It is generally found in the moist places of the mountainous country, along streams and in the wet meadows. It is probable that this plant is more frequently eaten by cattle and horses than by sheep, but it occasions considerable loss in all classes of stock.

**WILD PARSNIP.**—Wild parsnip, or wild parsley, is also poisonous. This plant abounds on the high regions and in the foothill regions of all mountains and is frequently eaten by sheep. It is believed that the root of this plant contains the most active of its poisonous principles.

**LARKSPUR AND LOCO.**—Aside from these plants, the larkspur, both the large and small varieties, are poisonous. These plants are recognized by their blue flower, resembling somewhat the violet.

**Loco** is another poisonous plant, but as it produces chronic symptoms, the loss from it is generally spread over a great period of time.

[An account of symptoms and remedies will be given next week.—EDITOR.]



Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
Famous Blacow, Roberts, Glide  
French Merino Sheep.

Glide Grades seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams  
RAMS FOR SALE AT ALL TIMES  
P. O. Box 297 Sacramento, Cal. Home Telephone Dixon, Cal.

## THE TALK OF THE Cream Separator World The Improved De Laval

"It can't be beaten." "It's peaches and cream." "Nothing like it." "Ten years ahead of all others." "A triumph in separator construction." "Perfect in every feature."

These are but a few of the expressions one hears on every hand this year in praise of the new Improved DE LAVAL Cream Separator. From the Atlantic to the Pacific the Improved DE LAVAL has simply swept the field of all separator honors.

Well informed dairymen, once they investigate the new DE LAVAL, will have nothing else at any price or under any condition. In one instance 32 Wisconsin dairy farmers were forced to buy hand separators on account of their branch creamery closing down, and 31 of them bought DE LAVAL machines, notwithstanding all would-be competing makes of separators were hot after the business. Like instances can be pointed out in almost every section of the country.

The Improved DE LAVAL represents thirty years of manufacturing experience, and the expenditure of many thousands of dollars in experimental work. It represents the knowledge gained from nearly a million DE LAVAL machines in practical use by dairymen throughout the world. It represents the best ideas and brain work of the world's most skilled separator and mechanical engineers. It is the product of the largest and finest equipped separator factory in existence.

Surely the 1908 DE LAVAL is ten years ahead of all others. If you haven't bought yours, write today for a DE LAVAL catalogue and any desired information.

### DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Courtlandt Street  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 First Street  
PORTLAND, OREG.  
1010 Western Ave.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE. W. R. McCallin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

## Pure Bred Holsteins

At present we are offering a fine lot of **Young Bulls and Heifers** at very attractive prices. All of this stock have large **Advanced Registry Records** in their pedigrees and are from the famous **Riverside Premier Herd** of the Pierce Land and Stock Co. now owned by the

**OAKWOOD STOCK FARM**  
LATHROP, CAL.

**FOR SALE**  
FOUR THOROUGHbred AYRSHIRE  
BULLS, Aged 12 to 20 Months.

If you don't want tuberculosis, breed the Ayrshires.

J. W. & J. D. McCORD,  
Phone Red 123. Hanford, Cal.



## The Poultry Yard.

### GOOSE RAISING ON THE COAST.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

Quite a number of years ago we heard an amazing story of the profits netted from a goose farm hereabouts. It was told by a real estate man of East Oakland, and, allowing for a few frills and exaggerations, which, like poetic license with poets, are legitimate with realty dealers, the story was authentic. The goose, since the feather bed went out, seems to have fallen from interest with American farmer folk, but it ranks with the goat in popularity with other nationalities; the two sharing in the humble fortunes of the peasantry of other lands and filling a large place in the way of food supplies. In our market the demand for both geese and ducks is mostly from this class, the Chinese especially using large numbers during their New Year's and other festivals. Prices for geese range from 75 cents to \$1.50 each in our market. The feathers of the goose are a valuable source of profit; each goose will average one pound per year of feathers. There is always a market for goose feathers at maximum figures.

Those of our farmers who are properly located for the purpose will find geese a very profitable by-product. Geese require free range and water. If the farmer has a portion of land unfit for cultivation and connected with a spring, creek or pond, which he can turn into a goose pasture he can keep them at small expense and with little labor. The goose is a grazing animal and while it can get plenty of grass and forage it requires little other feed. Geese are long-lived, some having been known to reach the age of 40 years, while 15 to 20 years is no uncommon age; also they retain their reproductive powers through life. Experienced raisers, however, advise against keeping the gander after the third year, as old ones become very quarrelsome and fertility of the egg is apt to be lower. Geese are said to be at their best for breeding purposes between the ages of two and six years.

There are seven standard varieties of geese, the most popular of which are the Gray Toulouse, White Embden and the Gray African. These three breeds are each about the same standard weight, being 20 pounds for the gander and 18 for the goose.

The Toulouse is the popular goose in England and much attention is given to this breed both for market purposes and the show room. They are good layers, averaging about 40 eggs a season, but their flesh is considered more coarse than that of some of the other breeds.

The Embden is pure white and lays a large, white egg, but only some 20 in a season.

The African has a large head ornamented with a knob and a dewlap. Geese of this breed grow fast and take on weight quickly, often exceeding the standard weight by several pounds and their flesh is fine-grained and well flavored. To those raising geese largely they are recommended as being "the quickest to mature, the most prolific and the easiest to handle."

Geese should be mated by the middle of December to insure fertile eggs, as they are slower than other poultry in mating. A gander and three geese are called a "breeding team." The laying season begins about the first of February. Geese are good sitters and mothers, but usually the first two layings are hatched under hens and the mother goose

permitted to hatch and rear the third and last laying.

The following excellent rules for goose culture are from the large Couch goose farm at Moravia, N. Y.:

"MANAGEMENT OF BREEDING STOCK.—Confine to pasture where they can pick their own living for six months. During the breeding season feed twice daily in addition to grass. In the morning shorts and cornmeal, equal parts, mixed to crumbly state, and 10 per cent beef scraps; only what they will eat up quickly. Afternoon, whole grain placed in small boxes. Plenty of shell and pure water.

"CARE OF GOSLINGS.—Keep dry and moderately warm while downy, confine in small movable pens and change to fresh grass daily. For 36 to 48 hours give nothing but tender grass; after that feed every two or three hours a mixture of one-third cornmeal and two-thirds shorts wet and squeezed almost dry; avoid sloppy food and feed sparingly. After a week give scalded cracked corn and a grass run.

"FEEDING FOR MARKET.—To fatten goslings, confine when five to six weeks old and make corn meal the principal feed; add some beef scraps and allow them some grass. Of the large breeds, they should weigh from 10 to 12 pounds at ten weeks; market at this age. Reserve the smaller breeds until the holidays."

LITTLE LEAKS.—The first hard rain of autumn is apt to find many little leaks in the poultry quarters and management; but if the poultryman is up to his business the second rain will find none such. The yards should be carefully ditched and drained so there can be no water standing in puddles. Fowls still hark back to nature when they drank from pools and streams and will always drink from the puddles in preference to a dish. This filthy water is very unwholesome for them. Fill up and drain the puddles. Where this cannot be entirely done, dust them over with air-slacked lime. This sweetens and disinfects them; also scatter the lime in corners and damp places; be sure that there are no foul, slimy old sacks and boards lying about the poultry yards.

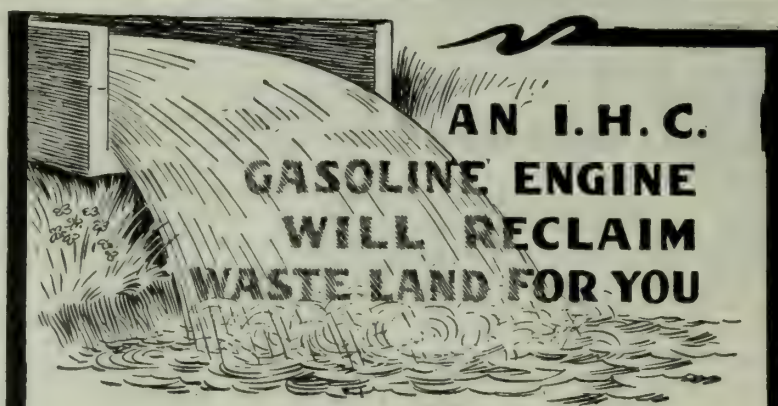
A warm scratching shed under the poultry house deeply littered with clean dry straw where wheat and cracked corn are hid is excellent for the biddies on these chill or frosty mornings. Instead of getting cold feet and chilled from running over the frosty ground—which means a set-back in egg production—they will be warm and happy scratching the grain from among the dry straw.

Also empty the drinking vessels at night and wipe them. In the morning fill with water fresh pumped from the well or that which has the chill off. Hens usually run to the drinking cups the first thing and the ice-cold and often dirty dregs left over from the previous day do not tend to the production of the nickle egg. Attention to these small details is what makes for success in the poultry business.

The hen is getting into the fashions. Nearly all of the ultra-fashionable ladies' journals are devoting a department to her. Biddy is coming on some, but we trust she will never get too fashionable to lay an old-fashioned egg.

**125 Egg Incubator and Brooder Both For \$12**

It ordered together we send both for \$12 Freight paid east of Rock-les. Hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Wisconsin Incubator Co., Box 117, Racine, Wis.



Have you ever thought of the possibilities of ten, twenty, or more, acres of dry land if you had an I. H. C. gasoline engine to pump water to irrigate it? The land without water is practically valueless. It can be had for a few dollars per acre.

With the land under water you can raise bumper crops of grain, potatoes, grass, fruits and vegetables.

I. H. C. gasoline engines operate powerful pumping machinery.

They enable you to reclaim waste land and to make it worth anywhere from \$25 to \$200 per acre.

They require but little of a man's time to care for them. For the most part, the operator may go about his other irrigating or farm duties. The engines, when supplied with fuel and started, practically run themselves.

Water can always be had somewhere. The problem is to get it upon the land. I. H. C. engines enable you to take water from low lying ponds, sloughs or running streams and raise it so that it is available for irrigating the higher lands.

In many places farmers are irrigating from wells, or are using the underflow. I. H. C. engines enable them to pump the water where it is wanted and to farm their lands at a good profit.

Have you on your farm a piece of land that is unprofitable because you cannot get the water upon it?

Or have you your eye on a tract you would like to homestead if you could irrigate it?

Investigate the I. H. C. gasoline engines and see how well they will solve these problems for you.

International local agents will supply you with catalogs and all particulars. Or, if you prefer, write to the nearest branch house.

WESTERN BRANCH HOUSES: Denver, Colo.; Portland, Ore.; Salt Lake City, Utah; Helena, Montana; Spokane, Wash.; San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA  
(Incorporated)  
CHICAGO, U. S. A.

## Coulson's No. 3 Condition Powders

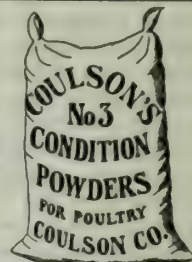
BEST AID FOR GETTING HIGH PRICED EGGS

A splendid tonic and digestive. Enables hens to lay lots of eggs during fall and winter.

Sold by Dealers.

Manufactured only by

**Coulson Poultry and Stock Food Co.**  
PETALUMA, CALIFORNIA.



### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buff's excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements Cal. Large size, good plumage, early maturity

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

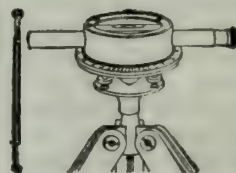
## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal.

## BOSTROM'S IMPROVED FARM LEVEL



**Cheapest and Best Level yet Invented for Farm Use.**

Used for Irrigation and Drainage Work

Has the latest patented improvements in simplicity and usefulness.  
Can be operated by anyone.

Price, Including Telescope Tripod and Target Rod, \$15.00.

## Palace Hardware Co.,

581 Market St., San Francisco  
Coast Agents. Send for Circular.

**Stickney Gasoline Engines ARE THE BEST**

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine Stationery and Portable 1 1/2 to 16 h.p.

We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE



## The Home Circle.

### Cometh a Blessing Down.

Not to the man of dollars,  
Not to the man of deeds,  
Not to the man of cunning;  
Not to the man of creeds;  
Not to the one whose passion  
Is for the world's renown,  
Not to form or fashion  
Cometh a blessing down.

Not unto land's expansion,  
Nor to the miser's chest,  
Not to the princely mansion,  
Not to the blazoned crest;  
Not to the sordid worldling,  
Not to the knavish clown,  
Not to the haughty tyrant,  
Cometh a blessing down.

Not to the folly blinded,  
Not to the steeped in shame,  
Not to the carnal-minded,  
Not to unholy fame;  
Not in neglect of duty,  
Not in the monarch's crown,  
Not at the smile of beauty,  
Cometh a blessing down.

But to one whose spirit  
Yearns for the great and good;  
Unto the one whose storehouse  
Yielded the hungry food;  
Unto the one who labors  
Fearless of foe or frown;  
Unto the kindly-hearted  
Cometh a blessing down.

—Mary Frances Tylep.

### A Jumping Fish Story.

"You may talk about fish stories," said the old angler, giving the fine reel a twirl and listening in a sort of ecstasy to the music of its click, "but it isn't the biggest fish that makes the best story. Last summer I was fishing at Monterey Bay for salmon. We went out early in the morning, when the water was still and smooth as glass. Near us I noticed a big black spot, and asked the boatman to row over toward it.

"I found it was a solid mass or anchovies, and around about the school, which was at least one hundred feet across, swam a number of white sea bass, floating in a regular gastronomic paradise. There must have been millions of fish in the bunch.

"You wouldn't think a school of little fish like that could be a possible danger, would you?" asked my boatman. "Well, I was fishing out yonder in deep water, trolling alongside of a big school of anchovies, when all at once up came a sixty-foot gray whale, not twenty feet away from the boat. He came up standing on end, with mouth wide open, and the anchovies just jumped every way in solid masses, sliding into my boat like a waterfall; and they did it so quick that she was nearly full before I could move. If I hadn't got my sail over it, so that the rest of them fell overboard, I'd have been sunk by them. Tons of fish poured over me, and how many tons the whale swallowed I couldn't guess. So, you see, a man could be drowned by little anchovies, not two inches long, when they combine."

"I've seen these black balls of anchovies myself," said another of the group. "I've seen a swordfish jam into them, leaving a thousand pieces of silver, as it were, sinking like stars. But when it comes to small fish sinking a boat, I've seen it done in Florida, and by mullet. Some years ago I was fishing in the Indian river. Near our camp was a little stream that led back into the country. The mullet had been running up-stream for several days, in big schools, and when I went out one

night, so many jumped aboard my skiff that they nearly filled it.

"About this time a party of Northerners came along in a small yacht, among them an Englishman of the kind that is looking for Indians in Chicago. At night he expressed a desire to go after flying fish. There wasn't any flying fish in the river, so far as I knew, but we told him to go out in his skiff and put a string of Japanese lanterns from bow to stern, anchor her in midstream, and the flying fish would fly into the boat. So the blooming duffer did so, and we sat on the bank watching him and laughing.

"He sat about an hour, when suddenly we heard rippling and splashing like muttering thunder, and up the river came the biggest school of mullet I have ever seen. They surged along and, finding the skiff across the bar, they began to jump into it.

"As one fish landed in the Englishman's lap and another hit a lantern he shouted, 'They've begun to fly!' They certainly had. The fish jumped into the skiff by twos and three, then as he hit the water with an oar, by fours and fives, then by dozens, and as the lights were gradually bombarded out by the fish we laughed till we cried.

"The Englishman, excited and hit by the fish, began to strike at them with his oar; then, demoralized, he leaped over into the shallow water, which resulted in a school of mullet literally pouring over into his boat, at which he cried for help. We waded out and towed the skiff in, and she was full of mullet to the top of the seats."—N. Y. Sun.

### Clippings From the Fashions.

Hips are out of fashion.

The short, plump woman is not "in it" with the clinging, sheath gown, and if she be wise she will not try to get in it.

For the fashionable woman who is broad and plump, reduction is the work of her day. Walking, climbing, exercising on the horizontal bar, rolling on the floor (to reduce a double chin) are some of the methods practiced in the high-priced "beauty" parlors. Walking is said to be the best for taking down the hips and the waist line when it is too high and too big. Then the appetite for pastries and sweets must be reduced; the day should begin with a cold shower bath and a cup of coffee without cream or sugar though plain milk is allowed. Green food, it is said, has great effect upon fat. The woman who will live upon greens will solve the problem of a good figure. Lying abed lays on adipose, and the trainer's day must begin early and last long. Who shall say that Fashion has not its heroines? However, we who are not inclined to be heroic even for fashion's sake are assured by that dame that not every modish frock or costume is aggressively Directoire in character; not every delightful skirt is intricately draped or extravagantly clinging. There are modifications of prevailing ideas for all sorts of figures, and the wise woman is she who contents herself with the one of these modifications most adaptable to her own limitations and requirements and does not essay the impossible in the line of the season's extremes.

In gathering together the materials for a gown harmony, not contrast, is the idea to bear in mind. While different tones of one color may be employed to advantage, no second color enters the composition this season, except in tiniest touches in the trimmings. In colors, darker shades have the preference, and black either alone or in combination with white promises to be very popular. Black gowning has generally the dual advantage of dis-



**Every Blade Tested**

Like all the famous Keen Kutter Tools and Cutlery—not a single Keen Kutter Safety Razor is sent out until it is worthy to uphold the well-earned reputation of the name. Every blade is tempered, ground, honed and tested until it will cut a hair at any part of its edge. The

**KEEN KUTTER**  
Safety Razor

is the only one adjusted to give the sliding stroke that cuts the beard clean and smooth without pulling.

The angle of the blade is exactly right to cut close without scraping.

The quickest, closest, smoothest, most comfortable shave—any time—any where—is assured with the Keen Kutter. The Keen Kutter Safety Razor is guaranteed.

Silver Plated in Genuine Black Leather Case, \$3.50.  
Gold Plated in Genuine English Pig Skin Case, \$5.00.

If not at your dealer's, write us.

**SIMMONS HARDWARE COMPANY (Inc.)**  
St. Louis and New York, U. S. A.

The new home of The Emporium offers holiday shoppers a magnificent and complete stock to select from, the most modern and complete store in the west, with broad aisles, plenty of elbow room, waiting and rest rooms, and a cafe second to none.

California's Largest **The Emporium** America's Grandest  
SAN FRANCISCO, CALIFORNIA

## THE HAMLIN SCHOOL Country Boy Preferred

2230 Pacific Avenue, also  
2117-2119 Broadway St.  
SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909. For further particulars address

**Miss Sarah D. Hamlin,**  
2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

**San Francisco Business College**  
733 Fillmore St., San Francisco, Cal.

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

**GEARHART OIL BURNER CO.**  
1922-1924 Fresno St., FRESNO, CAL.



function and economy. Its unbecoming effect next to any but a fresh fair face is its drawback; but as Helen D. Purdy, who conducts the fashions for Ladies' World, says, no matter what the color of the gown its treatment at the neck determines its effect upon the face. This is why the chemisette and small yokes of lace or soft white chiffon have established themselves so firmly and the newest neck pieces show an increased quantity of lace and other white stuff in their making. Another fashion authority says the touch of white next to the face is persistent despite the effort of Parisian designers to run the color of the blouse or frock quite to the collar top. Few complexions can undergo this latter test successfully and women hold the more becoming idea.

When a ready made blouse can not be secured to match the costume women often have recourse to the dyers, buying a white blouse that is satisfactory and having it dyed the desired color. So skillful are the dyers nowadays that this may be done with entire success and at an expense comparatively slight if the materials used in the blouse are good.

The blouse ensuite has to a great extent replaced the separate blouse in the cold weather wardrobe, and the silk waist in its old time guise is hopelessly out of fashion, but many women sturdily cling to the separate blouse of white or cream color, and one has only to make a casual survey of the waist departments in the popular shops to see that the ready made blouse is still in great demand.

In furs never did a fashion afford more opportunity for the utilizing of old small furs than does the little close high collar which is the fad of the moment, and many of the smartest collars contain but scraps of fur, the greater part of the models being made up of velvet, satin and ruching of one sort and another. Of course there is everything in the way this little arrangement is put together; but any clever woman after a careful study of the imported collars, can select her materials and with some little help of a furrier, or perhaps even without his aid, manufacture a very fair duplicate of some admired model.

The earring is in social favor again, announces the N. Y. Sun. Again the earring is received in the highest social circles of this country as well as Europe. Ten years ago, after a decade of steadily waning popularity, it disappeared from the jewel box of the smart New York woman, and girls congratulated themselves because having the ears pierced was no longer a fashionable necessity. Nowadays it is possible to wear earrings without mutilating the ears. Most of the new earrings are finished with a screw-back which clasps the lobe of the ear closely. "Screw the thing till it hurts," was the direction given by the jeweler, "and there is little or no danger of the thing slipping away. Women who object to the painful pinching even in so worthy and becoming a cause must, of course, have their ears bored or go without earrings."

How to make a tall man short — ask for the loan of a few dollars.

A ticklish position—standing upon trifles.

Wigg — Young Bighead seems to think he is destined to set the world on fire.

Wagg — Well, I don't see that the insurance people are very much worried over it.—Philadelphia Record.

"Physical culture, father, is perfectly lovely. To develop the arms I grasp this rod by one end and move it slowly from right to left."

"Well, well," exclaimed her father, "what won't science discover? If that rod had bristles at the other end you'd be sweeping."—Pick-Me-Up.

School Teacher (during lesson in natural history) — Tommy, what animal supplies you with boots, shoes and meat to eat?

Tommy (after scratching his head) — I expect it's dad.—Illustrated Bits.

## THE MARKETS.

San Francisco, Dec. 2, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

The demand in the local market is very moderate, as it has been for some time past, with buyers taking only enough for their current needs. Stocks, however, are not heavy, and the market is quite firm, the same prices being quoted as before. There is very little interest in futures.

California White Australian	\$1.75 @ 1.80
California Club	1.67 1/2 @ 1.70
California Milling	1.70 @ 1.72 1/2
California lower grades	1.45 @ 1.60
Northern Club	1.65 @ 1.67 1/2
Northern Bluestem	1.72 1/2 @ 1.77 1/2
Northern Red	1.62 1/2 @ 1.65
Turkey Red	1.75 @ 1.80

### BARLEY.

The speculative market shows a further decline, and all grades of the cash grain except Chevalier are also lower. Some choice feed has been sold in the last few days as high as \$1.46 1/2, but the usual price is as quoted. There is little demand for brewing grain, but a lively export movement has taken place during the last few weeks. This movement is likely to continue for some time.

Brewing	\$1.47 1/2 @ 1.50
Shipping	1.47 1/2 @ 1.50
Chevalier	1.57 1/2 @ 1.62 1/2
Good to Choice Feed, per ctl.	1.43 3/4 @ 1.45
Common Feed	1.40 @ 1.42 1/2

### OATS.

Conditions have not yet changed materially, though the general rain of the past week was expected to bring out a general demand for seed. So far, however, very little business is being done. Stocks in this market are still light and very firmly held at former prices, and arrivals from the North are light. The northern market is reported extremely strong, as growers and dealers in the interior of Oregon are unwilling to sell, but the movement there, as here, is light.

Choice White, per ctl.	\$1.70 @ 1.75
No. 1, White	1.65 @ 1.67 1/2
Gray	1.65 @ 1.70
Red, seed	1.75 @ 2.00
Feed	1.50 @ 1.70
Black, seed	2.45 @ 2.65

### CORN.

Continued dullness characterizes this market. All California grades are nominal, as there is practically none on hand, though a lot of California yellow has been moved recently at 1.32 1/2. There is some decline in the prices asked for future deliveries of Western grades, but local buyers are taking very little interest.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	Nominal
White	Nominal
Western State Yellow	\$1.65 @ 1.70
Mixed, in bulk	1.53
White, in bulk	1.54

### RYE.

There has been some movement of this grain at \$1.42 1/2, though most holders are still asking the former price. The market is quiet, as the demand is limited.

Rye	\$1.42 1/2 @ 1.50
-----	-------------------

### BEANS.

The heavy shipments seem to be about over, though there is still a fair inquiry, and the market continues steady. The principal demand at the moment is for pink beans. The receipts of beans during October amounted to 162,000 sacks, and stocks on hand the first of the month show quite a material decrease, amounting at present to 244,000 sacks. Shipments from here during November totaled 58,000 sacks, which is considered a light movement for that month. Some reduction has been made in the price of lima beans in the South. Stocks of white beans are light and held at firm prices. Red beans are also rather scarce, and show an advance.

Bayos, per ctl.	\$2.90 @ 3.00
Blackeyes	3.25 @ 3.50
Cranberry Beans	2.60 @ 2.85
Garbanzos	2.50 @ 2.85
Horse Beans	1.50 @ 2.00
Small Whites	4.35 @ 4.65
Large White	3.65 @ 3.85
Limas	4.35 @ 4.40
Pea	4.50 @ 4.75
Pink	2.40 @ 2.60
Red	3.50 @ 4.00
Red Kidneys	3.25 @ 3.50

### SEEDS.

No change so far is noted in prices, but the demand shows considerable improvement in nearly all lines. Dealers do not yet report any rush of business, but the movement is due to increase from now on.

Alfalfa, per lb.	16 @ 17 1/2 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	4 1/2 c
Flaxseed	2 1/2 @ 3 c
Hemp	4 1/4 @ 4 1/2 c
Millet	2 1/4 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

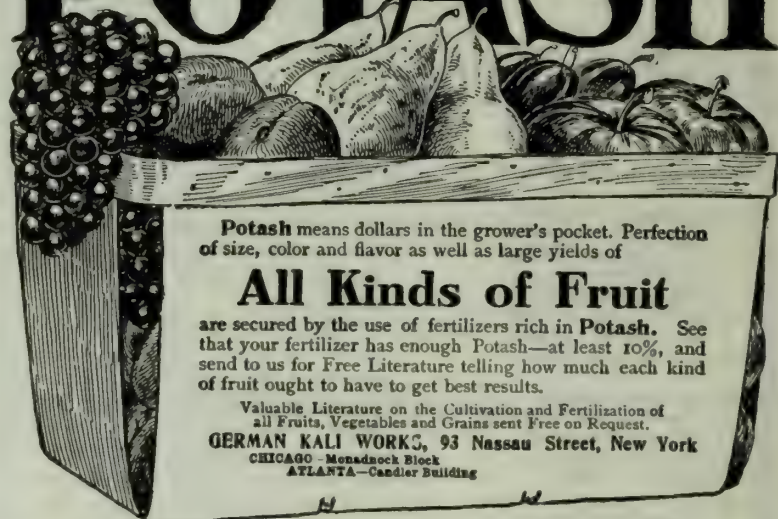
This market is quiet, the demand being mostly local, and showing little change from week to week. There has been some movement for export, but shipments are light. Prices are quoted the same as before.

Bakers' extras	5.40 @ 5.65
Superfine	4.20 @ 4.50
Oregon and Washington	
Family	4.90 @ 5.40

### HAY.

A decline is reported in some of the outside markets since the rain, but local conditions have not been affected, and prices are practically as before, though there is a slight fluctuation from day to day. There has been a marked diminution in arrivals during the week, the supply being cut

# POTASH



Potash means dollars in the grower's pocket. Perfection of size, color and flavor as well as large yields of

## All Kinds of Fruit

are secured by the use of fertilizers rich in Potash. See that your fertilizer has enough Potash—at least 10%, and send to us for Free Literature telling how much each kind of fruit ought to have to get best results.

Valuable Literature on the Cultivation and Fertilization of all Fruits, Vegetables and Grains sent Free on Request.

**GERMAN KALI WORKS, 93 Nassau Street, New York**  
CHICAGO—Menashaech Block  
ATLANTA—Candler Building

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## Our No. 8 Single Buggy Harness

Bridle 3/4 inch—square or sensible blinkers. Lines 3/4 and 1 1/2 inch.  
Breast collar 3 inch, V shape. Traces 1 1/2 inch.  
Saddle 3 1/2 inch, full patent leather, or our flexible trimmed nickel or imitation rubber.

Price per Set, \$15.50 net.

This harness is the best in the market for the money. If you should not be pleased with it, return it and we refund your money.

## Lastufka Bros. & Co.

1659-1661 Market Street  
San Francisco, Cal.

Write for Catalogue.

down in order to maintain prices. It is considered that heavy shipments are not warranted by the condition of stocks in the country, which should be conservatively handled to bring the best prices.

Choice Wheat, per ton	\$20.00 @ 22.00
Other Grades Wheat	16.00 @ 19.50
Wheat and Oat	15.00 @ 20.00
Tame Oat	15.50 @ 19.00
Wild Oat	14.00 @ 18.00
Alfalfa	11.00 @ 15.50
Stock	11.00 @ 13.00
Straw, per bale	60 @ 95c

### MILLSTUFFS.

The leading lines of millstuffs continue rather scarce as the export demand for flour is not sufficient to keep the mills in full operation. The market, however, is only steady, as the continued high range of prices tends to curtail the demand, and supplies are sufficient for current needs. Miscellaneous feedstuffs are moving about as usual, with prices unchanged.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Brans, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Broom Corn Feed, per ctl.	1.20 @ 1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Meal/alfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	28.00 @ 32.00
Oil Cake Meal, per ton	38.00 @ 39.50
Rollod Barley	30.00 @ 31.00
Shorts	33.00 @ 35.50

### VEGETABLES.

The leading lines of millstuffs continue plus on hand and another slight advance in some prices, although the demand is not especially large. Tomatoes are no longer plentiful, though there is considerable poor stock offering at 50 cents. Choice lots are now held as high as \$1 per box. Most of the miscellaneous vegetables are now coming from the South, and the arrivals are not heavy, but with a limited demand there is not much advance in prices. Celery is steady, and summer squash is lower. Beans and peas are also rather easy.

Onions, ctl.	75 @ 85c
Garlic, lb.	7 @ 8c
String Beans, lb.	6 @ 8c
Green Peas, lb.	7 @ 8c
Cabbage, per ctl.	\$1.00
Marrowfat Squash, per ton	10.00 @ 15.00
Tomatoes, box	50 @ 1.00
Turnips, sack	60c
Bell Peppers, lb.	7 @ 10c
Chili Peppers, lb.	5 @ 6c
Cucumbers, box	1.50 @ 1.75
Egg Plant, lb.	5c
Caulliflower, doz.	50 @ 60c
Summer Squash	50 @ 1.00
Celery, doz.	25 @ 40c
Rhubarb, box	1.00 @ 1.50

### POULTRY.

The Thanksgiving turkey market was hardly as good as was expected, prices being held down partly by the rainy weather and partly by the fact that much of the stock received was of poor quality. There was a good clean-up last week, however, hardly anything being left on hand at the

close. Little dressed poultry has arrived from local points this week, and receipts of live stock are moderate, with the Eastern arrivals about up to the average. Poor stock receives little attention, but good lots still bring satisfactory prices, though most of the quotations are a little lower than last week. There is still a good demand for fancy turkeys, and a ready market is expected for them until the end of the year.

Broilers	\$4.00 @ 5.00
Small Broilers	3.50 @ 4.00
Fryers	5.50 @ 6.50
Hens, extra	7.00 @ 9.00
Hens, per doz	5.00 @ 6.00
Small Hens	4.00 @ 4.50
Old Roosters	4.00 @ 4.50
Young Roosters	6.50 @ 7.50
Young Roosters, full grown	7.50 @ 8.50
Pigeons	1.00 @ 1.25
Squabs	2.00 @ 2.50
Ducks	4.00 @ 8.00
Geese	2.00 @ 2.50
Turkeys, live, per lb.	19 @ 21
Turkeys, dressed, per lb.	25 @ 27

### BUTTER.

Receipts of butter have been considerably larger than for some time past, especially of the extra grade, and as the demand has not been much larger than usual, extras have declined. They are now higher than a few days ago, but show no particular firmness. The lower grades show more strength, firsts, seconds, and storage stock having advanced.

California (extras), per lb.	37 c
Firsts	28 c
Seconds	25 c
Thirds	20 c
Eastern extras	37 c
Ladles, extra	32 c
Cal. Storage, extras	27 c
Pickled Butter	23 1/2 c
Packing Stock, No. 1	21 1/2 c

### EGGS.

All lines of fresh stock are weak at present, the upper grades being offered at considerably lower prices. The demand has fallen off since last report, and while there is little increase in arrivals, the local dealers are anxious to keep their stocks closely cleaned up, on account of the rainy weather. Cheap stock meets with a good demand at firm prices.

California (extra), per doz.	50 c
Firsts	45 c
Seconds	40 c
Thirds	29 c
Storage, Cal., extras	35 c
Storage, Eastern, extras	28 1/2 c

### CHEESE.

The upward movement of cheese has not yet come to an end, the whole market being quite firm, with a good demand and no surplus of stock on hand. Fresh California flats are 1 cent higher, and there has been 1/2 cent advance in Y. A.'s and storage flats.

Fancy California Flats, per lb.	15 1/2 c
Firsts	13 c
New Young Americas, fancy	14 1/2 c
Oregon Flats	14 c
Oregon Y. A.	16 1/2 c
Storage, Cal. Flats	12 c
N. Y. Cheddars	17 c
Storage, Oregon Flats	11 c

### POTATOES.

Potatoes show somewhat more firmness than last week, and the market is in bet-



ter condition, with the surplus well cleaned up. Choice stock has been in good demand, and is quoted at higher prices, though common river stock finds small demand. Arrivals of sweet potatoes have again been large, causing a reduction in quotations.

River Whites, fancy, cti.	65@	90c
Common	50@	60c
Salinas Burbanks, cti.	\$1.25@	1.55
Oregon Burbanks, cti.	1.15@	1.25
Sweet Potatoes, cti.	1.40@	1.50

## FRESH FRUITS.

The market on deciduous fruits is very quiet and inclined to weakness. Grapes, pears, and quinces are plentiful, and although prices are considered low, the movement is small, with the trade buying only for current needs from day to day. Arrivals of apples have been large, both from Oregon and from local points, and most of this stock is going into storage. Prices are a little higher for choice stock. Berries are becoming scarce, causing higher prices for anything like desirable stock, and Cape Cod cranberries are also higher.

Apples, fancy	75c@	\$1.15
Apples, common	40@	75c
Strawberries—		
Chest	\$7.00@	\$12.00
Raspberries	10.00@	\$12.00
Cranberries—		
Cape Cod, bbl.	14.00@	\$15.00
Coos Bay, box	3.50@	3.75
Grapes, crate	85c@	1.25
Pears, box, Winter Nellis	75@	1.25
Other varieties	50@	75c
Quinces, box	50@	65c
Persimmons, box	50@	1.00

## CITRUS FRUITS.

The citrus market is not yet as active as it should be, and with increasing arrivals, prices on oranges show a further decline. Tangerines receive little attention, and very few navel oranges are selling over \$2.50, though some fancy brands bring considerably above quotations. Ordinary lots of grapefruit are lower. Lemons and limes are unchanged.

Choice Lemons	\$2.00@	2.50
Fancy Lemons	3.00@	3.50
Standard	1.25@	1.50
Limes	4.00@	5.00
Oranges—		
Valencias	1.50@	3.00
Navel	1.75@	3.00
Tangerines	85c@	1.00
Grape Fruit	3.50@	4.50

## DRIED FRUITS.

The market on most lines of fruits continues to show some improvement, some lines showing a slight advance, though this condition does not extend to all descriptions. Some inquiry for prunes is reported, but the movement is very light at present, and some of the local packers are quoting lower prices, as below. Pears are also lower for ordinary lots. Apricots are in more demand, and as they have become quite scarce the price is higher. The market for evaporated apples is more active and firmer, with a better Eastern demand, and prices have been increased by 1/2 cent. Peaches and figs are unchanged, but the latter are in a strong position. The raisin market is still rather unsettled. Notwithstanding the strong position of the Fresno pool, Eastern buyers appear to be taking little more interest than formerly, and the local packers are buying only what they can get at easy prices for their current needs. Most of them seem to be already well supplied, and have made 1/2 cent reduction in their quotations on loose Muscatels. The following prices are quoted by local packers:

Evaporated Apples	5 1/2@	6 1/2c
Figs, black	2 1/2@	3c
Figs, white	3@	4c
Apricots, new crop	8@	10 1/2c
Peaches, new crop	4@	5 1/2c
Prunes, 4-size basis	4@	7c
Pears, new crop	4@	7c

## RAISINS—NEW CROP.

Loose Muscatels, 4 crown	4 3/4 c
3 Crown	4 1/4 c
2 Crown	3 3/4 c
Thompson Seedless	4 1/2 c
Seedless	4 1/4 c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25 @ 1.35

## NUTS.

Prices on nuts are unchanged. Some of the southern associations have already disposed of their walnut crops, and outside growers are well cleaned up, though some associations have been reporting a lack of interest for several weeks, and still have considerable quantities left. The local market, however, continues fairly active, and there is a steady demand from the East.

Almonds, Nonpareils	11 1/2@	12c
I X L	10 1/2@	11c
Ne Plus Ultra	10@	
Drakes	9 1/2@	
Languedoc	8 1/2@	9c

## WALNUTS.

Softshell, No. 1.....	12 1/2c
Softshell, No. 2.....	8 1/2c
Hardshells .....	less 2 c
California Chestnuts .....	10 @ 12 1/2 c
Italian Chestnuts .....	10 @ 11 c

## HONEY.

This market shows very little change, prices remaining as before. There is a good demand for the better grades, and choice lots of either comb or extracted could be disposed of without difficulty, as there is practically none offered here at present. The lower grades, however, meet with very little inquiry.

Water White, Comb, lb.....	Nominal	
White .....	15	c
Water White, extracted.....	Nominal	
White .....	7 @ 8	c
Light Amber .....	6 1/2 @ 7	c
Dark Amber .....	4 1/2 @ 5 1/2	c
Candied .....	4 1/2 @ 5 1/2	c

## HOPS.

Hops continue quiet, as the better lots have nearly all been sold, and the little that remains on hand is very firmly held. Low-grade stock, however, is receiving

little interest, and some have been sold lower than last week's quotations. It is estimated that at least two-thirds of the crop has been moved.

Hops, per lb.	5@	9c
---------------	----	----

## WOOL.

Wool is firm at the prices formerly quoted. Defective wools have not improved any, but there is a good demand for the better grades, which have been moving quite actively for several weeks. The foreign market is now fairly strong, and the Eastern demand is steady.

Red Bluff (f. o. b. Red Bluff)		
free	6@	7 1/2c
Defective	less	2 1/2c
San Joaquin (at S. F.) free	5@	6 1/2c
Defective	4@	5c
Mendocino, free	7@	9c
Defective	5@	7c

## MEAT.

Owing to the general rains, there is a better prospect for feed on the ranges, and the stockmen who have been making large shipments for some time past are now inclined to hold their stock. Supplies are accordingly much lighter than they have been, and a considerable advance has taken place in dressed beef and mutton. Quotations on live stock, however, are still approximately as before.

Beef: Steers, per lb.	6 1/2@	7c
Cows	5@	6c
Heifers	5@	6c
Veal: Large	6 1/2@	8c
Small	5@	6c
Mutton: Wethers	7 1/2@	8 1/2c
Ewes	6@	7c
Lambs	9@	10c
Hogs, dressed	8@	9 1/2c

## LIVESTOCK.

Steers, No. 1	3 1/4@	4c
No. 2	3@	3 1/2c
No. 3	2@	3c
Cows and Heifers, No. 1	2 3/4@	3c
No. 2	2@	2 1/2c
Bulls and Stags	1 1/2@	1 3/4c
Calves, Light	4 1/2@	4 3/4c
Medium	4@	4c
Heavy	3 1/2@	3 3/4c
Sheep, Wethers	3@	3 1/4c
Ewes	3@	3 1/4c
Lambs, lb.	4@	4 1/4c
Hogs, 100 to 150 lbs.	6@	6c
150 to 250 lbs.	6@	6 1/4c
250 to 325 lbs.	5 1/2@	5 3/4c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.		

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Dec. 30, 1908.—It is now expected that the orange market will develop more strength than has so far been shown this season. It is said that the folks back East are hungry for good navel oranges, and that as soon as they appear they will be willing to pay good prices for them. Up to this time the fruit offered has been rather poor in color and undersized. While it is certain that the fruit in the North will not grow much if any larger, it is equally certain that the color is better than it was, and this fruit should have the call over the southern fruit for the Christmas trade, on account of its sweetness.

On the other hand, the southern oranges from the interior will all be finely colored and of good size, pleasing the eye if not the palate. This does not mean that they will be unpalatable, but they will certainly not be as sweet as the fruit from Butte and Tulare counties.

Shipments will commence in earnest again from Tulare county this week. Nearly all the houses have been shut down on account of lack of orders, but these orders are now coming in to some extent for the Christmas trade. By the tenth of the month it is possible that 100 cars a day will be going out, but not certain, as the orders may not come and the sizes may not warrant picking that much fruit.

Prices are quoted from \$1.50 to \$1.65 cash, California, for northern fruit, and from \$1.40 to \$1.50 cash for the oranges from Orange county. The Redlands and Riverside fruit is now about ready to go, and feelers have been sent out on a \$2 basis, with but little response. It is likely that cash prices of about \$1.65 to \$1.75 will be made to the jobber, and if so he ought to come back like a wolf for more, for the color and sizes are good and the fruit as sweet as ever it was at this time of the year.

Shipments to date have been less than 100 cars from the South, against nearly 400 to this time last year. From the North the output is less than 800 cars to date, against over 1700 to the same time last season.

The lemon market is very dull and prices are going down all the time. A few weeks ago, when the importations were light, California shippers sent a raft of fruit to the far East and got the finest prices of the year. Now the new stock Sicily is coming in, and the California shippers are pulling back to their old stamping ground in the Middle West. Lemon shipments from California to date have been less than 300 cars, to 360 to same time last year.

## PUBLISHER'S DEPARTMENT.

## AN ENTERPRISING SEED COMPANY.

We have before us the 1909 seed catalogue of the Aggeler & Musser Seed Co., of Los Angeles, Cal., which has heretofore been doing business under the name of Johnson & Musser Seed Co. Although E. A. Aggeler became a member of the firm soon after Mr. Johnson's death, in 1903, the name had not been changed until a recent meeting of the stockholders. The catalogue is a most complete manual of seeds, plants, nursery stock, with a special eucalyptus department with complete cultural instruction. But the greatest attention is given to the ranch and garden seeds, as this house has made a specialty of seeds for field crops and vegetables peculiarly adapted to the climatic conditions of the great Southwest, both on the coast and in the interior valleys, as the conditions of each place require different varieties of crops for each season of the year.

Some of the great leaders that originated in southern California and were discovered and introduced by this house are the three best watermelons in the world, shown on page 50 in natural colors; the Oregon Evergreen sweetcorn, the Anaheim chile pepper, and the Hybrid casaba, the best of the seven most popular casabas, pictured in natural colors on the cover page; also on the front page cover is painted in natural color and size the largest lima bean in the world.

The business will continue under the capable management of Mr. H. L. Musser, who has been at the head of the company for the past twelve years. By keeping in close touch with the Los Angeles produce market, and also with the market gardeners and ranchers throughout the Southwest, he has gained the reputation of being one of the most thorough seedsmen on the Coast.

Forty-five thousand of these catalogues will be mailed before December 20. If you have not received yours by that time, be sure to write for it.

We are pleased to learn that the Golden Rule Nursery, of Loomis, formerly owned by Mr. L. L. Crocker, will be conducted by Mrs. Crocker, his widow, and that the splendid line of special varieties originated there will be maintained. This nursery has been advertising Warnock's blight remedy, and as an evidence of the faith they have in it, all their stock will be treated this winter with the preparation.

New nursery ads. in this issue to which the reader's attention is invited are Etter's berries, Ludemann's nursery stock, the Golden Rule Nursery, Mitting's berries, and the catalogue for Aggeler & Musser Co. These are all reliable firms, and when writing to them we will be pleased if the PACIFIC RURAL PRESS is mentioned.

May be we are wrong, but it seems to us that our editor has made a specially good job on this issue of the PACIFIC RURAL PRESS. Every department is strong, and we believe our readers will appreciate the efforts made to give a paper worth while.

Lastufka Bros., the harness dealers of San Francisco, have a special offer in our advertising columns. They will be pleased to have you write them for price on any harness. Send for their catalogue.

Catalogue and new price lists have been received from the Fresno Nursery. This is one of the best nurseries in the State, and it will pay growers to send for one.

The Natomas Consolidated is a new corporation recently organized, with a capital of \$25,000,000. One of the enterprises to be taken up is reclamation of 55,000 acres of land near Sacramento, by building dykes and levees. The work of reclamation will take over two years to complete, and then the land will be cut into small farms and will support a great population.

**ARMY AUCTION BARGAINS**

Tents - \$1.50 up  
Shoes - 1.25 " " " " " " " "  
ARMY HADDIES 3.00 " " " " " " " "  
Bridles - 1.00 " " " " " " " "  
Leggings - 15 " " " " " " " "

Old Pistols - .50 up  
Officers' Swords, new 1.75 " " " "  
Cavalry Sabres - 1.50 " " " "  
Ustronnes - 1.25 " " " "  
7 Shot Carbine - 2.50 " " " "

1007 MILITARY CATALOGUE, 300 large pages, containing thousands of beautiful illustrations with 1908 supplement, wholesale and retail prices. Mailed for 15 cents (stamp). 15 ACRES GOVT. AUCTION GOODS. FRANCIS BANNERMAN, 501 Broadway, New York

## THE "SOUTH BEND"



## THE BEST CHILLED PLOW IN THE WORLD.

The No. 15, as illustrated above, is intended for three horses, although it is occasionally used with two heavy horses. It is especially adapted for plowing heavy soil. Its great furrow capacity—13 to 15 inches—its steady running and turning qualities, recommend it to the farmer who wishes to accomplish a large amount of work with the least wear and tear on man and team. The No. 15, like all of the South Bend Plows, is built of the best material obtainable, and by competent mechanics. For the No. 15 we can furnish either the Chilled Plain or Chilled Slip Nose Shares, and Wheels, Jointers and Rolling Coulters when required. The weight of the No. 15 is 128 pounds.

Write us for Catalogue describing the complete South Bend Line of Plows.

General Agents,

PACIFIC IMPLEMENT COMPANY,  
135 Kansas St. San Francisco.

## PIPE

## PRICE LIST.

Second Hand Pipe Merchantable Lengths. Standard Threads and New Standard Couplings. Dipped in a solution of hot Asphaltum, maintained at a Temperature of over 300 Degrees. Closely Inspected and fully Guaranteed. All prices F.O.B., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1 inch	.84 lb.	\$2.50
1 1/4 "	1.12 "	3.85
1 1/2 "	1.67 "	4.50
2 "	2.24 "	6.25
2 1/2 "	2.68 "	7.25
3 "	3.61 "	10.00
3 1/2 "	5.74 "	16.00
4 "	7.54 "	19.75
5 "	10.66 "	30.00
6 "	14.50 "	42.50
8 "	18.76 "	50.00

**ALEXANDER PIPE CO.**  
1083 Howard St., San Francisco, Cal.

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.

HANDSOMELY ILLUSTRATED

Price \$3 per copy, postpaid.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO

**PACIFIC RURAL PRESS, Publisher,**  
667 HOWARD STREET,  
San Francisco, Cal.

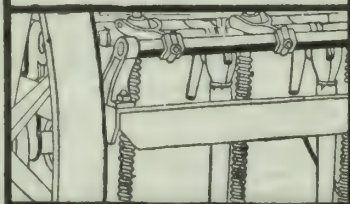
**HENRY B. LISTER,**  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts.  
San Francisco.





**ANY BOY**  
CAN DO A  
**MAN'S WORK**  
ON A  
**SUPERIOR**



## ALL DRILLS LOOK ALIKE AT A DISTANCE

Close Up the **SUPERIOR** Shows  
to Advantage Over All Others

LARGER AXLES than in others,  
STEEL WHEELS,  
WIDE TIRES,  
SOLID GREASE CUPS,  
Barley and Oats Agitators,  
SPRING SCRAPERS, Etc.

OUR SINGLE DISC DRILLS DO  
BETTER WORK THAN ANY  
OTHER STYLE OR MAKE.

SEND FOR SPECIAL CATALOGUE.

**The H. C. Shaw Co., Stockton**



**WOOD  
PIPE**

Made from California  
Redwood or Selected  
Washington Douglas Fir

**NATIONAL WOOD PIPE COMPANY**

Stave Pipe 2 inches to 10 ft. diameter up to 400 ft. head.

SAN FRANCISCO OFFICE—318 Market Street.  
LOS ANGELES OFFICE—404 Equitable Bank Building.  
NORTHERN OFFICE—Olympia, Washington.  
SALT LAKE CITY—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not in-  
jure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

**PEAR-BLIGHT REMEDY COMPANY**



WINE TANK.

**Tanks Tanks**

WINDELER'S PLANING MILL  
AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks. Wine Tanks, made from carefully  
selected stock by careful and experienced work-  
men. "Tanks that are well made last a long  
time." It will pay you to get my prices before  
buying.

GEO. WINDELER,

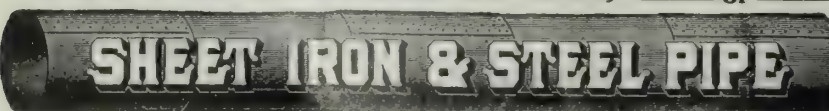
144-154 Berry St.

San Francisco, Cal.



WATER TANK.

**FRANCIS SMITH & CO., Manufacturers of**



**FOR TOWN WATER WORKS**

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.  
Office, 9 Fremont Street. Works at 8th and Townsend, San Francisco, California.  
Water and Oil Tanks—all sizes. Coating all sizes of Pipes with Asphaltum.

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution, Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

## Was Your Last Catalogue Satisfactory?

### 1. IN TRADE-PULLING POWER.

Was the general get-up genuinely attractive, and did it present your stock so that the reader became interested and in a frame of mind to give you an order? First impressions go a great ways in establishing a friendly attitude toward the offerings of a good book.

### 2. IN QUALITY AND ARRANGEMENT.

Did the manner of its mechanical appearance and literary expression impress possible patrons of the superiority of the seeds and plants you are offering? Was it correct in nomenclature and reliable in cultural directions?

### 3. IN VOLUME AND NUMBER PRINTED.

Did you meet the demand by ending the season with just enough to carry you over, or did you have a surplus, or did you fall a few shy? This is important either way you look at it.

### 4. IN MATTER AND ILLUSTRATIONS.

You don't always discuss with your printer all these points,—but then, The Kruckeberg Press is different from the general run of printers; it is fitted up to be really helpful to the seed and nursery trade, the live stock and agricultural interests, to do this class of work, from the preparation of the copy to the finished product.

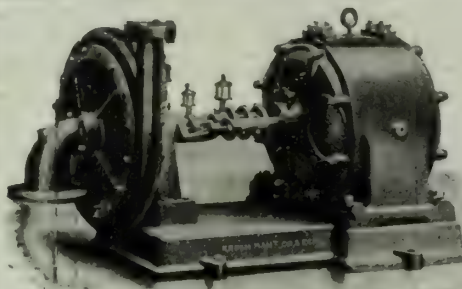
Correspondence invited.

## THE KRUCKEBERG PRESS

HORTICULTURAL PRINTING AND ENGRAVING  
CATALOGUE MAKERS. TRI-COLOR PRINTERS

123 South Los Angeles St. A 1420 Home.

Los Angeles, Cal.



## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

**Krogh Man'f'g. Co.**

127 to 133 Beale St., San Francisco, Cal.

Send for new catalogue No. 50  
just issued.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

**Western Gas and Power Company**  
OAKLAND, CAL.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

"THE OLD RELIABLE"

**DIETZ  
LANTERNS**

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

**Blake, Moffitt & Towne**  
Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## The Fresno Scraper



Send for Raisin Machinery Catalogue.  
**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 24.

SAN FRANCISCO, SATURDAY, DECEMBER 12, 1908.

Thirty-eighth Year.

## Gum Disease of Citrus Trees.

Gum disease, or gummosis, of citrus fruit trees is being made the subject of careful study and experiment by the experts of the University Fruit Plant Laboratory at Whittier, Los Angeles county, and in the orchards in all our leading citrus districts. A University Bulletin by Prof. R. E. Smith and Mr. O. Butler has just been issued, which undertakes to give immediate relief by discussion of the conditions under which this gumming occurs and how the gumming itself is related to the growth processes of the tree and to its environment of soil and moisture conditions. In these respects the publication, entering, as it does, into the phenomena of plant growth in plain terms, will be widely helpful to the plant grower, enabling him to better understand the functions and needs of the organism with which he has to deal. At this time we desire to present prominently the remedial features of the work, so that all our readers may know what to do for the sake of the suffering trees.

In the first place, Professor Smith points out clearly that the most common form of gum disease is due to soil and water conditions. The accumulation of soil or water about the trunks, allowing the same soil to become hardened, lack of drainage or cultivation, or the accumulation of surface water, either from irrigation or rain, must be carefully avoided. All these precautions are particularly necessary in places where the soil conditions are such as to favor the disease. In such places special care must be taken to keep the ground thoroughly stirred close up about the trunk of the trees and prevent either soil or water from accumulating about them. If this is accomplished one need have little fear of gummosis.

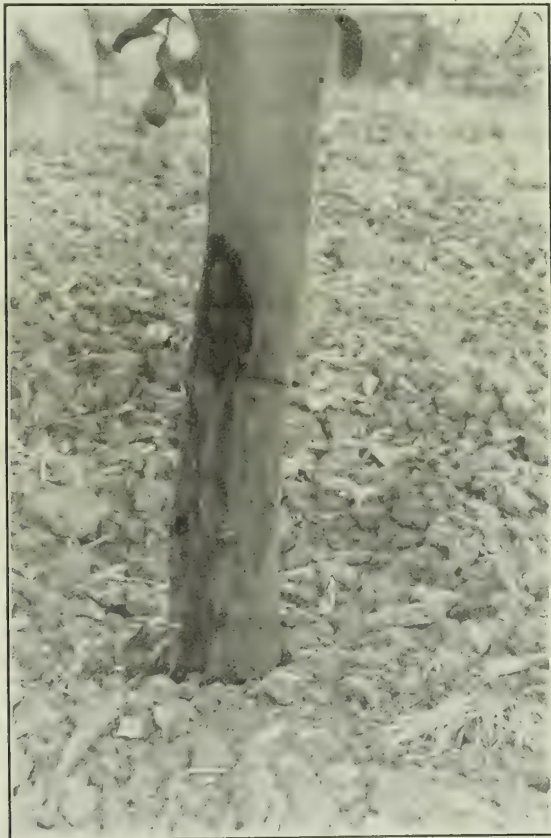
The treatment of affected trees must consist first of all in an improvement of soil conditions. It is idle to work upon the trees themselves or to look for any remedy for application to the affected parts until the original conditions which produce the trouble have been corrected. If this is not done, the work done upon the trees will be thrown away, since gummosis will begin again at the first favorable time. In treatment of affected trees one should therefore begin with a thorough stirring of the soil about the trees clear up to the trunks. It will, no doubt, be necessary to do much of this by hand with a mattock, as there is no other method of accomplishing the desired result. After thoroughly loosening up the soil a space of at least two feet in diameter must be cleared about the trunk, removing the accumulated soil down to the roots, exposing the bud union. In many cases a foot or more of washed-in soil will be found.

After this has been done, work may commence upon the tree itself to improve its condition. The bark of the tree where gumming has occurred may be cut out to some extent to relieve the pressure and permit the escape of the accumulated gum. In some cases the whole bark has been stripped off over all the affected portion, while in others only narrow strips of bark have been taken out, running from the crown to the main fork on several sides of the tree. The latter process, on the whole, is thought to be the better method.

If the bark is stripped off entirely a large area is exposed on badly affected

linseed oil. After thoroughly mixing, the wax is painted on with a brush while still warm and liquid. In many cases a considerable amount of new bark can be seen forming under this transparent wax, and the tree makes a decided recovery. A great variety of other materials have been used for covering the wound, but none of them appear to be as satisfactory as the wax.

The method of slitting the bark, taking out one-



Lemon tree treated for gummosis by stripping off affected bark and covering with wax.



Lemon tree treated for gummosis by slitting bark. Two whitest lines are new slits. Others are older ones. Note excavation about trunk.

trees, and in some cases it is necessary to entirely girdle the tree. Under improved soil conditions much of this bark would be likely to recover and remain alive, or if it dies, it serves to protect the trees and cover the new growth of bark, which often comes beneath it. Many cases, however, have been successfully treated by stripping off all the bark which showed discoloration beneath it, cutting out cleanly about the edges and painting over the exposed surface with some protective covering. In such treatment the bark should be peeled off without scraping the surface of the wood, as often much of the cambium layer is still alive and will form a new layer of bark.

For covering the exposed surface a form of grafting wax has been found most satisfactory. This is prepared by melting together 4 pounds of resin, 1 pound of beeswax, and 1 pound of raw

eight inch strips on four or five sides of the tree, through both the affected and the healthy parts, is usually most advisable. A special knife can be made for this work, with which the slitting can be done quite rapidly.

After cutting the bark in this manner some application may be made to the surface, and for this purpose many different substances have been tried. The application of neat's-foot oil, recently recommended by Judge A. F. Call, of Corona, appears quite effective, the oil tending to soften the bark and gum and keeping the latter from collecting in hard masses on the bark. A one-tenth solution of caustic potash in water has also been used with good results. Others have used crude carbolic acid, sheep dip, and a great variety of other materials. The liquid substance recom-

(Continued on Page 37.)



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

E. J. WICKSON - - - - - Editor

FRANK HONEYWELL - - - - - Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., December 8, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.09	10.01	11.74
Red Bluff.....	1.38	3.19	6.64
Sacramento.....	.66	1.83	4.44
Mt. Tamalpais.....	1.24	5.71	5.06
San Francisco.....	1.49	3.20	4.97
San Jose.....	.38	1.77	4.93
Fresno.....	.23	1.11	2.36
Independence.....	.20	1.80	2.28
San Luis Obispo.....	1.02	3.18	3.96
Los Angeles.....	1.43	4.06	2.77
San Diego.....	.14	2.13	1.61

The Week.

The California hearings of the Commission on Country Life, appointed by President Roosevelt for the purposes fully outlined in our issue of November 7, were duly held in Los Angeles, Fresno, San Francisco and Sacramento, and attracted wide attention from both press and people. In a word, the conclusion to be drawn from all the evidence brought forward, and we personally heard it all, must be that the California rural people are as a rule capable and independent in spirit and have within themselves the power to settle their own problems whenever they decide to act together toward that end. Our people are, however, in full sympathy with efforts to improve country life in all parts of the country, and desire both to promote and to receive benefit from all wise public measures toward that end. As it seems perfectly clear to us, both from previous knowledge and from the testimony presented to the commission, that California country life has some distinctive and characteristic features and capabilities, we undertake to outline them.

The quality of rural life in California is relatively very high for several reasons which can be clearly indicated, and it has manifested itself by achievements which could not otherwise have been attained, and by the creation of rural conditions which promise even greater achievements, not alone for industry but for manhood and citizenship.

The foundation of the quality of California rural life was laid in the very settlement of the State by those who had the nerve and ability to push through on the overland trails while those less resolute and less capable were either appalled by the effort or could not persist in it. In early days accession to California was largely a matter of courage and endurance. Afterward, and even to the present time, another criterion of selection has prevailed, viz: mastery of funds and business confidence and enterprise. California developments upon a high plane of intelligence and financial ability has been ministered to by people from every civilized state and nation, and has escaped a low average in such intelligence and ability because its remoteness and cost of attainment have largely protected it from mass movement of infe-

rior people from any state or nation. By what she has gained and by what she has escaped California has a select population in certain qualities which make for success.

Such people, of course, might have been expected to operate and to succeed in a large way in whatever intellectual and industrial effort they entered upon. When the chief pursuit was gold, the per capita production was the greatest attained in the world at that date; the same was true of wheat in the sixties, of wool in the seventies, of fruit in the eighties, and to the present; of higher education in the nineties, and to the present also—for two universities of the first rank are not in the possession of any State at all comparable with California in population. The California people, because of their per capita content of power, gained by the process of selection and increased by the exercise of power, according to recognized laws of development, have achieved great things in various lines. In the undertakings of rural life, which now constitute the overshadowing industry of the State, California has employed energy, capital and applied science to novel products under novel natural and economic conditions in ways and to results which would have been altogether unapproachable to a less resourceful people.

Having said this much to indicate the origin and quality of a people which has but just begun the development of this great State, we may mention a few specific things which underlie the advanced and most satisfactory type of country life which is characteristic of California.

First. Broad views of education. Although it is true that a considerable part of the present expansion and profitability of our leading lines of agriculture is due to those who came to California in mature life and brought capital and minds well trained in business and professions, one would not prescribe their rich acquisitions and experience as essential for others to pursue. Still it is a fact that their example, and their precepts also, are a strong force for breadth in our educational efforts for agriculture. The success of the broad man in California is an incentive to breadth in our training. California is keenly conscious that rural common schools which do not employ rural phenomena and points of view in their daily work are culpably narrow and neglectful. The difficulty these mature men have had in ascertaining elementary facts about natural conditions of growth in California makes them strongly insistent that these, and cultural methods to meet these, shall be taught in the common schools, and that high schools and colleges shall deal with them also in their higher bearings, with due regard to exposition of the best local practice in this State. Exponents of this demand are found in the fact that our first State Agricultural High School at San Luis Obispo is crowded beyond its capacity; all our five normal schools have special teachers in elementary agriculture; our State University will open a high school on the University Farm at Davis next month, and another at Fresno later. Another secondary school of agriculture with private endowment is being formally opened in the Imperial valley this week. Thus we shall have four agricultural high schools, with an average distance of 250 miles apart, already provided for. The number is likely to increase four-fold during the next five years. Our College of Agriculture has 150 four-year and graduate students—five times as many as ten years ago. It is perfectly clear that our people hold education in agriculture from youth to manhood to be a fundamental need, and teachers of all grades are alert to qualify themselves for the work.

Second. Social and financial recognition of agriculture. The recognition of agriculture as a pursuit which does not debar its votaries from the highest social standing need not be contended for in California; it is freely conceded, not only in theory but in regular practice, and agriculture as a vocation for young men is discounted only by farmers who do not understand or appreciate their own calling or are pursuing it under too heavy a handicap of some kind. There is, in fact, some danger that recourse to agriculture is becoming too popular, even fashionable, with our urban population, because they are disposed to exaggerate the profits and minimize the knowledge, ceaseless effort and command of adequate capital upon which success depends. This danger is, however, in itself an indication of the attitude of the California mind toward agriculture. Individual social recognition of a farmer is governed by exactly the same criteria, wise and otherwise, which fix the place of a man following any other work in life.

Financial recognition of agricultural security has notably advanced during the last thirty years. It began in the acceptance of warehouse receipts for grain stored in country warehouses at that early date, and since then loans on other gathered products or on growing crops have been freely available under ordinary financial conditions. The old disfavor of country real estate as compared with city property has largely passed away—in fact, much money has been loaned on boom valuations or prospects—an indication of the general confidence in agricultural security carried to excess, but still, in a way, evidence of the popularity of agricultural enterprises among our local financiers. Rates of interest are, however, too high, considering the security of legitimate country loans, and any scheme which would help other parts of the country in this regard would be of great advantage in California. The taxation of rural property is too high, as compared with urban wealth, as clearly shown by the investigation of the California Tax Commission, and as their plan for relief was rejected at the November election, a remedy is still to be sought.

Third. Average excellence of California country homes. With the understanding that light construction is advisable under climatic conditions ruling in California, it must be claimed that California country homes are of very high average excellence. This might be expected from the intelligence and social standing of the people who construct them. It is probably true that there is a greater per capita consumption of periodical literature in California country homes than in other rural communities. The per capita supply of running water, hot and cold, in farm houses, and the use of it in all the devices of modern plumbing for cleanliness and sanitation, are also very large.

Fourth. The benign influence of co-operation. Unquestionably the most powerful agency for advancement in the quality of rural life in California during the last two decades has been co-operation. Underlying co-operation is, of course, the general intelligence and business capacity of those who undertake to co-operate. Thus a degree of education must precede successful co-operation, but co-operation is itself the most potent educational agency which has ever been invoked in California! It not only enables men to achieve, but it points the way continually to greater achievement. Strong co-operative effort is securing protection for our fruit industry all the way down from tariff to thrips; it has made feasible the distant distribution of 60,000 carloads of fruit products annually; it has secured nearly all our recent large



provisions for agricultural education and research; it has secured fair treatment from allied interests which formerly dominated rather selfishly; it has enabled producers to demonstrate possession not only of force but of business acumen, soundness and capacity which have commanded the confidence and respect not only of rival business interests but of financial institutions.

It is clear, then, that the high quality of California rural life is demonstrated by its chief product: intelligent and successful co-operation. It is no less clear that what California may still need for the better life and more effective work of its rural population, it may secure through continued recourse to co-operation, the agency which it has itself engendered.

In a word, the lesson of California experience in attaining a high-grade quality of country life is this: Strive for the dissemination of a degree of intelligence which makes effective and durable co-operation possible, then let such co-operation do its perfect work.

## Queries and Replies.

### A Beginner's Questions.

To the Editor: What is the best kind of fertilizer for use on berries? Cow or horse manure are both available in small quantities. Which is the best variety of strawberry to plant for shipment, perhaps as far as Portland, Oregon? I have 12 acres that I want to sow to oats for hay, as soon as it rains. In the absence of barnyard manure, would it pay to use a commercial fertilizer? If it would, what kind should be used, and in what quantity? Also, when should it be applied? What is the best kind of fertilizer to use for alfalfa? How much can be profitably used? When should it be applied? Is it best to put it on all at one time or in smaller applications during the season? Would the crop be increased by disking between cuttings? Should this be done before irrigating or after? Would it pay for the labor?—Farmer, Modesto.

You can use either cow or horse manure, or both, upon your berry plantations, spreading at this time of the year and digging in after the rains have moistened the ground well. The strawberry which is most largely grown for northern shipment from the Florin district is the Dollar. The Brandywine is also a good variety.

You might try your first growth of oats for hay without fertilizers. If the season is favorable as to moisture and the growth is still not good, the suggestion would be toward experimenting with commercial fertilizers for next year's crop, and you should correspond with those advertising fertilizers in the PACIFIC RURAL PRESS.

Most of our alfalfa is grown for a number of years very successfully without fertilization on land which is well suited to it. If you do not get satisfactory growth it may be owing to the fact that you do not have the bacteria which are required, and these can be introduced by scattering some of the dirt from a field in which alfalfa has been growing well for some time. It is a good idea to disk alfalfa once a year, and it should be undertaken while the ground is somewhat dry, either in the spring or fall. One disking will certainly pay for the labor if the ground has become compacted on the surface. If you are dealing with a light, sandy soil not disposed to run together on the surface, it is doubtful whether such treatment would be desirable.

### Education for Seed Growing.

To the Editor: What advice can you give a young man intending to go into the commercial seed-growing business? I am given to understand that the most complete way of acquiring such an education would be to take a four-year course at

one of the leading agricultural colleges, followed by work on some seed farm. Would you advise such a course? Are there any colleges in the United States which are solely for the study of seed-growing? If so, perhaps it would be advisable to attend a course at one of these. If the young man is unable to take a full college course, would it be possible for him to take part of a course—that part concerning seed growing? Also, if he should not take a college course, are there any opportunities of learning the commercial seed-growing business on some experimental farm or private seed-growing establishment, or at least obtaining an insight into this business.—Enquirer, Philadelphia.

A thorough course in the science underlying agriculture and in the practices of horticulture should be a good foundation for specializing in seed growing. There is, so far as we know, no college solely for the study of seed growing. After the completion of a college course the student should seek employment with a commercial seed grower. California is producing garden and field seeds very largely for shipment to the Eastern States and to foreign countries. Of course, one can approach qualification for seed growing directly, by seeking employment upon a seed farm, which would give expertness in the practice, but perhaps leave the student handicapped by lack of knowledge of the science of plant growth, plant protection, selection, etc., which a systematic course would give.

### Care of Grape Vines.

To the Editor: I have a ten-acre Tokay vineyard, the vines being two to four years old. Will you kindly give me your opinion as to the advisability of my pruning my vineyard. Is there any danger of injury to the vines by this early pruning? I expect to be away for the next few months and I would like to prune the vineyard myself if no injury would result from this early pruning. I understand that in the "black lands" between here and Stockton many of the vineyardists prune their vines as early as November. I followed the instructions you gave last spring regarding the treatment of "black knot" on the vines and got good results. The vines healed over and in most cases the "black knot" did not show on the same place again and some badly affected vines made a good growth after treatment.—Reader, Lodi.

The only danger which is incurred in early pruning of vines, if they have become dormant and dropped their leaves, is that they are likely to start a little earlier in the spring and are, therefore, more subject to frost, if frosts occur at that time. This danger is, however, small, except in places known to be frosty, and we would not hesitate to gain the advantage of pruning the vines ourselves, under the conditions which you describe. If you want to compromise the matter you could, of course, prune them half long now and get rid of most of the brush, and then cut back finally just before the growth starts in the spring. We are glad to hear of your success in the treatment of the root knot on the vine. It seems to be a rational and satisfactory method.

### Not a Good Foundation for Cherries.

To the Editor: We have decided to put out about two acres to cherry trees, and would like to ask your advice as to the best kind—those least affected with blight or soup sap. We put out 75 Royal Ann, three years ago; about one-third of them are dead, or nearly so; they come out in leaf partly, then begin to die. I cut into them and the wood was brown and white or natural color. Is there any cure for the disease? The sap oozes out and forms a gum in places. The soil is gray and gravelly about 10 or 12 inches, then red gravel below.—Planter, Napa county.

Your trouble with cherries is rather more due to the fact that the soil is not well suited to them than to weakness of the variety. The Royal Ann is a perfectly hardy and satisfactory cherry in a

good situation. It is possible that trees grafted upon the Mahaleb or Morello roots would be better than the Mazzard, which is the root generally employed in California. We apprehend, however, that your chief trouble is in endeavoring to grow the tree upon a soil which loses its moisture too rapidly, perhaps because the surface soil itself is too open and loose, and, therefore, moisture readily escapes by evaporation; also because the gravel below may allow moisture to escape too rapidly by drainage. If this is the case the only way trees can be kept in thrift would be by frequent irrigation during the growing season, but it would be a better proposition to plant the trees on a deeper and more retentive soil. The manifestations which you describe as occurring in the tree indicate hardship at the root.

### River Bank Trees for Shasta County.

To the Editor: I keep a bunch of milch cows on the banks of the Sacramento river. My upper corral fence, which keeps the cattle from going to the river when necessary, is on the top of a sloping bank at about high-water mark. The tramping of the cattle and the washing of the water is gradually washing away my fence, so my upper corral will be made smaller when I reset the fence. I have to prevent this, as the corral is small enough now. I was figuring on running a parallel fence on the lower side and planting a line of trees and boulders in between the fences. I would be glad if you would give me your advice as to the best trees for my purpose in this district. I want shade also, as all the oaks in this region are dying, as you know.—EDMUND WYNDHAM, Redding.

We should choose trees for this place which have shown themselves to be adapted to it by thrifty growth on stream banks and borders in your immediate vicinity, and which can be easily started on a quick growth under such conditions. Upon this theoretical ground willows and cottonwoods, which are growing in just such places, would be indicated, and by setting large cuttings thickly you ought easily to get the barrier you desire.

### Disking Alfalfa.

To the Editor: When would you advise to disk alfalfa? In the fall after the first rains, or in the spring? And what is the result of disking? What kind of a machine would you use in doing this? Would you sow oats or barley in the alfalfa, so as to get a heavy crop the first cutting in the spring?—Farmer, Modesto.

The effect of disking is to stimulate the growth of the plant and induce more and finer shoots. We would not sow any grain with alfalfa seed. It is pretty hard to hurt alfalfa by disking, and the disk-harrow with the disks set straight is the tool chiefly used, though the disk is sometimes followed with the light straight-tooth. In parts of California where some winter growth is secured, a fall disking when the ground is in shape from the rains is often desirable. If this is not undertaken, a disking toward the close of the rainy season, after the heavy rains and while there is foxtail to reduce, gives the alfalfa a better start. This is the work that is generally done, but some disk between cuttings in the irrigating season. This makes us say that the disk is pretty good any time except when the ground is too wet.

### The Reams Almond.

To the Editor: Enquirer, Dos Palos, asks you about Reams Favorite almond. It originated with J. W. Reams of Suisun. His place is on the borders of Napa and Solano counties. The variety has a local reputation as a great bearer, blooming late. The tree is vigorous, upright, nuts are large, medium soft shell, good quality, of Tarragona type, of which it is probably a seedling. It is well worth growing.—LEONARD COATES, Morganhill.

Thank you. The only way we can all keep wise and keep track of things is to pool our information, and we hope all readers of the PACIFIC RURAL PRESS will join us in that proceeding.



## Horticulture.

### GUM DISEASE OF CITRUS TREES.

(Continued From Page 369.)

mended should be painted over the whole trunk of the tree, making a thorough application.

The whole matter of the treatment of the tree itself is entirely of secondary importance. If proper soil conditions can be obtained and maintained, the tree will heal itself, if not too far gone. The only benefit to be derived from any method of bark cutting and surface application is to promote the healing of the wounds caused by the disease.

After treating the trunk of the tree it is well to cut back the top to some extent, reducing the amount of branches in proportion to the amount of bark lost from the trunk.

After the treatment of the soil and trees has been accomplished, measures must be taken to prevent as far as possible the recurrence of the conditions which brought about the trouble. When possible to do so, the general level of the soil about the tree should be cut down so that the point of bud union will be well above ground.

If it is impossible to do this, the hole which was dug about the trunk must be kept open so that the soil will not accumulate again at that point, and at the same time this hole must not be allowed to become a receptacle for irrigation and rain water, thus making the condition worse than ever. In such cases the practice of filling the space with coarse sand has been resorted to quite successfully, thus preventing the accumulation of water to quite an extent and at the same time not producing a layer of hard soil about the trunk.

Another method consists in making a wooden box, from one to two feet square, about the tree, with the sides high enough to keep out surface water. This is somewhat expensive, but is probably the best method that can be suggested for permanent improvement in cases where the trees are too low.

### NEW PESTS WE SHOULD GUARD AGAINST.

By E. M. EHRHORN, Deputy Horticultural Commissioner in charge of Quarantine Division, Ferry Bdg., San Francisco, at the State Fruit Growers' Convention.

Very few of you who have toiled in the orchards and vineyards of our State can appreciate the good fortune which California enjoys, in not having more injurious insects and tree diseases. It is true that we have a number of very bad pests, which for a time threatened some portion of our great fruit industry. We Californians have been rather fortunate, though we have been able, through the progressiveness of our leaders in horticulture and viticulture and through the untiring efforts of the State and County Board of Horticulture, to reduce these threatening foes of our industry to a minimum. We are also to be congratulated that by the strictest quarantine against insect pests and tree diseases, we have been able to keep out those insects with which other countries, and even our Eastern neighbors, have been battling for many years. It is true that we have yet some pests to contend with, which, like all pests the world over, have their periods of increase and decrease, and such conditions are, to say the least, very exasperating and costly. I'll venture to say, though, that the closest attention on the part of the grower and the utmost care and thorough investigation by the officers of the State and County Horticultural Commissions, we should ere long be able to keep these remaining pests greatly reduced and possibly render them harmless.

It has been my good fortune, if I may call it such, to visit some of the Eastern States, and I had a good opportunity to observe and study some of the injurious pests of our Eastern neighbors. I am convinced, from what I have seen, that we should more than ever do all in our power to strengthen our quarantine laws, and we should devise some plan, or, rather, pass some new laws, to compel counties that have not availed themselves of horticultural protection, to immediately establish their horticultural commission, for it is through this opening, this unprotected area, that we may receive some of the most destructive pests from which we have so far been spared.

Acting as your horticultural quarantine officer at the port of San Francisco, I am probably best qualified to know of the many pests which are constantly being discovered on the ever-coming shipments of plants and fruits which find their way from other countries into our markets. Here again we should do all in our power to further strengthen our horticultural laws, so as to be able to give the very best protection to our growing industry. The regulations should be broadened in such a way that all cereals and foodstuffs and other insect-infested materials, such as timber and the like, be included in the protection against new pests. Other countries have copied our laws and methods, and I assure you that they have passed more stringent laws than we have, and some countries have even closed their door against the importation of fruits and plants which come from countries where it is well known that certain dangerous pests exist to the detriment of their industries.

In our work with orchard pests we have had a great deal of experience with scale insects, and without doubt have had sufficient species to deal with, yet there are several species in other countries, and in the Eastern States, which, if introduced here would cause considerable annoyance and expense. The following species may be mentioned:

The terrapin scale or peach lecanium (*Eulecanium nigrofasciatum*). This species might be called a medium sized scale, resembling somewhat the olive scale in form. It has been known under various names in the Eastern States, and attacks the peach, plum, apple, sugar maple, hawthorn, and many other plants, showing it to be a general feeder, and it has been reported from about fourteen States and from Canada. Great care should be taken in the inspection of nursery stock, for the young scale insects could be easily overlooked.

The scurvy bark louse (*Chionaspis furfur*, Fitch) has not gained a foothold in our State, although it exists all over the Eastern States. It attacks apple, pear, cherry, quince, peach, walnut and many roadside trees. In other words, it is a very general feeder and causes much damage.

The peach scale (*Aulacaspis pentagona*) has, unfortunately, become quite a pest in many of the Southern States, and as far north as Pennsylvania, infesting plum, cherry and peach, and also at times attacking other plants. For many years this pest has been found by the horticultural quarantine officer on plants arriving from the Orient, and the strictest quarantine has been maintained against it. Up to the present time it has not gained entrance into the State. Don't let us get it in on deciduous stock from the Eastern States.

The maple scale (*Phenacoccus aceris*, King), on account of its clustering habit during the egg period, is often mistaken for the cottony maple scale (*Pulvinaria innumerabilis*). It is much more prolific and belongs to the mealybugs, which are too well known to us to need much discussion. These insects are among the hardest to fight, for the eggs are enveloped in a dense cottony secretion which is a great protection to them—in fact, it prevents any wash, or even a fumigation, from reaching them. It has been our experience with nearly all the mealybugs, and a pest like this one on our avenue trees would soon make them fit for the wood pile. In our mild climate there is no telling if this species would not change its habits and take to other food plants and become a serious pest of our parks. There are other scale insects, some of which might prove serious if ever introduced, but space will not permit their discussion.

Other insects which are to be feared are the:

Pear tree psylla (*Psylla pyricola*). This insect, originally from Europe, resembles and is closely related to the plant lice, but can be distinguished from them by its ability to hop. It is of a reddish color, with some black markings; the wings are clear and rest roof-like over the body. The psylla at times becomes quite abundant, and does considerable damage to the pear tree, which it only attacks. These attacks are a very serious menace to the tree and crop. The drain of sap and the enormous secretion of honeydew by the insect soon weakens the trees, and the foliage drops, and the half-grown fruit as well. The pear tree psylla can be readily introduced on nursery stock, because the insect hibernates as adult in any crevices or under any rough portion of the plant. Close inspection is therefore most important for the

discovery of this pest on nursery stock. There are several species of psyllids in the Orient and adjacent countries, and the closest watch is kept on all plants to prevent their introduction.

Among the butterflies and moths there are many very injurious species, some so minute that their larvae could be readily overlooked.

The cigar-case borer (*Coleophora fletcherella*) is a widely distributed pest throughout the State of New York, and is also found in Canada. It is a very small insect, the adult resembling our clothes moth in size, and is therefore hard to detect. It hibernates in winter in the larval state, and is enclosed in a small cocoon resembling a miniature cigar, hence the name. In this stage the insect rests on the twigs of the tree during the winter, and could easily be shipped into our State on nursery stock.

The bud moth (*Tmetocera ocellana*) is another small species about the size of the codlin moth, and is found in several States in the East. It works in the opening leaves and flower buds and does untold destruction to the blossoms and forming fruit. It has also been known to destroy young budded trees and growing nursery stock. Besides the apple, it also feeds on the pear, plum, cherry, quince and peach, also attacking the blackberry. This pest hibernates as a half grown larva among the buds and rough places on the trees it attacks, and is a very hard pest to detect. We have a leaf-roller in some of the fruit growing sections of our State which is giving us some trouble; if the Eastern pest should become established here I can see a lot of expense ahead for the grower.

Two pests resembling the codlin moth in their work, but doing more damage, are the Japanese apple fruit-borer (*Laverna herollera*) and pear fruit-borer (*Nephroteryx rubrizonella*). The first species was found in a 6000-box shipment of apples arriving from Orcas Island, showing that one of the pests at least is established on this continent. Both these pests are a serious menace in Japan, and the closest inspection only will prevent their introduction.

Paramount of all injurious species is the gypsy moth (*Portheria dispar*), and its running mate, the browntail moth (*Euproctis chrysorrhoea*). There has been so much said and written about these pests, and so much money spent in the fight against them—I think it now amounts to two millions of dollars—that one would think that nearly everybody would know about them, but very few do. Although I had read, and indirectly studied, much about these pests, I must confess that I was greatly surprised to find them as destructive as I did on my visit to Massachusetts. I cannot warn the people of this State too much against these foes of the forest, for as sure as either ever reach us, especially if they should get started in our beautiful forests, no power on earth would be able to eradicate them, and all we could hope for would be a check at intervals by parasites, just as is the case in their native country, the climate of which is entirely different from ours; possibly their native land would have the advantage over us, owing to more severe winters. These insects are known all over Europe, and at times are reported to do untold damage to the forests. The defoliating of pine trees means sure death to the trees, and with our vast areas of timber, which is one of our greatest industries, would mean a loss running into many millions of dollars. Either of these pests can be readily transported on nursery stock, or in the packing used with the shipment, which very often contains dried leaves, on which egg masses are liable to be found. These egg masses are also found in the most remarkable places, and if plants are sent from infested areas it would be the simplest matter in the world to overlook such egg masses, which, by the way, contain from 400 to 500 eggs. Any packing box, barrel, or old sack which happens to stand or lie in any dooryard in the infested area would be apt to hold one or more such egg masses.

The introduction of the browntail moth would not be quite as easy, because the small larvae pass the winter in what is called the winter web. This is formed by spinning together a number of leaves and forming webs in these, in which as many as 200 caterpillars congregate. They are about one-fourth grown by the time cold weather sets in, and they remain all winter in these leaf-covered webs. Such webs could be overlooked on nursery



stock, as they have the appearance of dried leaves. If ever introduced into our State, this pest would make up in its spread with the gypsy moth, for its flight is more perfect, that of the gypsy moth being retarded by the almost inability of the female moth to fly. The egg masses of the brown-tail moth contain about 300 eggs; both species are therefore very prolific, and are also general feeders, and much damage is done to fruit trees. There exists a species of gypsy moth in Japan which resembles the European one so that they can hardly be distinguished. This species in the larval stage has taken twice by the quarantine office on imported nursery stock.

[TO BE CONTINUED.]

## Citrus Fruits.

### COVER CROP VS. STABLE MANURE.

Written for the PACIFIC RURAL PRESS  
By THOMAS C. WALLACE.

The question is raised by a grower, whose orchards are under the writer's supervision, if vetch cover crops will not provide all the fertilizer needed, and if not, why stable manure will not fill the bill. As other growers, possibly among our readers, may be studying the same question, it seems worth attention in these columns. Growing oranges as a commercial proposition demands pretty generous fertilization of the soil, and simply mulching in of cover crops does not meet the case. The first effect of the mulch obtained from the cover crop is a physical one, resulting in the loosening of the soil and making it more friable. The fertilizing action of the cover crop only follows its complete decomposition and the resultant gases and soluble compounds combining with the soil mineral. This is a very slow process, which in nature has had decades and even centuries to evolve a quantitative fertilization of the soil to feed crops. When we contemplate the limited store of fertility found in a soil which has had the uninterrupted growth and decay of crops of natural grasses and plants for centuries, it is borne in upon us that the mere growing of an annual crop for humus supply, while we are as regularly taking off crops of fruit, is a very meagre attempt at fertilization for commercial purposes. This reasoning, in the light of practical experience, guides us to supply more direct plant food for the crops we grow to market. We need the cover crops to make a healthy soil, and we need the fertilizer materials to help our business, which is the production of fruit for market. That the mulch crop is incidentally a fertilizer, and the two operations are thus inextricably entwined, is one of the essential points of orange culture. The stable manure used in orange culture is of an inferior grade, when compared with the manure produced in dairies and stock barns in humid and temperate or cold climates. It is not equal to the cover crop for orchard use, and does not meet the needs of orange growing in California as well as the cover crops do. As well, it is far more expensive than cover crops, while evidence is lacking of its having been found as valuable by any system of practical or theoretical experiment. It requires at least as much commercial fertilizer to supplement these stable manures as a similar amount of cover crops should have.

So long as the object of orange growing is to produce steadily full crops of fruit for marketing, the use of either cover crops or stable manure is necessary to mulch the soil for physical effect, in which the circulation of air and water figure most prominently, to facilitate circulation and to develop humus to build loam. I prefer the cover crop, and advise its use, to the exclusion of stable manures, if they have to be purchased. But it must not be understood from this that the use of stable manure is condemned. And there are conditions in which it is the most practical material to use. It will not loam a soil as deeply as the roots of the cover crop do, but it will give quicker results under most conditions, though at many times the expense.

We are not unmindful of the effect attributed to manure arising from the peculiar acids coming with dung from the animal's stomach, but this is scarcely a factor for serious consideration with the ordinary stable manures coming out of the

city stables, corrals and street dumps, which are subjected to firing, washing and leaching. The plant food of such stable manures as are supplied the orange growers is more expensive than the same can be obtained from high-grade fertilizer materials, so that it cannot be looked upon as an economical fertilizer. While viewing with interest and admiration the grand provision of nature for the transference of the nitrogen of the air to the loam, we should not lose sight of the practical fact that it does not automatically meet the full demands of commercial fruit production. In using the cover crop we not only meet the demands of a farming soil, but we take advantage of a great natural law. In supplementing this with commercial fertilizers we but add to the advantage by utilizing another natural provision. As cover crops and stable manures are essentials for the maintenance of soil loam in orchards, fertilizer materials are as essentially a commercial consideration for the continuous production of profitable market crops of fruit.

### THOUGHTS ON IRRIGATION.

Irrigation as first practiced among the orange groves of California was on the plan known as surface of broad flooding. This was accomplished by ridging up the land in broad squares, into which the water was run and allowed to sink into the earth. This method was quite generally abandoned for the furrow system, the points of defect in the flooding method being that it was more difficult to work and control; on any but sandy soils it puddled the surface and did not penetrate readily, and artificial hardpan seemed to result; it was thought to cause gum disease. The furrow system is undoubtedly the easiest and most comfortable method to work, and if it had been properly understood and applied it would have proved a superior plan of applying water to the soil. An investigation of hundreds of orchards discloses that the furrows for irrigation are seldom over three inches deep, and frequently not more than two inches.

This suggests that the furrow system as practiced has not generally been more than a surface irrigation in general effect, and convenience seems to be about the only advantage gained. But the furrow system properly applied is undoubtedly advantageous. To gain the advantage the furrows must be as deep as practical, and six inches below the actual soil surface is about as deep as it is possible to furrow in orchard work. Some growers are making furrows even deeper than six inches, but these are isolated cases in particularly deep loams. The great fault of surface irrigation such as obtained by shallow furrowing or flooding, is that in a soil containing a considerable portion of clay or silt the first six or eight inches, or even one foot, of the soil is puddled and the air driven out. This puddled soil sets together so closely that the air pressure from above is arrested, and the downward movement of water below that depth is so slow that the usual forty-eight hours flow is not sufficient to wet the substratum well. The result is that the heavier and finer particles of the soil settle and cause a dense substratum. Each succeeding irrigation intensifies this condition, until at a depth of from one to two feet a hardpan is formed below which water does not readily penetrate. In some soils important ingredients, such for instance as lime, are thus sunk below the point of usefulness, while the run-off of water causes valuable plant food matter to be carried to the lower end of the orchard, and even to the road ditch or a neighbor's land. In a soil which I recently examined such a hardpan was formed at distances from the surface varying from fifteen to twenty-one inches. Above the hardpan the soil showed insufficient lime for its character, while the hardpan was very rich in lime, mostly in the form of carbonates. An examination of the soil surrounding the orchard, not subject to irrigation and cultivation, except for the cutting out of weeds, showed very satisfactory lime content up to the surface. This is taken as evidence of the settling of the lime in the irrigated soil under cultivation.

The loam of this soil, by which is meant the soil showing organic matter and humus combined with the earth, was approximately ten inches in depth. When a lump eight inches square was cut out of the hardpan and set in a shallow dish con-

taining water a quarter of an inch deep, the water was rapidly absorbed by the earth. More water was added to the bottom of the dish slowly, not more than a quarter of an inch deep at any time. The soil became fully saturated in less than an hour, when it fell to pieces and crumbled, thus showing that the hardpan was simply the result of imperfect irrigation. The treatment for this orchard should be deep furrowing for irrigation and an application of gypsum to supply lime and flocculate the clay. The trees of this orchard are poor and the orange crop a notable failure, but after the treatment prescribed, with a rational method of cultivation and wise fertilization, first-class crops can be obtained. Fertilizers applied under existing circumstances can do no good, and this is indeed evidenced by the past history of the orchard. In a less clayey soil carbonate of lime would meet the case even better than gypsum, but each case must be treated for its peculiarities as we find them.—T. C. W.

## The Vineyard.

### VINEYARD MORALITY.

To the Editor:—It pays to be good—in the vineyard. The vineyard which is regular, moderate and honest in its habits is a profitable vineyard. If the vines are all built on the same model, providing that model is a good one, they will all be fruitful, healthy and convenient to handle. On the other hand, if the vines are growing irregularly, the plowing, cultivating and hoeing will be troublesome and expensive. If the vines vary in height, shape and size they will be difficult and costly to prune, to sucker and to doctor with sulphur, sprays and hopper cages. If some of the vines are missing, some of them dwarfed, some of them naturally sterile, some mutilated, broken and decayed as a result of unskillful pruning or unskillful manipulation of the single-trees, the crop will be greatly reduced in both quality and quantity.

The virtues of temperance are equally well exemplified in the vineyard. If by pruning shorter we can sometimes invigorate our vines, we can, by carrying this short pruning to excess, prevent their bearing at all. If by pruning longer we can often increase the crop, we may by excessively long pruning kill our vines.

Because by placing our vines on a single wire trellis we can in some cases double the crop, it does not follow that by using two or three wires we can triple or quadruple this crop. If by giving certain vines two or three fruit canes, three or four feet long, we can obtain satisfactory results, we must not necessarily conclude that the results will be better if we give them five or six fruit canes ten or twelve feet long.

A vine under any given set of soil and climatic conditions is capable of yielding a certain maximum crop of good grapes. The attempt to make it exceed this maximum can only result in weakness of the vine and deterioration of the quality of the fruit, and from the increase in cost of pruning, wiring, etc., we reap no compensating benefit. We must be honest with our vines. The grape offers no exception to the rule that from nothing we can get nothing; if we would reap we must sow.

When by a judicious exercise of the virtues of regularity and temperance we have brought our vines to the highest degree of vigor and fruitfulness of which they are capable under the conditions, we can improve them only by bettering these conditions.

We may then, by the use of cover crops, often improve the humus and nitrogen contents of the soil, or by the use of judiciously chosen fertilizers, correct some of its defects or deficiencies. When this is done it will frequently be possible, by increasing the number of fruit buds we leave on the vine, to increase the quantity of grapes without deteriorating their quality or weakening the vine.

All changes in a vineyard, whether of pruning, cultivation or fertilization, should be regular, moderate and well considered. If this rule is followed, nearly all vineyards can be much improved and made more satisfactory and profitable.

FREDERIC T. BIOLETTI.

Berkeley.



## The Tulare County Citrus Fair.

By HENRY W. KRUCKEBERG, of Los Angeles.

Coming up on the train from Los Angeles on my annual pilgrimage to the Tulare Citrus Fair it was my good fortune to "fall in" with one of the heroes of early California, now a grizzled veteran, who had settled in Visalia as early as 1853. Naturally the conversation took a reminiscent turn, touching on the changes that had taken place in the development of the country since the Gringo gained control. My chance acquaintance of the smoking room was naturally enough living much in the past; there was a somewhat pathetic allusion to the good old days when the bond of fellowship between man and man was less conventional than it is today. Gradually I turned the conversation into agricultural channels, and was told much of interest touching the early rural economies of Tulare county, and the hardships and privations, as well as the diversions and social customs of the pioneers who first planted American civilization at the point where now is situated the town of Visalia. In the early fifties the region was known as the "Four Creeks country," these streams, as they flowed from the mountains through the delta, affording ample water for stock and also for irrigation as development progressed. Like the remainder of the San Joaquin valley, the earlier agricultural activities were essentially stock raising; later field crops, especially the cereals, featured the landscape; these were in turn followed by deciduous orchard and vineyard crops; and now we have the foothill regions clothed with profitable orange and lemon groves. What a transformation of scene and industry in a decade!

Citrus culture as a commercial proposition in Central California is an event of only yesterday. Twenty years ago the only orange and lemon trees were a few specimen plants in front yards, the general opinion prevailing that the citrus family was by reason of climate confined to the region south of the Tehachipi. Some sixteen years ago the first orchards were planted along the foothills, which "came through" with crops of fine fruit in commercial quantities. As a result, development along these lines was rapid and sure. Today there are 12,000 acres in citrus fruits in Tulare county, 5,500 acres of which are in bearing, with an annual increase of something like 3,000 acres. Land which fifteen years ago went a begging at \$10 to \$20 an acre, today readily commands from \$100 to \$150 per acre. The annual output of oranges and lemons is about 3,500 carloads, bringing to the growers of Tulare county something like \$1,500,000 per year.

Touching Citrus Fairs in the land of the Four Creeks, they constitute the strongest object lessons imaginable calculated to demonstrate the adaptability of the foothill regions of Tulare county to the growing of oranges and lemons. The Exeter Citrus Fair is the third of the series, the first being a Porterville affair, and the second was held at Lindsay. These fixtures are purely local in character, being the result of the enterprise of pushing and energetic American horticultural communities. The Exeter fair was held in the car barn of the Visalia Electric Railway Company, which was admirably adapted to the purpose. Its promoters and sponsors were the energetic business men of Exeter, who financed it and pulled it off in a manner calculated to satisfy a Barnum. To accommodate the maddening throngs the Visalia electric line ran two and three car trains over its lines, and the Southern Pacific greatly augmented its steam service. The average attendance was about 1,300 people daily. The receipts were more than ample to meet all obligations, leaving a handsome nest egg in the treasury for future operations. Too much credit cannot be given to President W. R. Wood and Secretary C. F. Balaam for the executive skill displayed in the management of the affair.

Coming down to the fair itself and the exhibits, it was at once noticeable that the fruit this season is a trifle late in ripening. Though fully grown, much of it lacked color, and, of course, a corresponding element in flavor. Another negative feature was an evident want of knowledge in the selection of choice specimens. A visit to the orchards and packing houses revealed sufficient evidence of the truth of this criticism. It was also a matter of regret that many of the classes were not filled, making actual competi-

tion impossible. The classification of entries totally ignored the commercial features. There should have been regular entries for all standard sizes of oranges and lemons, thus affording an idea of the relative value of each orchard's products as marketable fruits. Want of experience and a technical knowledge of what constitute the perfect fruit was responsible for much fruit of an inferior quality being entered. All the fruit exhibited was robbed of its natural bloom by manipulation, while other specimens showed imperfect exterior. These faults might have been much reduced by more careful selection and handling, and should have been more fully noted in the premium list, thus putting the inexperienced exhibitor on his guard. The awards of the judges are as follows:

In making the awards on the exceptionally fine display of citrus and other fruits exhibited at the third annual Tulare county citrus fair your judges desire to commend the enterprise and advancement that has been made in the development of a great industry in a section which but a few years ago was essentially a grainfield and a range for cattle and sheep. The quality of the fruit was in every sense of high order. The only negative character it possessed was that much of it was undeveloped and of course not full colored nor possessed of the fine flavor which it will assume later on. In some cases growers might have advanced their winnings if better specimens had been selected, due undoubtedly to inexperience. The awards in the single classes are as follows:

Best 30 specimens of Washington Navels exhibited by one grower in Tulare county—First, Kaweah Lemon Company, Lemon Cove; second, D. R. Griffith, Exeter.

Best 30 specimens of budded oranges other than Navels by any one grower—T. A. Pogue, Lemon Cove.

Best 30 specimens of seedling oranges by any one grower in Tulare county—M. E. Griffes, Three Rivers.

Best 30 specimens of lemons by any one grower in Tulare county—First, W. H. Moffett, Lemon Cove; second, Kaweah Lemon Company, Lemon Cove.

Best 30 specimens of grape fruit by any one grower in Tulare county—First, Ohio Lemon Company, Lemon Cove; second, T. A. Pogue, Lemon Cove.

Best 30 specimens of limes by any one grower in Tulare county—Mrs. Anna M. Norris, Porterville. No competition.

In making the awards for locality exhibits the selection of honors was more difficult. The award for the best locality display was indeed a sensitive point, the two displays of Porterville and Lemon Cove both being exceptionally fine in quality of fruit and strikingly original in point of conception. The former exceeded in oranges and the latter in lemons and at the same time possessing merit in its decorations of greenery, which gave it some advantage from a horticultural point of view. The showing of Lindsay was indeed individual in conception and well executed. Of course the fruits other than citrus could not be considered under the conditions of entry. The locality together with collective awards are as follows:

Best display of citrus fruit from any one locality in Tulare county—First, Porterville; second, Lemon Cove; third, Lindsay.

Best display of citrus fruit by any one grower in Tulare county—Martin & Dudley. No competition.

Best display of lemons by any one grower in Tulare county—First, Kaweah Lemon Company, Lemon Cove; second, C. W. Buswell, Porterville.

In the exhibits other than citrus fruits, the showing was in some respects quite as attractive as the alluring oranges and lemons, showing a diversity of orchard and vineyard crops to which the soil of this section is well adapted. The awards covering the entries in this division resulted in the following winnings:

Best display of fresh grapes from any one vineyard—First, Alvan Campbell, Dinuba; second, Poso Grande vineyard, Exeter.

Best display of olives by any one grower—First, E. T. Norcross, Exeter; second, E. D. Wolbert, Exeter.

Best samples of fresh strawberries—W. M. Armstrong, Exeter. No competition.

Best display of dried fruits from any

## MILL

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



## MAN

Importers of

Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

**Hawaiian Fertilizer Company, Ltd.**

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

## IT'S FREE

### BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

**CALIFORNIA FERTILIZER WORKS**

OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

**THE PACIFIC GUANO & FERTILIZER COMPANY**  
268E Market St., San Francisco, Cal.

## SOW GOOD SEEDS

Largest Seed House in the West

# LILLY'S BEST



Established 1885

Send Now  
For Free  
Catalog

# SEEDS

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

**THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.**

## THE MARSHALL NURSERIES

FOR FRUIT TREES, GRAPEVINES,  
PALMS, ROSES.

FULL LINE OF EVERYTHING GROWN BY US.

**S. W. Marshall & Son, Nurserymen.**

BOX 652, FRESNO, CALIFORNIA.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
EKSTEIN & EKSTEIN, Modesto Euc. Nursery, Modesto, Cal.  
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.



locality in Tulare county—Dinuba. No competition.

In exhibits of a non-competitive character, special mention must be made of the display of deciduous fruits in jars made by the Tulare Board of Trade, showing a splendid array of the stone fruits, grapes, apples and pears and garden and field crops. In addition to this there were other exhibits embracing the arts and sciences, agricultural appliances, covering the subject of irrigation and other agricultural activities, besides exhibits bearing on an advanced domestic economy, all of which gave variety and interest to the fair as a whole.

In concluding this somewhat brief report, the want of full entries in all the classes was a matter of regret. In many of the classes there was but one entry, which under ordinary rules would bar it from competition. The fruit in many cases gave evidence of a lack of experience in its selection, which might have been replaced by better selection had more care been exercised. In other cases the entry was so made that it precluded the consideration on vital points. Among these might be mentioned sizes as to commercial grades, buoyancy and weight, bloom, etc. These are all factors which have an important bearing in the deliberation and production of the perfect fruit. The scale of points in the determination of the awards on citrus fruits, excepting the pomelos, all run low, the highest on oranges and lemons on this account being 77. All of which is respectfully submitted.

GEORGE C. ROEDING,  
W. W. GILLET,  
R. M. TEAGUE,  
H. W. KRUCKEBERG,  
Judges.

In addition to the display of citrus fruit there was also an interesting entry of deciduous fruit, garden and field crops. The display of apples was one of the best the writer has ever seen in the varieties shown, which were Arkansas Black, Mammoth Twig, Rome Beauty and Wine-sap. In this division Dinuba had a collective exhibit showing all kinds of fruit, both fresh and cured, which was interesting, showing quality throughout. Three Rivers, a comparatively new colony, displayed oranges, apples, garden and field crops evincing soil and climatic conditions well calculated to sustain the reputation of the region for soil products. Farmersville also came in for much attention for a similar display, excepting in the matter of citrus fruits. One of the marked exhibits was that made by the Tulare County Board of Trade showing nearly every product of the country excepting oranges and lemons, mostly in glass jars.

It is gratifying to know that the interest in these annual fairs knows no abatement. Already Dinuba is in the field for the next fair, and will undoubtedly pull down the persimmon. Verily the world do move, hence let the good work go on.

Poultry shows will be held at three places in the State next week. Petaluma dates are December 16 to 19; Fresno, December 16 to 19, and Pomona, December 14 to 19.

#### SITUATION AND HELP WANTED

Advertisements under this head inserted at the rate of one cent per word per week. No ad. taken for less than 25c. per issue.

HAVING had 20 years experience in the management of orchard and vineyard work, would like to take charge of such property for owner. References, by permission, to W. H. Aiken of this place. Address F. M. Campbell, Wrights, Santa Clara County.

#### 9 CORDS IN 10 HOURS



BY ONE MAN, with the FOLDING SAWING MACHINE. It saws down trees. Folds like a pocket knife. Saws any kind of timber on any kind of ground. One man can saw more timber with it than 8 men in any other way, and do it easier. Send for FREE illustrated catalog, showing latest IMPROVEMENTS and testimonials from thousands. First order secures agency. Address FOLDING SAWING MACHINE CO., 109-104 E. Harrison Street, Chicago, Illinois.

#### FOR SALE

##### 16-FOOT WINDMILL

(FIARBANKS)

and 5-inch Cylinder Pump—good as new. Also Tanks. Address P. O. Box 43, Stege, Cal.

## AGRICULTURAL REVIEW.

A new creamery is to be built at Bernardo, San Diego county.

The last car of grapes shipped from Woodland for the season sold for \$2.05 per box in New York.

The Washington State Dairymen's Convention will be held at Chehalis, Wash., the third week in December.

A farmers' mutual fire insurance company has been organized at Napa, with \$65,000 worth of business to start on.

The Stanford ranch, near Vina, produced 670,000 tons of grapes this season, all of which were made into wine or brandy.

The cannery at Napa is to be doubled in capacity before next season. This concern put up 150,000 cases of fruit the past season.

The work of picking and curing this year's olive crop around Oroville is well under way. The crop is reported short in that section.

Owing to the increase of berry acreage in Tehama county, a growers' association is being formed at Red Bluff to market the crop.

It is expected that fully 500 cattlemen will attend the National Livestock Association meeting at Los Angeles from January 26 to 28.

The Mission Land Co., of San Leandro, has received a car of flax seed and will experiment with growing flax for commercial purposes.

The Western Creameries Co. of San Francisco is securing more land at Benicia, on which to double the capacity of their plant there.

Owing to the large acreage to be set out to oranges in central and southern California this season, some planters are predicting a shortage of nursery stock.

The Hamilton sugar beet factory has leased several hundred acres of land in District 70, Sutter county, and will plant it to sugar beets the coming season.

The total orange shipments from Covina the past season amounted to \$700,000. The Argus says that prospects are good for a 15 per cent increase for 1909.

R. M. Dunlap of Woodland has been to Missouri and purchased fine bulls to ship to California, consisting of several head each of Short-horns, Galloways and Herefords.

The raisin pool at El Cajon, San Diego county, which controls over 600 tons, has already disposed of 13 cars, and the prospects are good for fair prices for the whole amount.

The territory around Pasadena, Texas, will have several hundred cars of berries to send to market beginning January 1. Over 175 acres are devoted to early berries in that locality.

Arlington Heights, Riverside county, shipped its first car of oranges for the season last week. The fruit was all carefully selected and sent forward as fancy for the holiday trade.

The Citrus Experiment Club is a new organization at Riverside, formed for the purpose of improving orange and lemon trees. A show will be held in the spring to bring out the best that has been discovered.

Notice is given that several thousand acres of the famous Glenn ranch, near Willows, will be divided into small tracts. Over 20,000 of the original 40,000 acres of the ranch has already been divided and sold.

The organization of new reclamation districts along the Sacramento river is progressing rapidly. Many thousands of acres of overflow land are being reclaimed and will be used in growing fruit and vegetables.

The Santa Paula Commercial Co. has shipped 43 cars of walnuts this season. The Limoneira Co. has shipped 22 cars, which were raised on its ranch. While the crop was not up to the average, the size and quality were good.

Thousands of cattle on the ranges in Colorado are reported to be starving, with prospects that there will be an unprecedented loss to the cattlemen during the winter, which opened early and caught the majority of stockmen unprepared. Feed is selling at almost prohibitive prices in the range districts, hay now bringing \$25 to \$30 a ton in the Arkansas Valley and Park Range districts.

Work on the enlarged citrus packing house at Highland, in San Bernardino

county, is about completed. The house will have a capacity of six cars of fruit daily, is 100x165 feet on the ground, and will have special lemon curing rooms.

The statement is made by the Watsonville Pajaronian that only about 250 cars of apples remain in that section to be shipped. Most of the packing houses have been closed and many of the packers have gone south to work in the orange houses during the winter. Probably 500 cars of apples from this district are now in cold storage awaiting market.

## TREES

SEASON 1908-9.

ORDER NOW FOR FUTURE DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$ 200,000.00

## FANCHER CREEK NURSERIES

INC.  
Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## Onion Sets 12½c. a Pound

Special Prices on Larger Quantity.

Headquarters for all kinds of seeds. Catalogue upon request—FREE.

NAVLET BROS., 520 K Street, Sacramento, Cal.

## FRUIT TREES—TREES OF ALL KINDS

We make a Specialty of Muir Peaches, Bartlett Pears, French Prunes, and the Commercial Smyrna Figs.

Send in list of your wants and get our prices before writing elsewhere.

MAYWOOD COLONY NURSERY COMPANY  
W. Herbert Samson, Prop., Corning, Cal.

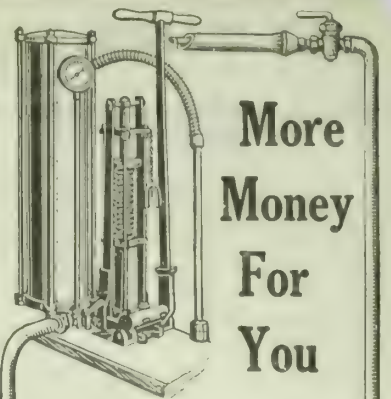
## ETTERSBURG GOOSEBERRIES

Are Worthy of a Trial in Your Garden.

New and distinct variety. Prolific and of highest quality. Skin very tender and seeds few, and half as much acid as other gooseberries. Cuttings root easily and are only 50 cents per dozen by mail, direct from the originator. Order before January 15. Stamps accepted.

ALBERT F. ETTER, Briceland, California.

PACIFIC SEED CO., Grower and Importer of all kinds of seeds, bulbs, onion sets, grass, clover, alfalfa seeds. 609 J. St., Sacramento, Cal. Send for catalogue.



More Money For You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

BEAN SPRAY PUMP CO.  
211 West Julian Street  
San Jose, Cal.

## PEACHES

Best policy to plant when prices are down.

MUIR SELLERS FREE  
Regular bearers; fruit dries heavy.

TUSCAN CLING SELLERS GOLDEN CLING  
Bear heavily; always money makers.

\$150 per Thousand.

WRITE FOR FULL CATALOGUE:

LEONARD COATES NURSERY CO., Inc.  
Morganhill, Cal.

## GREGORY'S SEEDS

If you want to be sure of a growing crop, plant Gregory's seeds. Always sold under three warrants. For over fifty years they have been the standard for purity and reliability. Gregory's Seed Book—FREE to everyone who writes for a copy. It is full of practical instruction. One of the most valuable books for farmers and gardeners ever given away.  
J. H. Gregory & Son  
Hartlehead, Mass.



## Fruit Marketing.

### WORK TO INCREASE TARIFF ON LEMONS.

In view of the importance of the work of the Citrus Tariff League, we wrote to Mr. C. C. Teague of Santa Paula, one of the committee of five to present the claims of the citrus growers before the Ways and Means Committee at Washington, to give us a report of the work done. Following is Mr. Teague's reply:

"I did not get your letter in time to comply with your request for a letter on the work that our committee intended to take up. We prepared a sort of brief on the citrus industry and its present condition in California, which we submitted to the Ways and Means Committee in support of our request that the present duty on oranges be maintained, and that the duty on lemons be increased to 1½c. per pound, instead of 1c. as at present.

"We were able to show that under the present protective tariff that the consumption of oranges in the United States was practically all being supplied by United States production, and that consumers were getting cheaper prices than ever before, but that the present production of lemons did not accomplish this result, inasmuch as the average lemon grower, except during the years 1906-07, had not made any money, and the acreage therefore had not increased.

"You understand, of course, there are some exceptions to this, as some of the best packs, with established reputations for good keeping quality, sell at a premium, which in itself amounts to a fair profit, but the rank and file of the men engaged in the business certainly need additional protection; that is to say, the business as a whole needs additional protection if planting is to increase sufficiently to take care of the lemon consumption of this country, as about 65% is still being imported from the Mediterranean.

"We feel that our committee was very favorably received by the Ways and Means Committee, and we hope and believe that that committee will recommend in the new bill that the present protective tariff of 1c. per pound on oranges be maintained, and that lemons be given 1½c. per pound protection.

C. C. TEAGUE.

#### BRIEF SUBMITTED BY COMMITTEE.

The following is the brief to which Mr. Teague alludes:

The present tariff duty on lemons is 1c. per pound. The experience of ten years has demonstrated that this tariff is sufficient to protect the orange industry, but is not sufficient to encourage the lemon industry.

While the production of California lemons has increased during the past ten years, the percentage of home grown fruit consumed in the United States has not materially increased. In 1901, 67% of the consumption was imported; in 1907, 64%; in 1908, 2,231,125 boxes of lemons were imported into the United States, which was the heaviest importation in the history of the business, and was an increase of over 400,000 boxes in excess of the importation of 1901.

Experience has demonstrated that California possesses the requisite soil and climatic conditions to produce lemons equal to any grown in Italy.

The 2,000,000 boxes annually imported from Italy, if grown in California, would furnish continuous employment at good wages to 5000 people, and would comfortably support 5000 families in the United States.

All of the lemons required in the United States could and would be grown in California if the tariff duty was sufficient to equalize the cost of labor and transportation between Italy and the United States.

It is exceedingly important to the interests of California that this tariff duty shall be properly adjusted to admit of the just development of this industry. It is still more important to the people of the whole United States that this very necessary article of diet be produced at home, to the end that the supply would be insured and that prices be freed from the control of a foreign nation or the opportunity for combination of a few large importers.

It was found by the Interstate Commerce Commission, in the Citrus Rate Case, after the taking of much testimony, that it required eight years of continuous care and expense to bring a grove to bearing, and that the average cost per

acre of a grove in California at eight years of age was \$1000.

These figures are still substantially correct as to the commercial value of a grove. Additional values are sometimes received for ground that is advantageously located for residential purposes, but as a general proposition California groves are worth what it cost to produce them.

Data has been secured from a considerable number of large growers who have kept accurate book accounts for a long series of years, situated in various districts of California, to ascertain this actual cost of producing a box of lemons in the State. While conditions vary somewhat, and the items making up the cost are not uniform in the various districts, on account of the difference in the cost of water and soil conditions, the average total cost is singularly uniform, varying from \$1.41, as the lowest price for an average of years, to \$1.50 as the highest price. These figures represent the minimum cost, for as a rule a large grove can be handled more economically than a small grove, and the cost is usually cheaper in proportion to the production of the property.

The average cost of a box of lemons on the cars in California, ready for shipment, is \$1.48, which includes all the expenses of cultivation, water, fertilization, fumigation, picking, handling, packing, and material used, and every item entering into the cost, excepting interest on the investment in the groves and packing houses. Of this cost, 48c. goes for material, labor \$1, transportation 84c., making the total cost \$2.32.

Authentic information as to the actual cost of producing a box of lemons in Italy places the amount at 75c. Of this amount 50c. is for material and 25c. for labor. The total cost for transportation from Italy to the Atlantic seaboard is 25c., and the duty is 84c., making the total cost from Italy to New York harbor \$1, a difference in favor of the Italian lemon of 48 cents.

The United States Consul's report shows that the production in Italy is about 300 boxes per acre, showing that a grower can make \$150 per acre and still sell at a price that would leave the California grower no returns whatever. From this situation it is very evident that one of three things must occur—either the tariff duty must be advanced to 1½c. per pound, or the price of labor must be reduced, or we as a nation must continue to use foreign lemons.

The transcontinental railways, realizing these conditions, have made a lower freight rate on lemons to assist us in the unequal competition, to-wit, 84c. a box to Eastern markets, instead of \$1.05 prior to November, 1904.

It is also a fact that in 1898 we had in orchard form 11,054 acres of bearing lemon trees, while in 1908 there were only 2704 acres of unbearing trees in orchard form. This indicates what is well known in California, i. e., that tariff duties of 1c. per pound have not been sufficient to encourage the planting of a large acreage of lemons, for which we have ample unplanted territory in California. Under the stimulus of an increased duty the setting of lemons would be so great that in ten or twelve years California would be able to produce all the lemons needed for consumption in the United States.

The figures we have given as to the tariff duty paid on foreign lemons does not take into account the common practice of the Treasury Department in making a refund for decayed fruit, which frequently amounts to 25% or more reduction on the tariff fixed by law. The California lemon grower receives no discount on his freight by reason of decay, which still further differentiates the cost.

There are approximately 30 dozen lemons in a box. The present tariff amounts to less than 3c. per dozen.

The lemon growers of California ask an increase of tariff duty of ½c. per pound, which amounts to about one and one-third cents per dozen, or a total tariff of 1½c. per pound, amounting to 4.2c. per dozen.

#### MR. PHILIPPI'S NEW POTATO.

To the Editor: In answering the many letters in regard to the last production of that new potato produced by me, I would simply say that no one needs to be a wizard to produce new varieties. The fundamental laws of nature in the breeding of vegetables are the same that prevail in the animal kingdom. Hybridization, as defined by Webster, is made by taking the pollen from one bloom to another.

To explain the effects on animal life



**"THE MAN WITH THE HOE"  
SHOULD SOW**

**MORSE SEEDS**

**ALWAYS RELIABLE**

Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

**SEEDS, PLANTS AND TREES**

This Catalogue is the finest we have ever issued and will be mailed free to all who write us.

**C. C. MORSE & CO.**

IF IN THE CITY CALL AT  
Retail Store:  
125-127 MARKET ST.  
(Opposite Junction with California.)

WHEN WRITING ADDRESS US AT  
Jackson Street  
SAN FRANCISCO

## EUCALYPTUS TREES AND GENERAL NURSERY STOCK.

Large supply of Peach trees, Ornamental trees,  
Ornamental plants, and Rose bushes,  
in large quantities.

WRITE US FOR PRICE LIST AND DESCRIPTIVE CATALOGUE.

**ORANGE COUNTY NURSERY & LAND CO.**  
FULLERTON, CAL.

BRANCH NURSERIES:

Riverside, Cal.

Corcoran, Cal.

## SEED TREES PLANTS BULBS

If you are interested in the **best seed**, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you **Free**.

**Trumbull Seed Company**

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - - San Francisco.

Please mention this paper.

## TREES GRAPE VINES YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES,  
ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

**THE FRESNO NURSERY**

F. H. Wilson, Proprietor, - - - - Fresno, Cal., Box 615.

## 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

**W. A. T. STRATTON, Nurseryman, Petaluma, Cal.**

## EUCALYPTUS

Large Assortment—All Varieties  
Hardy and Selected Rapid Growers  
Write for prices, giving amount wanted  
LLOYD R. TAYLOR, Modesto, Cal.



# Ready To Ship

10,000 Superlative Raspberry, 2 years old

10,000 Plum Farmer Raspberry, 1 year old

50,000 Crimson Winter Rhubarb, 1 year old

100,000 Strawberry Plants

5,000 Penderosa Lemons

Also Trees, Seeds, Bulbs, Etc., Etc., Etc.

WHOLESALE AND RETAIL.

Send for Catalogue—Ready.

**A. MITTING, Nurseryman**  
17 to 25 Kennan St., Santa Cruz, Cal.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

**JOHNSON & MUSSER SEED CO.,**  
113 N. Main St., Los Angeles, Cal.

**The Seed House of the Great Southwest**  
1909 SEED CATALOGUE.

We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies ever published on this Coast. If you do not receive yours by the 20th of December, write for it and get your name on the list.

**AGGELER & MUSSER SEED CO.**  
Successors to  
**Johnson & Musser Seed Co.,**  
113-115 N. Main Street, - - - - LOS ANGELES.

**Now is the Time for Ordering Trees.**

We have a large lot of EUCALYPTUS, CYPRESS, PINE TREES, transplanted in flats; also a large variety of ORNAMENTAL TREES AND SHRUBBERY, EVER-GREEN AND DECIDUOUS, most suitable for planting along streets and sidewalks and for beautifying parks and gardens. Also PALMS, DRACENA, ROSES, ERICAS, CAMELLIAS, AZALEAS, RHODODENDRON, FRUIT TREES and BERRY BUSHES.

**THE PACIFIC NURSERIES,**  
3041 Baker Street, - - - San Francisco,  
And Millbrae, Cal.  
Send for Catalog. Mention Pacific Rural Press.

**SEED GRAIN BLACK and RED OATS,**  
WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.  
**BRAY BROTHERS,** 220 Clay St.,  
Buyers of Grain and Beans.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited.

more fully, I will leave to breeders of animals, who can make better explanations than I can. But I may say that the cross-breeding of vegetables or plant life is continually accomplished naturally. The most valuable fruits were not produced by man; they came through nature's own production. The Muir, Lovell, Orange Cling and Elberta peaches, the wonderful Paul cherry, etc., came about in that way. But it is sometimes becomes necessary for man to step in and assist nature in adding to the productions necessary to his livelihood, or to restore flavor or other qualities which we have lost by inbreeding of our domestic varieties.

I have realized the fact that for some years we have gradually lost the flavor of the potato. By going to the trouble and expense to get wild potatoes from the mountains of Brazil, and using that pollen to impregnate the bloom of the Early Rose, the oldest commercial potato in America, all the characteristics of the Early Rose have been restored. The potato is a little darker color and the size is larger, but it has the original flavor restored by using the wild type as a parent. I need not ask the PACIFIC RURAL PRESS today what food supply the American people would miss more than the potato.

J. W. PHILIPPI.

Acampo.

## SUPERLATIVE RASPBERRY.

To the Editor: The canes of the Superlative live over winter, begin fruiting about the first of May, continuing until the middle of June, then die. New canes start late in fall or through the winter, and about the middle of February begin to grow rapidly; in about six weeks they are blooming, and by the time the old cane is dead the new one is fruiting, thus making a continuous crop through the season. The number of canes increases about ten times through the year. All growth stops in October. With but few exceptions, all canes that have bloomed die, and only those of the latest growth live through the winter and bear the next season.

This raspberry has been grown in California three years. The largest stock is grown by Mr. Richards of Eccles, Cal. Mr. Roeding of Fancher Creek Nurseries measured some of the berries on A. Mitting's place and in J. Streater's garden, both of Santa Cruz. These berries measured 1 inch long and 3/4 inch in diameter.

Mr. Mitting imported 10,000 plants from England last year, and has repeated the order this year. The canes grow about five feet tall and are cut back to three feet, and then are strong enough to stand without a stake. The estimated yield is about 3000 pounds to the acre after the first season. The plant comes to full development in two years, canes of the second year's growth being stronger than the first.

E. R. ONG.

## GOOD WORD FROM AUSTRALIA.

PACIFIC RURAL PRESS: Herewith please find money order for £2, in payment of account herewith, and please carry balance forward to my credit.

Allow me to congratulate you on the wonderful improvements you are continually making in the PACIFIC RURAL PRESS, rendering the paper as useful at this end of the world as it is in California. With best wishes for a prosperous future,

Yours Faithfully,

J. HAWTER.

Mullalyup, S. W. R., Australia,  
October 17, 1908.

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

**FOWLER NURSERY CO.,**  
Fowler, Cal.

**MODESTO NURSERY.**  
Complete Line of Citrus and Deciduous TREES,  
BERRIES, VINES AND ORNAMENTAL STOCK.  
Write for PRICES NOW.  
SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.

## GOLDEN RULE NURSERIES

MRS. L. L. CROCKER, Proprietress  
Loomis, Cal.

The celebrated Crocker Bartlett Pear, guaranteed immune from blight.  
Golden Rule Summer Apple, dormant buds.

Crocker's New Free Peach, 50 cents each; 5,000 left.

Deciduous Trees and Grape Vines.

## Winegrowers, Take Notice

I am now receiving orders for

## GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

## IMPROVED BERRY PLANTS

Strawberry, Raspberry, Blackberry, Dewberry, Logan, Phenomenal, Mammoth Black and Giant Himalaya berry plants; Crimson Winter Rhubarb. Send for Catalog.

**G. H. HOPKINS & SON**  
BURBANK, CAL.

## TREES STANISLAUS NURSERY

Formerly Analy Nursery, of Sebastopol.

**T. J. TRUE, Modesto, R. D. 1**  
PRICE LIST ON APPLICATION.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
**J. B. WAGNER, Pasadena, Cal.**  
The Rhubarb and Berry Specialist. Dept. I.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnock's Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**  
Loomis, Cal.  
AGENTS WANTED

## EUCALYPTUS TREES

Eucalyptus Globulus (Blue Gum).  
Eucalyptus Rostrata } (Red Gum).  
Eucalyptus Viminalis }

**MONTEREY CYPRESS.**  
Transplanted in flats 100 each.  
**W. A. REINHOLDT**  
Main Street Nursery, - - - - Petaluma, Cal.

## SMYRNA PARK NURSERIES

**Trees, Vines, Plants all kinds and varieties.**

Let us know quantity wanted and we will give you special prices on same.  
**CAMPIN & MOFFET** - - - - - Ceres, Cal.

## GRAPE VINES, BERRIES AND ROSES

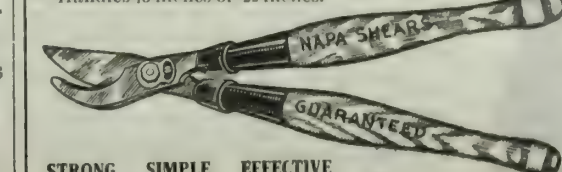
Ornamental, Shade and Deciduous Fruit Trees.

A Good Class of General Nursery Stock.

SEND FOR CATALOGUE  
**CHICO NURSERY COMPANY, Chico, California.**

## Napa Clean Cutting Tree Shears

Handles 15 inches or 22 inches.



STRONG SIMPLE EFFECTIVE

MADE FOR PRACTICAL USE IN  
PACIFIC COAST ORCHARDS.

If you cannot secure Napa Shears from your local hardware dealer, send your order to us. Price \$2.50, express prepaid.

**CALIFORNIA SUPPLY CO.**  
268 Market St.,  
San Francisco, Cal.

## YELLOW MONEY —AND— YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

**R. M. TEAGUE, Proprietor**  
SAN DIMAS, - - - CALIFORNIA

## EUCALYPTUS GROWN IN SUNSHINE

with roots balled while growing in flats. Saves all roots; make sure success when removed to the field and good growth the first season. Sample lots at wholesale rates. Can take from flats and send in tight packages to save cost, risk and time.

**HENRY SHAW,**  
320 River St., - - - - Santa Cruz, Cal.



## Live Stock and Dairy.

### A GOOD TALK ABOUT POISONOUS PLANTS.

(Concluded from page 363 of Last Week's Issue.)

**SYMPTOMS OF POISONING.**—With all the plants above mentioned, except the Loco, the symptoms of poisoning are exhibited within a few minutes to several hours after the plants have been consumed, and while the symptoms occasioned by the eating of different plants are to a slight extent different, yet in general they may be summed up as follows:

Probably the first symptoms to attract attention is the aimless walking of the sheep through the herd with the head thrown up and slightly drawn backward; the animal froths more or less at the mouth, and some bloating may be noticed. As the disease progresses, we see more or less evidence of convulsions, the animal trembling, and finally falling into a spasm, from which it may apparently recover, only to develop again in a more violent form. These intermittent spasms may continue several hours, the animal finally becoming very weak and exhausted, lies flat upon its side until complete paralysis ensues. The length of time required for the animal to die depends upon the amount and kinds of the plant eaten, as well as the amount of food that was contained in the stomach at the time the poison was eaten. The treatment for affected animals is fairly satisfactory, and where any considerable number are affected it should always be resorted to. In the event that the animal is much bloated it may be necessary to puncture the left side at a point between the hip and the ribs, thus allowing the gas to escape. This is particularly necessary for cattle and may be resorted to in the case of sheep.

**REMEDY FOR ALL PLANT POISONS.**—It is probable that the one great remedy for all of these cases of plant poisoning is permanganate of potash. This should be given to sheep in about 6 to 8 grain doses, and may be repeated in 30 minutes if relief is not obtained. Eight grains of this substance should be dissolved in about one-half pint of water, and given as a drench, and may be repeated two or three times, 30 minutes apart. It is seldom, however, that more than two doses are required. In the case of cattle, the dose should be about three times this size.

Many of our sheepmen annually expect considerable loss when their sheep are first started upon the trail. Permanganate of potash is an effective remedy. It can be obtained from any drug store, put up in doses of eight grains, in gelatin capsules. These can be carried by the herder without any inconvenience, and administered by him to all animals that get poisoned. I have seen the antidote administered even after the sheep had become exhausted and was unable to rise from the ground, and within an hour they had entirely recovered. Not long since, in eastern Oregon, a flock master changed his sheep from level lands to the foothills, and in less than 24 hours lost 250 head.

As usual, he attributed this loss to poisoning by saltpeter, which was out of the question, and had he only been supplied with the proper medicine, two-thirds of these sheep could have been saved.

**TO AVERT TROUBLE.**—While treatment is fairly satisfactory, it seems essential that great care should be taken to prevent plant poisoning. This may be accomplished by not allowing the sheep to range among poisonous plants when they are first turned out in the spring, or when they have moved from one range to another. It is also well to see that the sheep are fairly well filled on feed before they are permitted to range in these poisonous districts. By experience many sheepmen have learned of certain sections in the country where they have had annual loss from this cause, and they are, therefore, able to obviate this by avoiding these districts when the sheep are hungry. Plant poisoning is usually more frequent in wet weather than in dry, and it is probable that atmospheric conditions may exert an influence over the amount of poison contained in these plants. I believe that it is almost impossible to poison sheep maliciously by placing any substance upon the range for them to consume, and in ninety-nine cases out of every hundred the loss which we hear of everywhere between April and August is occasioned by poisonous plants, and can largely be avoided if the owner would but give the matter his attention.

### CREAMERY SHORT COURSE AT UNIVERSITY FARM.

To the Editor: On November 24 the Creamery Short Course at the University Farm at Davis closed. The registration in the course reached 25, and was well distributed over the State. Most of the students came directly from the creamery or farm, for the purpose of learning more about the handling of milk and the making of butter. We are greatly pleased with this first class at the University Farm, and doubt if in the future we shall have a more congenial lot of earnest and clean minded young men to instruct.

Mr. Harold Ostergard, as the result of previous experience and attendance upon the creamery course, has been placed as butter-maker with the Colusa Creamery, at a good salary. He had two and one-half years experience in the Fresno Creamery, and spent last summer with the Hazlewood Creamery Co., at Portland.

Mr. George Klockler, who has been assistant butter-maker at the Ceres Creamery for some time, has been engaged as assistant butter-maker at the University Farm Creamery at Davis. We are receiving calls frequently for butter-makers, and as soon as it is generally known that we have men to recommend, they will all be placed, who do not prefer to return to their previous employers.

On November 24 a special effort was made to place the students in touch with actual market conditions. To this end, men of prominence were secured to address the class. Mr. C. L. Mitchell, Federal Butter Inspector of San Francisco, outlined the principles of scoring butter, allowing the class to score the various exhibits reserved from the previous regular churning, following it up with his scores and criticisms. Having previously visited the San Francisco market, the students were prepared to receive great good from this excellent demonstration.

Following this, Mr. W. H. Roussel, president of the California Creamery Operators' Association, and also president of the San Francisco Wholesale Dairy Produce Exchange, discussed the cheese trade, illustrating his remarks with references to different cheeses made by the students. He pointed out that we are not as a people using cheese to a sufficiently large extent in our diet, and that the possibilities of making money through special brands of cheese in California are worth considering. There are many local types of cheese that command high prices and are worthy of study; they are usually of soft texture, mild flavor, and consumed while comparatively new.

Mr. H. R. Timm, who recently began producing certified milk at Dixon, Cal., outlined the objects and requirements of the business, stating his success so far. He is enthusiastic in his efforts to set high standards, and impressed all with the importance of improving the milk supply. His output goes to San Francisco.

Besides local visitors, several creamery men from a distance were in attendance. We hope to enlarge this suggestive in-

struction and make it an annual occurrence. HERBERT A. HOPPER.  
University Farm, Davis.

### UNCLE SAM'S HORSES.

Some interesting facts concerning the number and value of the horses that were owned by the different States on January 1, 1908, are given in the Year Book of the United States Department of Agriculture just received from Washington, D. C. While the number of animals in the several States is no doubt correct, or approximately so, the actual cash value of the animals was no doubt considerably more than stated, for in most States stallions that are worth several thousand dollars for brood purposes are usually assessed at their value for ordinary purposes, says the Horse Breeder.

The figures are of great interest to horse breeders, however, as they show the relative numbers and relative values of the total number in the several States. The total number of horses in the United States is given at 19,992,000, and their total value is given as \$1,867,530,000. The average value per head is given as \$93.41.

Illinois leads all the other States in the number of horses, with 1,591,000, the estimated value of which is \$170,237,000, an average value of \$107 per head.

Iowa is second in rank, with 1,481,000, valued at \$140,481,000, an average of \$99 per head.

Texas is third in rank, with 1,278,000, valued at \$83,070,000, an average of \$65 per head.

Kansas ranks fourth, with 1,108,000 animals, valued at \$96,386,000, an average of \$87 per head.

Nebraska ranks next in point of num-

### LIVE OAK STOCK FARM

Six Miles N. W. from Petaluma, on the Petaluma and Sebastopol Road.

**FRANK A. MEHCAM, Prop.**  
Importer and Breeder of

**Red Polled Cattle**

Color Deep Red. Both Sexes for Sale.  
Address all communications PETALUMA, SONOMA CO., CAL.



**FRANK A. MEHCAM**

Importer and Breeder of Shropshire Sheep  
They were all imported from England or bred direct from imported stock.



We have also bred American Merinos—Hornless Sheep—for 30 years. They are a large sheep without wrinkles. Rams will produce 20 to 25 pounds of long, white wool yearly. Sheep of both sexes for sale.



**FRANK A. MEHCAM, Importer and Breeder**

Shipping Points: PETALUMA and SANTA ROSA, SONOMA CO., CAL.

## "By-the-Way"

Have you ever read anything about the cream separator?

Have you ever seen one?

Have you ever seen a



## Tubular Separator

If you haven't seen one, you have missed a great deal and if you are skimming without a separator, you are losing more than \$10.00 per cow.

With a Tubular you not only get all the cream, but a richer unwhipped, unchurned grade.

Don't take our word for it, but investigate our claims by trying a Tubular.

Catalog 131 tells how. Write for it.

**The Sharples Separator Co.,**  
WEST CHESTER, PENNA.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the typography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

**JOHN R. ROBINSON,**

President John Crouch Land Company

## Kendall's Spavin Cure

The old reliable cure for Spavin, Splint, Curb, Ringbone, Sprains, Swellings, all forms of Lameness. Never found wanting as a liniment for both man and beast. \$1 a Bottle; 6 for \$5.

**At All Drug Stores**

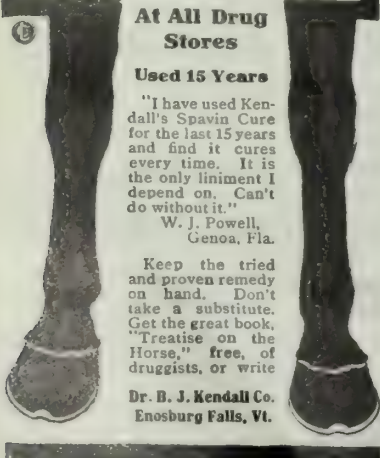
**Used 15 Years**

"I have used Kendall's Spavin Cure for the last 15 years and find it cures every time. It is the only liniment I depend on. Can't do without it."

W. J. Powell,  
Genoa, Fla.

Keep the tried and proven remedy on hand. Don't take a substitute. Get the great book, "Treatise on the Horse," free, of druggists, or write

Dr. B. J. Kendall Co.  
Enosburg Falls, Vt.





bers, with 1,015,000, valued at \$88,305,000, average price per head, \$87.

None of the other States reaches the million mark in numbers. Ohio comes nearest to it, with 949,000, valued at \$105,339,000, an average of \$111 per head.

California has 396,000 head of horses, valued at \$94 per head.

The State which has the smallest number and the highest average value is Rhode Island, with 14,000, value \$1,694,000, an average of \$121 per head. The other States in which the average value is \$100 or upward are Connecticut and South Carolina, average value \$118 per head; Pennsylvania, average \$114; New York and New Jersey, \$113; Massachusetts and Ohio, average \$111; Illinois and North Carolina, \$107; Maine, \$106; Indiana, Michigan and Wisconsin, \$105; Florida, \$104; New Hampshire and Vermont, \$101. The State in which the animals are valued lowest is New Mexico, the average there being but \$42.

## The Veterinarian.

### SCOURS IN CALVES.

By Dr. DAVID ROBERTS, Wisconsin State Veterinarian.

Scours in calves, or calf cholera, in many instances differ from diarrhea in grown animals, and has special features of its own, taking the form of infectious intestinal catarrh, which is far more serious than the diarrhea of the full grown animal.

Scours in calves generally appears suddenly. A perfectly healthy calf may be seized all at once, apparently without any change in food or care. The symptoms of this infantile diarrhea usually appear during the first two or three weeks of life. In many cases scours appear within a few hours after the animal is born, and the calf may die within 24 to 48 hours unless it receives prompt and proper treatment.

It is common for the calf to be afflicted with scours immediately at birth, even before it has had time to suck or take any nourishment whatever.

The faeces or manure is very thin and watery. It has a sour, disagreeable odor and is usually light colored. The evacuations are frequently expelled with force.

The first indication of scours is the soiled condition of the tail, loss of appetite, sunken eyes, sometimes the saliva flowing from the mouth, no attempt being made to swallow. They have a staring coat, grow thin, and lose strength rapidly. Death usually follows in from 12 to 24 hours unless prompt measures are taken to check the disease. If allowed to continue for any length of time, the scouring will be accompanied by congestion and ulceration of the intestinal mucous membrane caused by the irritating secretions. As a result of this disease partial or double blindness is sometimes brought on.

To prevent scours in calves, proper care should be given to the mother while pregnant, that she may be able to give birth to a healthy calf, as scours is a germ disease, it is important that the calf be free from this disease when born. Cows afflicted with the disease of abortion convey this disease to their offspring. It is for this reason that calves so often die of scours before they have even taken nourishment. It is therefore very necessary that the cow be kept free from disease in order to obtain healthy calves.

Calves born, afflicted with the germs of this disease in their system, are in a position to spread the disease to other calves that they may come in contact with in the same herd, or if shipped to other herds. This is another proof of its infectious nature.

To prevent and overcome scours in calves, they should be given medicines that prevent fermentation of food, to allay irritation and congestion, soothe and heal inflamed mucous membrane, act as an antiseptic, as this is quite necessary when the disease is due to a germ.

The most important factor in the raising of cattle is their care while young. Do you think that you are doing the correct thing if you are only managing to keep the life in the calf until it is three months old, and then have it get fat on grass before the winter comes. If you do this, you will be apt to have a lot of stunted calves with their digestive organs destroyed, which will never make strong healthy cattle, and will not be good for either dairy, beef or breeding animals.

## FOOT AND MOUTH DISEASE QUARANTINE.

New York and Pennsylvania are now under a cattle quarantine as the result of an outbreak of contagious foot and mouth disease. The distemper made its first appearance in some counties in Pennsylvania, which were promptly placed under quarantine. The efforts made by the State and Federal authorities did not, however, avail to prevent the spread of the disease, and it has now been found necessary to extend the quarantine. A large number of men have been set to work disinfecting the East Buffalo stock yards, to which one of the shipments was traced. The action taken there will result in a general cleaning up of the stock yards and an investigation into the outbreak of the disease, which, it is hoped, will add to the knowledge available on the subject. Under the quarantine order issued by Secretary Wilson, interstate or foreign shipments of dressed carcasses of calves, sheep and other ruminants are prohibited unless the hides or skins and hoofs are removed. Shipments from and to points not in either of the two States quarantined must be in sealed cars, and shipments unloaded en route within the quarantined territory must be put into pens or yards specially disinfected for the purpose. Among the incidents of the situation is an embargo by Great Britain upon the importation of cattle from Pennsylvania, and also upon the importation of hay or straw for fodder or little purposes, the latter prohibition to date from today. The disease, it may be remembered, made its appearance in New England about this time six years ago.—Bradstreets.

## Apiculture.

### INSTITUTE FOR BEEKEEPERS.

Written for the PACIFIC RURAL PRESS  
By MR. RALPH BENTON of the  
University of California.

During the first two weeks of December Mr. Ralph Benton of the State University has been giving addresses on beekeeping topics in connection with the regular Farmers' Institute meetings in the Riverside district and the Imperial valley, in southern California.

The beekeepers of central California are uniting to have a distinctly Apicultural Institute at Fresno on December 16 and 17. These meetings are to be held in the Fresno Chamber of Commerce, and the following is the program:

Wednesday Afternoon Session, 1:30.—Call to order and opening remarks, Mr. Ralph Benton of the State University, Berkeley. The Bee Disease Situation in California, Mr. Benton. Bee Diseases in the San Joaquin Valley, Mr. J. T. Dunn, Fresno; Mr. Fred M. Hart, Hanford, and other county inspectors of apiaries.

Evening Session, 8:00.—Question Box Discussion, Mr. Benton and others. Migratory Beekeeping, Mr. H. T. Christman, Coalinga. Melting Cappings from the Knife, Mr. J. H. Heidorn, Grangeville, and Mr. J. F. McCormick, Fresno. The Effective Marketing of Honey, Mr. R. L. Epperson, Fresno. What the University is Doing for Apiculture, Mr. Benton.

Thursday Morning Session, 9:00.—Varieties of Bees and Their Relative Merits, Mr. Benton. Queen Rearing for the Honey Producer, Mr. Dunn. Question Box Discussion, Mr. Benton and others. An Effective State Organization, Mr. Benton.

A similar gathering is to be held at Monterey for the beekeepers of the central coast counties, the dates and program if which will be duly announced in these columns. Again, in connection with the general Farmers' Institute in Ventura

and Los Angeles counties, there are to be addresses on beekeeping matters. These gatherings are for the beekeepers of their respective localities, and all are urged to attend the meetings and so contribute by their presence and as far as possible enter into the discussions.

At a recent meeting of the city council at Hanford the health officer made the following statement: "From my observations I find that absolutely no pure milk is being delivered in Hanford. Fully 75 per cent of it is adulterated, and it might be said that there is something the matter with all of it."

## FOR SALE The Imported Belgian Stallion

**Desire de Saint Gerard**

### Pedigree:

Desire de St. Gerard (32008)	Bourgogne	Brin d'Or
	7902	7902
	Fauvette de	Marie de
	St. Gerard,	Goych 5831
	14489	

This fine Belgian Stallion was bred by Mr. Martin Tirtiaux of Graux St. Gerard, France, foaled February 12, 1902, and was imported by Dunham & Fletcher of Wayne, Illinois, July 10, 1905. He is a magnificent animal, deep bay in color, with star in forehead. His weight is 2200 pounds.

For authenticated records, price, terms, etc., write to or call on

**M. M. AVELLAR, San Leandro, Cal.**

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

### THE CUTTER LABORATORY

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## TULARE LAKE STOCK FARM.

### REGISTERED

### Jacks and Jennets For Sale.

We breed the Best. Don't write—come and see. We can show you.

**JAS. W. MCCORD,**  
Hanford, Cal.

"No Trusts"  
"No Catalogue Houses"

## DE LAVAL CREAM SEPARATORS

First—Always Best—Cheapest

For Thirty Years

## The World's Standard

As much better than other separators  
as other separators are better than  
gravity creamers.

Send for catalogue of 1908 Latest Improved Machines.

## DE LAVAL DAIRY SUPPLY CO.

108 So. Los Angeles St.  
LOS ANGELES  
42 E. Madison Street  
CHICAGO  
74 Cortlandt Street  
NEW YORK

### General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

## HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

## HOWARD CATTLE COMPANY. BREEDERS OF SHORTHORN CATTLE

641 Mission St., San Francisco, Cal.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Boars and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

## Pure Bred Holsteins

At present we are offering a fine lot of **Young Bulls and Heifers** at very attractive prices. All of this stock have large **Advanced Registry Records** in their pedigrees and are from the famous **Riverside Premier Herd** of the Pierce Land and Stock Co. now owned by the

**OAKWOOD STOCK FARM**  
LATHROP, CAL.

## GLIDE BROTHERS

SUCCESSORS TO J. H. GLIDE & SONS

**Famous Blacow, Roberts, Glide French Merino Sheep.**

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

**RAMS FOR SALE AT ALL TIMES**

P. O. Box  
297 Sacramento, Cal. Home Telephone  
Dixon, Cal.

## Horse Owners! Use

GOMBAULT'S

## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blemishes from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars.

THE LAWRENCE-WILLIAMS CO., Cleveland, O.



## Alameda County Poultry Show.

Impressions and Notes Gathered for the PACIFIC RURAL PRESS  
By M. R. JAMES.

Some six years ago a few enthusiastic poultry fanciers in and about Alameda formed an association for their own pleasure and improvement. That autumn they got up a little show on the same lines. The most they hoped for was to come out even, being well satisfied to give their work for their pleasure. The show went through with flying colors, and when accounts were balanced they found themselves with some \$250 to the good. That was the beginning of this association, which has outgrown its locality and its name—which, by the way, should be enlarged—and which has come through an earthquake and a season of depression without missing an annual exhibition, and now embraces a membership from all over the State and beyond it. But it has not outgrown the spirit of good-fellowship which was its inspiration, and which must always be the motive force of all such organizations if they are to have drawing power and endurance.

The weather has not always been kind to this association—for a fact, it has on various and sundry occasions given it the "cold shoulder" and the "wet blanket," but the attractions have ever proved strong enough to overcome this handicap. For one thing, the location of the show at Idora Park is ideal. The housing this year is a wonderful improvement upon that of a year ago; indeed, the park as a whole has moved up wonderfully in the past year. The skating rink, spacious, light and airy, left nothing to be desired for the comfort of man or bird; and naturally the exhibit showed up to best advantage. We have never seen a better conditioned lot of birds—not a droopy or unhappy looking one among them. The way their "white goods" were laundered might well arouse the envy of the person dependent upon the "washee man," while their heads and nails were dressed and manicured in the most approved style. In walking through the alleys lined by beautiful birds of all breeds and varieties, the aristocrats among their kind, even the old poultryman who has long since chosen his breed and wants no other, feels the novice's impulse to have some of all these beauties.

We were surprised at the display of White Minorcas, a whole row of them, and the best in comb and healthy color we have seen. The beautiful Blacks contrasted with them, but were fewer in number. And the Rhode Island Reds have surely crossed the continent in force. They lined one side of an alley, and they were big and luscious and brown—but why red? There is more red in the plumage of a Brown Leghorn cock than in the whole bunch of Reds.

The Light Brahmas were simply immense, and the Plymouth Rocks—well, they are hard to beat! The original Barred Rocks were there in perfect form and barring—the farmer's stand-by of the all-purpose breeds, that can scratch in the muck of the barnyard and leg it over the sticky furrows; then shake out their bars and pick the adobe from their toes, and be spick and span again.

But those White Plymouth Rocks! It don't seem possible that anything so big and solid could be so white and dainty. Mesdames Bemis and Robertson divided the honors of these beautiful birds between them; and it is certainly a case of nip and tuck. How the judges ever decide between their birds passes us. One of Mrs. Bemis' crack birds has won the Blue eight times in competition with the crackerjacks of his class in the West. The first White Rock cockerel was sent to Honolulu by Mrs. Robertson, and not only brought down the Blue, but the medal besides. At the San Jose show just closed, in addition to her other trophies, Mrs. Robertson brought away the cup for the best conditioned bird in the show. Such an authority as Judge Holden has assured these ladies that they need not fear to meet the Eastern competition and show at Madison Square Gardens.

The White Wyandottes followed close onto the White Rocks, and Mrs. Camille Buergermeister has the birds. On seven entries she secured six prizes—that's coming some.

Mr. Hinds showed some beauties in Columbian Wyandottes. This variety is not so well known, but is sure to gain admirers.

Mr. and Mrs. Hall, of East Oakland, had a fine string of Houdans, which got away with about all of the ribbons in their

class. This breed looks almost too ornamental for everyday use; but for a fact they require no more care than any other good breed, and they rank with Leghorns for the large white egg, while their table qualities are said to be unsurpassed.

As was proper, Petaluma was represented by the White Leghorn. Mr. Campbell won colors; also the Rancho Los Encinas Yards, whose ad. is on this page. There was not as large a display of the business hen as we would like to have seen—probably she staid at home to lay the nickle egg. Across White Leghorn alley was the cordial rally:

"Meet us in Petaluma!"

There were a few fine Buff and Brown Leghorns, and the same of Andalusians. All of these breeds are among the best egg machines of the country, and always pay their way—and make their way, for they are hustlers.

The display of Bantams made up in quality what they lacked in quantity. The Game Bantams were fine; also the Seabrights; while the Buff Cochins Bantams of John L. Evans of Stege fairly covered themselves with ribbons of all colors.

The waterfowl, turkeys and Belgian hares were a healthy and fine lot.

The Coulson Poultry & Stock Food Co. had an excellent display, as usual. This company seems very popular with the poultry and ranch folks, which is proof that they make good.

The Petaluma Incubator Co. is always there or thereabouts. They had a display of sturdy chicks that looked as though their machine mother had been about the real thing.

The Pacific Steel & Wire Co. made a very serviceable and telling exhibit of their "Ideal" wire fence by putting up the pens for the waterfowl and large birds and donating them to the association.

The above is but a hasty scanning of a show that would require hours to do anything like justice to, and many important points have escaped us. A more exact report, gathered by Mr. Evans from the management, will follow, but it comes too late to incorporate here.

### NOTES OF THE SHOW.

One of the most striking points in relation to our shows is the number and prominence of the women fanciers. California leads all other States in this respect, and may well be proud of the distinction. It was our privilege to meet a number of the most prominent of these. Mrs. Bemis, Mrs. Robertson, Mrs. Buergermeister, Mrs. Sullivan, Mrs. Hall, Miss Carrington, are names which have been carried on the wings of beautiful birds, as it were, far and wide. These ladies were all in the snowroom that afternoon, and it was good to meet them, for they are accomplished and brilliant women as well as expert fanciers. Their notable success is an inspiration to their sex, and in the interest of other women we made bold to ask them how they came to take up poultry—how they work it—and what's the good word for others?

Mrs. Bemis became deeply interested in biology during her college course at Stanford, and has continued an earnest student of that enthralling study. After her marriage, her husband, understanding her tastes, brought her a pen of thoroughbred Plymouth Rocks from the East, and ever since she has devoted herself to breeding that variety of fowl toward perfection. "People," she remarked, "often express surprise that a woman with a master's degree should waste her time on mere chickens. They cannot understand the fascination and the worth of creating, as it were, beautiful forms along the lines of utility." She spoke of the growing desire among farmers and the producing class for better stock united with earnest effort for the betterment of their work. A large demand for male birds for the improvement of their flocks comes to her from the farming class. A desire that is very near Mrs. Bemis' heart is to help the small household—small in means—to add to its income.

"To attain success with poultry," she said, "a woman must have executive ability and a love for the work. She must not hesitate in donning a rough garb and doing whatever her hand finds that needs to be done. Poultry demands the breeder's attention—she cannot pass the disagreeable part on. This earnest woman's word to other women is, 'No woman need to be discouraged. If she will take hold

with a determination to learn and do, she will succeed with poultry."

With Mrs. D. A. Robertson of San Jose, poultry is more than a side issue; it is an earnest life-work. She has an orchard of one acre, divided into 20 yards, and a patch of alfalfa 100 by 200 feet; she keeps an average of some 300 fowls, and attends to all the work herself. Her stock is strictly line-bred; in selecting her breeders the first essentials are shape and vigor; beauty of feather, comb, etc., are secondary. "Yes," she affirmed, "any woman who has a liking for the work can make a good livelihood with poultry; but she must devote herself to it. How should she start? Get a pen of the very best stock of its breed that she can afford, and work up."

Mrs. Camilla Buergermeister of Fruitvale is a noted musician who has studied six years in Europe, and whose time is largely taken up with the demands from church and concerts. Poultry is a side issue and a relaxation. "How did I get the hen fever?" she laughed. "I caught it from a common 50-cent hen. I set her at a venture on some store eggs, and had such good results that I drifted right on into standard bred stock. I keep a stock of some 200 White Wyandottes, and they prove a very profitable pleasure."

Mrs. F. L. Hall of East Oakland modestly claimed to be only her husband's assistant, but we incline to the belief that it is the other way. They make a specialty of the Houdan fowl, and while poultry is still a side issue with them, it is constantly growing in interest and profit.

Miss C. B. Carrington was born with a love for the birds, and when it came time for her to decide on an occupation she chose the hen. The family flock was turned over to her, and those few fowls on a small village lot was the beginning of the famed Carrington White Leghorn Poultry Yards at Haywards. The requirements for success she considers to be business sense and a love for the work.

There is a remarkable unanimity among these successful women as to the essentials of success with poultry. Evidently a person must have some business qualifications and a love for the work—and, alas, for work!

We found one of the most popular and helpful gentlemen at the show to be our fellow townsman, Fancier Evans. He proved a boon in the way of assistance and information to the "stranger at the gates."

As many are exceedingly skeptical in regard to a steady market for high-priced fowls, we give the following items:

Mrs. Bemis has sold 500 birds since the third week in September. The season has only begun and she has already disposed of nearly all of the stock she wishes to place on the market. Her stock is line-bred and pedigreed for six generations back; also she has eggs that are pedigreed; naturally they come considerably higher than the others.

Mrs. Robertson said that at the San Jose show she could have sold 100 more high-priced cockerels than she could spare.

Miss Carrington said that the orders came thicker and faster, and that they continued all through the business depression of the past season.

If you can produce the goods the market is here all right.

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buff's excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements Cal. Large size, good plumage, early maturity

### BREEDERS' SUPPLIES.

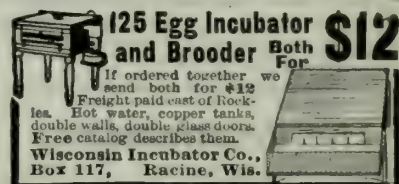
**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

**125 Egg Incubator and Brooder Both \$12**

If ordered together we send both for \$12  
Freight paid east of Rock-  
Is. Hot water, copper tanks,  
double walls, double glass doors.  
Free catalog describes them.  
Wisconsin Incubator Co.,  
Box 117, Racine, Wis.



## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	\$.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons....	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons....	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons....	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

### E. F. Adams

364 Main St. Petaluma, Cal.

## Coulson's No. 3 Condition Powders

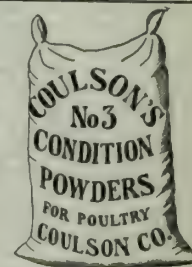
BEST AID FOR GETTING HIGH PRICED EGGS

A splendid tonic and digestive. Enables hens to lay lots of eggs during fall and winter.

Sold by Dealers.

Manufactured only by

**Coulson Poultry and Stock Food Co.**  
PETALUMA, CALIFORNIA.



## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

**L. W. CLARK, 615 Main St., Petaluma, Cal.**



## The Home Circle.

### Dickens in the Mining Camp.

Above the pines the moon was slowly drifting,  
The river sang below;  
The dim Sierras, far beyond, uplifting  
Their minarets of snow.

The roaring camp-fire with rude humor painted  
The ruddy tints of health  
On haggard face and form that drooped  
and fainted  
In the fierce race for wealth;

Till one arose and, from his pack's scant treasure  
A hoarded volume drew,  
And cards were dropped from hands of listless leisure,  
To hear the tale anew.

And then, while round them shadows gathered faster,  
And as the twilight fell,  
He read aloud the book wherein the Master  
Had writ of "Little Nell."

Perhaps 'twas boyish fancy—for the reader  
Was youngest of them all—  
But as he read, from clustering pine and cedar  
A silence seemed to fall.

The fir trees, gathering closer in the shadows,  
Listened in every spray,  
While the whole camp, with "Nell" on English meadows  
Wandered and lost their way.

And so in mountain solitudes—o'ertaken  
As by some spell divine—  
Their cares dropped from them like needles shaken  
From out the gusty pine.

Lost is that camp and wasted all its fire;  
And he who wrought the spell?  
Ah, towering pine and stately Kentish spire,  
Ye have one tale to tell!

Lost is that camp! but let its fragrant story  
Blend with the breath that thrills,  
With hop-vines' incense, all the pensive glory  
That fills the Kentish hills.

And on that grave where English oak and holly  
And laurel wreaths entwine,  
Deem it not all a too presumptuous folly—  
This spray of Western pine.

—BRET HARTE.

### Gift Making and Gift Taking.

This is the season when the gift question looms largely above our horizon. Periodical gift-making seems to be a natural impulse of the human heart. It is a gracious act which scatters blessings both ways. The true spirit of gift-making—the expression of love, friendship, respect, gratitude, kindness—is almost, if not quite, divine. But when the making of gifts becomes a burden—when we give because, forsooth, we feel that we must—then it is not at all divine. To be worth while a gift must be suitable; that "it is more blessed to give than to receive" is often, alas, too true. No doubt we have all experienced this in receiving gifts of apparel, unsuitable, unbecoming; or household ornaments that strike a note of discord among our surroundings, and the more expensive they are the more exasperating they become—and yet we dare not dispose of them nor hide them! A too expensive gift should not be made outside of the immediate family; it is apt to carry a sense of obligation with it and to prove anything but a blessing. The ideal gift is simple and suitable to the recipient; its value is in the thought it carries with it. Our friend has studied our tastes, our fancies, our needs—blessed be our friend! But the bric-a-brac with which we are bombarded, the flimsy, the unserviceable, the oppressive—Heaven preserve us from our friend!

I have seen women more delighted over a set of neatly made kitchen aprons, or some other home-made convenience than with their expensive presents. Then there are flowers—who does not love to be greeted by a fragrant blooming plant or a dainty growing fern? Each flower and

leaf has its special language and all have the language of Heaven. What more graceful offering can we lay before our friend? No other gift is so universally welcome. Then there are books, a storehouse of delight when properly chosen; and the magazines and other periodicals. Time was when a cheap price meant literature of the "yellow-back" variety; but now we can get much of the best literature through the periodicals for almost the cost of the blank paper upon which it is printed. A subscription to a periodical suited to your friend's taste carries a thought of you all through the year and is a well-spring of information and pleasure to the recipient. This holds good with man, woman and child—all persons and all conditions. Also, there is a subtle compliment in gifts of this class—it is a recognition of one's finer tastes.

And last but far from least, is the letter or message to the absent friend, giving a bit of news, asking after the welfare, and ending with "A merry Christmas; a happy New Year—and God be with you!" How often those few lines are more valued than things which bear the "guinea-stamp."

Years ago, a prominent man of the "old school" thus admonished his daughter: "Never neglect or delay in acknowledging the most trivial gift—it is ungracious, it is unkind!"

At first glance this hint may seem unnecessary in our day, but the fact remains that many who would scorn the deliberate act of incivility or unkindness forget to make such acknowledgments or else put them off until the giver can read between the tardy lines that the whole matter has been a bore. Send at once a line of appreciation for the simplest gift or greeting, even if you send it on a postal; for though the postal is not just the thing, it is better than neglect or even the too tardy letter.

"Count that day lost, before whose setting sun,  
You have not had at least an hour's fun.

"Tis said that love makes the world go round so slick,  
But couldn't fun as well perform the trick?  
Life is short, mix well with joy and laughter,  
For there will be no fun in either world hereafter."

There is no other so effective a lubricant for human intercourse as the proper point of view. It is a simple task to disarm an adversary if only one can see through his glasses, and understanding a friend is but a synonym for sympathy. Back of every action which is not the result of habit, there is a reason. To be able to discover the reason which prompts others to action is a gift which comes only through wide experience and painstaking observation. It is an invaluable asset in the daily business of life.

A little girl the other day referred to the moustache of a young man as a "bang" on his lip. If she doesn't look out, one of these days she'll get a bang right under the nose.

A young lady while out walking heard, for the first time, of her mother's intention.

## ARE YOU A JIGGER?

Have you tried the latest Eastern Society Craze—the Jumbled Jigs picture puzzle?

Jumbled Jigs consist of clever, brightly colored pictures pasted on thin hard wood and cleverly cut into many irregular pieces. Sounds simple, doesn't it? Just try one, and see how long it takes you to build the tiny irregular blocks into a picture, which, for all you know, may be a comic cartoon or a reproduction of some fine painting. And when you have proved to yourself that there are enough pieces, the fun is not over, for it is nearly as difficult to re-construct the same puzzle, and you are eager to try a new subject. One puzzle will furnish an evening's amusement for the whole family, or it will help to make a tiresome journey of some friend seem like a trip on a fairy gondola. New York and all Eastern cities—even staid old Boston—are picture-puzzle crazy, and it is said that "Bridge" is tabooed in any household which has been inoculated with the puzzle germ.

AN IDEAL INEXPENSIVE CHRISTMAS PRESENT.

Manufactured and for sale by the

ENGLISH NOVELTY CO.,

2903 Clay St., San Francisco.

Prices, 50c., 75c., \$1, \$1.50, \$2, according to size, number of pieces, and subject. Send for one. Stamps accepted.

# Don't Shiver

Just scratch a match—light the Perfection Oil Heater—and stop shivering. Wherever you have a room that's hard to heat—that the furnace doesn't reach—there you'll need a



## PERFECTION Oil Heater

(Equipped with Smokeless Device)

Just the thing for blizzard time or between seasons. Its genial glowing heat makes any room cheerful and cozy. No smoke—no smell—smokeless device prevents. Brass font holds 4 quarts of oil burning 9 hours. Finished in Japan and nickel. Every heater warranted.



The **Rayo Lamp** Gives a restful, steady, soft light which is so much appreciated by workers and students. Made of brass, nickel plated with the latest improved central draft burner. Every lamp warranted. Write our nearest agency for descriptive circular if your dealer cannot supply the Perfection Oil Heater or Rayo Lamp.

Standard Oil Company  
(Incorporated)

More than ever the  
San Francisco head-  
quarters for

Holiday Shopping

California's  
Largest

# The Emporium

America's  
Grandest

SAN FRANCISCO, CALIFORNIA

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.

SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

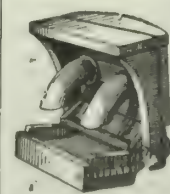
Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909. For further particulars address

Miss Sarah D. Hamlin,

2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

## Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

GEARHART OIL BURNER CO.  
1922-1924 Fresno St., FRESNO, CAL.

## PATENTS

Write for our Guide to Inventors, sent free on request, containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.



tion to marry again, and she was obliged to sit right down and cry about it. She could not go a step-fa(r)ther.

### The Home Circle Chat.

**HINTS AND RECIPES FOR PICKLING.**—Green tomatoes are plentiful just now, and few things make a more relishable pickle. We give below some well-tested and excellent recipes for their use, and also for other seasonable articles for pickling together with hints relating thereto:

**HINTS.**—Strong vinegar is essential. Good cider vinegar is best and most wholesome.

Pickles should be kept well-covered with vinegar.

Use only unnicked granite or porcelain-lined kettles and wooden or silver spoons.

Pickles are kept best and in the most attractive condition by bottling and sealing while hot.

Keep in a dry, cool, dark place; horse-radish and cloves are helps to their preservation.

Ginger is the most wholesome spice and cloves the strongest.

If mildew appears on the vinegar, pour off, add a handful of sugar to each gallon, scald, skim, and pour back.

**A PRIME TOMATO PICKLE.**—Slice 2 gallons of green tomatoes and 6 large onions together and 12 green peppers chopped; sprinkle a teacup of salt among them and let them stand over night under a weight. In the morning drain and let simmer 15 minutes in weak vinegar; then put to drain in a colander. In the meantime put into the preserving kettle 1 gallon strong cider vinegar, 2 pounds brown sugar, 1 teaspoon cloves, 1 tablespoon allspice; 2 ditto celery seed, the same of sliced ginger root, 1 garlic whole. Let all come to a boil; put in the drained tomatoes, etc., and boil 10 minutes; bottle in glass or stone jars and seal while hot. They are hard to keep after the family get a taste of them; so it is well to provide an ample supply.

**ANOTHER WAY.**—Chop fine 8 pounds of green tomatoes, add 4 pounds brown sugar; simmer 3 hours, then add one quart vinegar and 1 teaspoon each of mace, cinnamon and cloves, boil 15 minutes longer; bottle.

**YET ANOTHER.**—Slice 1 peck green tomatoes and let stand in brine over night; drain and boil till tender; drain out and put into jars; pour over them a boiling syrup made of three pounds of brown sugar and 1 oz. each of cinnamon and cloves to 1 quart of vinegar.

**CHOW CHOW.**—Slice 1 peck green tomatoes and let stand over night in a strong brine (1 cup of salt to one quart of water is about the right proportions), press the brine well out and add the following: Half peck string beans, quarter peck small white onions, 1 pint green and red peppers mixed, 2 large heads cabbage, 4 tablespoons white mustard seed, 2 of cloves, 2 of celery seed, 1 small box mustard, 1 oz. tumeric and 1 pound of brown sugar. Before mixing chop the tomatoes and cabbage, onions and beans, but chop the tomatoes separately; mix in the spices and put into porcelain kettle, cover with vinegar and boil slowly 3 hours.

**CHILI SAUCE.**—12 ripe tomatoes, 4 ripe peppers, 2 onions, 2 tablespoons each of salt and sugar, 1 of cinnamon, 3 cups vinegar. Peel tomatoes and onions and chop very fine, also the peppers, but chop each separately. Mix and boil 1½ hours. Bottle; stone jars are better for this purpose. Canned tomatoes may be used instead of fresh. This sauce is much better and more wholesome than catsups.

**PICKLED PEPPERS.**—Use the large, shapely green peppers; make an opening in the side and remove the seeds carefully so as not to mar the peppers; soak in strong brine for 2 days, changing water twice; drain out, wipe and stuff with chopped cabbage or tomatoes spiced but without pepper, or a mixture of nasturtiums, chopped onions, red cabbage and cucumbers seasoned with mus-

tard. Sew up opening, put in stone jars and cover with cold spiced vinegar.

### The Kitchen Garden.

The kitchen garden tends to health in two ways—it supplies crisp wholesome table sauce and equally wholesome outdoor exercise and interest. One who has not experimented would hardly believe what may be produced on a space scarcely larger than an ordinary room. A little garden well tended is a never failing source of delight and good things; and it does not overtax the strength and time of the housewife as more ambitious attempts at gardening are apt to do. Lettuce, radishes, green onions, salad greens and mints and herbs for seasoning—the things which one can seldom buy at their best and which are likely to be infested with the dreaded microbe from liquid manures and careless handling—may all be grown easily and on a small space.

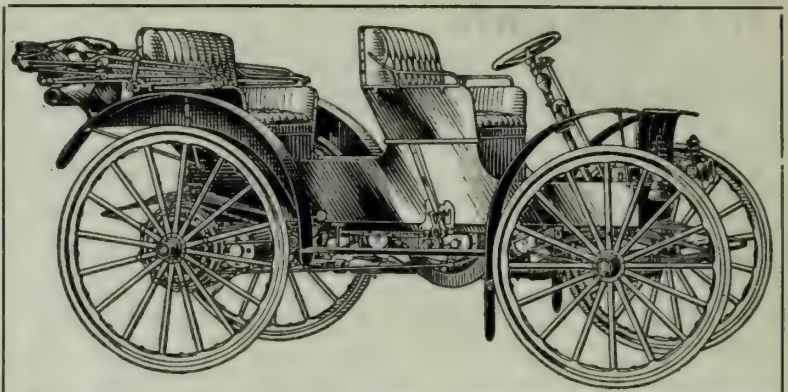
The first point in this direction is thorough cultivation. Have the ground spaded deep; break and pulverize the clods and rake out all stones and trash; now mix in manure and sharp sand and spade and rake again. If one keeps poultry, the very best fertilizer for the kitchen garden is always at hand, as poultry manure, unlike that of the barnyard, has no odor and is not alive with the larvae of grubs and flies. Each morning the droppings in the poultry house should be scraped into a barrel or box and covered with sifted earth to be used as needed in the garden; by thoroughly mixing this with pulverized soil or with sand it may be worked into the ground about the plants whenever required and does not burn them like other fertilizers. In preparing the ground, especially for the winter garden, it must be well drained; this can be done by proper leveling and ditching.

At this season, the best of lettuce, onions, radishes, cabbage and chard, also peas, may be planted. In lettuce, the California Cream Butter is an excellent winter variety with large heads; the Hanson is another fine variety; also the Curled Simpson which does not head but forms a loose curly cluster of leaves. Sow in rows and cover lightly; thin out as used until the plants for heading stand 4 inches apart.

Onion seed planted now will give early green onions. The California Early Red is a good variety for this purpose. Sow in rows on very rich sandy soil and never let seeds or plants dry out. In radishes the quick-growing turnip-shaped varieties are best for this season. Cabbage and cauliflower plants may be set out now and will be ready for use in February. Swiss chard is not only excellent for poultry but it is equal to spinach for table greens, which it much resembles, indeed many prefer it to spinach. It is much easier prepared as it offers no place for insects to hide; the large white stalks are used for pickles. Sow in rows and let it stand rather close to the rows; the soil must be rich and well cultivated.

### Regarding Health.

It is a curious fact that perfect health is not consistent with high muscular development. The professional athletes and all men who acquire phenomenal strength seem to lose in length of life and activity what they gain for a few years of record-breaking powers. A writer in an English journal says: "I was privileged to see on several occasions, Louis Cyr, the Canadian giant who broke all weight-lifting records. He weighed 320 pounds and was all solid bone and muscle. I saw him hold his wife out at arms length with one hand; I saw him raise a barrel containing 300 pounds from the floor to his shoulder, using only one hand and arm; I saw him get down on all fours under a platform bearing 4000 pounds of big men selected from the audience, and he raised the platform with his mighty back. Yet this remarkable man was crippled at 37 when he should have been at the height of his powers."



## The I. H. C. Auto Buggy Takes the Place of Team and Carriage

You do not have the bother of hitching up and unhitching when you ride in the I. H. C. Auto Buggy. You do not have horses to feed or care for. The Auto Buggy is always ready. It will take you anywhere you can go in a carriage or spring wagon, and take you much faster. It has a powerful and reliable little engine to propel it, and it is built with the strength to stand hill climbing and rough roads. There are no tire troubles. Its tires are solid rubber.

It is the modern vehicle for business or pleasure, and it has come to stay. You ought to know more about it. Write for catalog to

## International Harvester Company of America

(INCORPORATED.)

453 MONADNOCK BUILDING, SAN FRANCISCO, CAL.

## THE MARKETS.

San Francisco, Dec. 9, 1908.  
(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

The wheat market shows no particular change, prices being quoted as for some time past. There is a fair demand for spot grain, but holders are quite firm in their ideas, and buyers are consequently limiting their purchases to immediate requirements.

California White Australian	\$1.75	@ 1.80
California Club	1.67 ½	@ 1.70
California Milling	1.70	@ 1.72 ½
California lower grades	1.45	@ 1.60
Northern Club	1.65	@ 1.67 ½
Northern Bluestem	1.72 ½	@ 1.77 ½
Northern Red	1.62 ½	@ 1.65
Turkey Red	1.75	@ 1.80

### BARLEY.

Future barley has been rather quiet this week, though there is still some speculative interest. May barley is lower, but prices for the cash grain have been steadily maintained throughout the week. The local market for feed and brewing grades is now quiet, and little shipping grain is moving here. There is an active demand for export, however, in the interior, and several cargoes have left recently.

Brewing	\$1.47 ½	@ 1.50
Shipping	1.47 ½	@ 1.50
Chevalier	1.57 ½	@ 1.62 ½
Good to Choice Feed, per ctl.	1.43 ½	@ 1.45
Common Feed	1.40	@ 1.42 ½

### OATS.

The demand is a little better than it has been for the last few weeks, but so far no general buying movement on seed grades has developed. Feed oats are still very quiet. All grades, however, are very firmly held as to prices, as the supply in this market is expected to be short when the buying movement takes place, and Northern holders are not inclined to sell.

Choice White, per ctl.	\$1.70	@ 1.75
No. 1, White	1.65	@ 1.67 ½
Gray	1.65	@ 1.70
Red, seed	1.75	@ 2.00
Feed	1.50	@ 1.70
Black, seed	2.45	@ 2.65

### CORN.

The prices quoted are virtually nominal, as very little is being bought. Western holders are firm, and some advance may take place in the quotations to arrive, but a reduction has been made in the price of spot sacked yellow. Only 286 tons arrived last month, and there were only 55 tons on hand December 1.

California Small Yellow, per ctl.	Nominal
Large Yellow	Nominal
White	Nominal
Western State Yellow	\$1.60 @ 1.70
Mixed, in bulk	1.53
White, in bulk	1.54

### RYE.

Quotations are entirely nominal on this grain, as there is no movement at the present time. Most offerings are held at \$1.45 to \$1.50.

Rye	\$1.42 ½ @ 1.50
-----	-----------------

### BEANS.

The market has been rather quiet since the first of the month, and very few changes are being made in prices. Cranberry beans have been in good demand, however, and the price is somewhat more firm. The market for lima beans has shown some weakness, apparently due to the large crop that was harvested, and the comparatively large quantity left in

the States after the end of the fall shipments. White beans continue firm, but most of the arrivals at present are of an inferior grade, and sell for somewhat below the quotation on first-class stock. Bayos and other varieties are steady as last quoted. Dealers express the opinion that the prospective advance in freight rates would cause great injury to the bean trade in this State.

Bayos, per ctl.	\$2.90	@ 3.00
Blackeyes	3.25	@ 3.50
Cranberry Beans	2.65	@ 2.90
Garvanzos	2.50	@ 2.85
Horse Beans	1.50	@ 2.00
Small Whites	4.35	@ 4.65
Large White	3.65	@ 3.85
Limas	4.35	@ 4.40
Pea	4.50	@ 4.75
Pink	2.40	@ 2.60
Red	3.50	@ 4.00
Red Kidneys	3.25	@ 3.50

### SEEDS.

Seeds are moving in somewhat larger quantities than for several months past, and the market is beginning to be fairly active, though the improvement is taking place very gradually. Prices in general are firm, no changes being reported since last week.

Alfalfa, per lb.	16	@ 17 ½ c
Broomcorn Seed, per ton	\$20.00	@ 25.00
Brown Mustard, per lb.	3 ½	@ 3 ¾ c
Canary	4 ½	@ 4 ¾ c
Flaxseed	2 ¾	@ 3 c
Hemp	4 ¾	@ 4 ½ c
Millet	2 ¾	@ 3 ¾ c
Timothy	Nominal	
Yellow Mustard	Nominal	

### FLOUR.

There is not much movement of flour in this market outside of the local trade, but wheat is very firm, with a scarcity of choice milling grades, and the local mills have made a general advance of 20 cents a barrel. Eastern brands also have advanced, and the Northern mills are quoting higher prices, though some stock is still offered in this market at former figures.

Cal. Family Extras	\$5.60	@ 6.20
Bakers' Extras	5.60	@ 5.85
Superfine	4.10	@ 4.70
Oregon and Washington, Family	4.90	@ 5.40

### HAY.

Shipments of hay to the San Francisco market show a still further decrease during the past week. This has been necessitated by the fact that the fear of a serious shortage has quieted down, and consumers are buying only in accordance with their needs, which are light at present. The demand in the interior continues strong. Dealers generally look for a short period of high prices at the end of the season, when hay may have to be brought in from other States, but only a moderate advance is looked for during the winter. The market is held at about the same range of prices quoted last week, though occasional sales are made above quotations. On account of the high prices, no Government business is expected, and the requirements will accordingly be reduced somewhat.

Choice Wheat, per ton	\$20.00 @ 22.00
Other Grades Wheat	16.00 @ 19.50
Wheat and Oat	15.00 @ 20.00
Tame Oat	15.50 @ 19.00
Wild Oat	14.00 @ 18.00
Alfalfa	11.00 @ 13.00
Stock	11.00 @ 13.00
Straw, per bale	60 @ 95 c

### MILLSTUFFS.

Green feed is now beginning to appear, and the demand for bran, shorts and middlings has fallen off in the last few weeks. There is some accumulation of stock on hand at present, and while prices are still



maintained, the market is by no means firm, and may weaken somewhat. Miscellaneous feedstuffs are quiet, with prices unchanged.

Alfalfa Meal(carload lots)per ton	\$22.00
Jobbing	23.00
Brn, ton—	
White	\$30.00@31.00
Red	29.50@31.00
Broom Corn Feed, per ctl.	1.20@1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00@38.00
Cracked Corn	38.00@39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50@35.50
Mixed Feeds	28.00@32.00
Oil Cake Meal, per ton	38.00@39.50
Rolled Barley	30.00@31.00
Shorts	33.00@33.50

## VEGETABLES.

Onions are firm, with decreasing stocks, but the poor quality of the present offerings has so far prevented any further advance. Supplies of miscellaneous vegetables of good quality are small, and several varieties are higher, though general offerings meet with a light demand. Tomatoes are higher all around, choice lots from both the South and the Bay districts selling up to \$1.25. String beans and peas are also higher. Summer squash is becoming very scarce. Southern rhubarb is weak, being mostly unattractive, though some lots from local points bring good prices.

Onions, ctl.	75@85c
Garlic, lb.	7@9c
String Beans	8@10c
Green Peas, lb.	7@9c
Cabbage, per ctl.	\$1.00
Marrowfat Squash, per ton	10.00@15.00
Tomatoes, box	75@1.25
Turnips, sack	60c
Bell Peppers, lb.	12½@15c
Chili Peppers, lb.	3@6c
Egg Plant, lb.	7@9c
Cauliflower, doz.	50@60c
Summer Squash	75@1.00
Celery, doz.	25@40c
Rhubarb, box	1.00@1.25

## POULTRY.

Arrivals of chickens have been very heavy this week, five cars from Eastern points arriving early in the week, besides heavy shipments from local poultrymen. Despite the heavy stocks, the market has been in very good condition, only a few reductions in California stock being noted. The demand has been quite large, and the week's arrivals have been well cleaned up. Arrivals of dressed turkeys have been much heavier than last week, causing a slight decline, though good live birds bring satisfactory prices.

Broilers	\$4.00@5.00
Small Broilers	3.50@4.00
Fryers	5.50@6.00
Hens, extra	7.00@9.00
Hens, per doz.	5.50@6.00
Small Hens	4.00@4.50
Old Roosters	4.00@5.00
Young Roosters	6.50@7.00
Young Roosters, full grown	7.50@8.00
Pigeons	1.00@1.25
Spuabs	2.50
Ducks	4.00@8.00
Geese	2.00@2.50
Turkeys, live, per lb.	21@23c
Turkeys, dressed, per lb.	24@27c

## BUTTER.

Supplies of extra butter have again increased, bringing the price down to 32 cents, but the market is now fairly steady, with stocks cleaning up well under a good demand. Firsts show a slight advance, and lard packed and extra storage butter is also a little higher.

California (extras), per lb.	32 c
Firsts	29½c
Seconds	25 c
Thirds	20 c
Lades, extra	22½c
Cal. Storage, extras	29 c
Pickled Butter	23½c
Packing Stock, No. 1	21½c

## EGGS.

Supplies of fresh eggs have increased considerably, and prices on everything above thirds have been marked down 5 cents. At the present prices there is a good demand, and the tone of the market is firm. While there is likely to be some increase in the offerings of fresh stock, the sale of eggs from storage continues large. With diminishing stocks in storage, holders are inclined to advance the prices.

California (extra), per doz.	45 c
Firsts	40 c
Seconds	35 c
Thirds	29 c
Storage, Cal., extras	35 c
Storage, Eastern extras	30 c

## CHEESE.

Cheese continues fairly active, with a good demand, and the market is in good condition for sellers. Prices show very little further change, the first grade of California flats being 1 cent higher, to correspond with the recent advance in fancy stock. Fancy Young Americas are slightly lower.

Fancy California Flats, per lb.	15½c
Firsts	14 c
New Young Americas, fancy	17 c
Oregon Flats	14 c
Oregon Y. A.	16½c
Storage, Cal. Flats	13 c
N. Y. Cheddars	17 c
Storage, Oregon, Flats	14 c

## POTATOES.

Potatoes are now being sold in good-sized lots for seed purposes. Table stock is now in good demand, and prices are firm. The outlook is for a further improvement. Good sweet potatoes are still

bringing firm prices, but ordinary stock is lower.

River Whites, fancy, ctl.	65@90c
Common	50@60c
Salinas Burbanks, ctl.	\$1.25@1.50
Oregon Burbanks, ctl.	1.15@1.30
Sweet Potatoes, ctl.	1.25@1.50

## FRESH FRUITS.

Raspberries are no longer in the market, and strawberries are becoming scarce, the arrivals being mostly from the South. They sell slowly at about \$1.75 per crate. Some grapes are still coming in, but they arouse little interest, and prices are weak. Strictly choice apples are firm and in good demand, but the large supplies of poor stock are hard to move. Storage stock will begin to move in a short time, as stocks in the growing districts are about cleaned up. Persimmons and quinces are mostly neglected.

Apples, fancy	75c@1.75
Apples, common	40@75c
Strawberries, crate	\$1.50@1.75
Cranberries—	
Cape Cod, bbl.	14.00@15.00
Coos Bay, box	3.50@3.75
Grapes, crate	75c@90c
Pears, box, Winter Nellis	75@1.25
Other varieties	50@75c
Quinces, box	50@65c
Persimmons, box	50@1.00

## CITRUS FRUITS.

The Valencia oranges are about cleaned up, and are no longer quoted. Supplies of navels and tangerines are now quite ample, and plenty of good stock is offered. Poor lots are consequently neglected, but some special brands bring more than quotations. Grape fruit is also plentiful, but prices are steadily maintained. Lemons and limes are as formerly quoted.

Choice Lemons	\$2.00@2.50
Fancy Lemons	3.00@3.50
Standard	1.25@1.50
Limes	4.00@5.00
Oranges—	
Navels	1.50@3.00
Tangerines	85c@1.00
Grape Fruit	3.50@4.50

## DRIED FRUITS.

While December is usually a quiet month in the dried fruit trade, the present month seems to be an exception, as the business is much better than it has been for some time. There is now a steady inquiry for most varieties, and prices are inclined to firmness, with an upward tendency all around. The Eastern demand for new prunes is increasing, and the stock is now moving into consumption, though old stock is neglected. Otherwise conditions are about as last reported, apples and apricots showing the greatest firmness. The raisin market is still in an unsettled condition, as many of the local packers appear to have little expectation of the success of the Fresno pool, and have sufficient stock on hand to meet all demands. The inquiry for shipment to other markets is still limited. Local packers quote the following prices:

Evaporated Apples	5½@6½c
Figs, black	2½@3 c
Figs, white	3@4 c
Apricots, new crop	8@10½c
Peaches, new crop	4@5½c
Prunes, 4-size basis	4@3 c
Pears, new crop	4@7 c

## RAISINS—NEW CROP.

## NUTS.

Almonds are meeting with a steady demand, though inquiries are not so urgent as at the beginning of the season. Walnuts also are now comparatively quiet, a large proportion of the crop having been cleaned up, though there is some movement all the time. Following the announcement that the southern association will maintain prices after the first of the year, the market is decidedly firm, but prices here, as quoted by packers, are unchanged.

Loose Muscatels, 4 crown	4½c
3 Crown	4½c
2 Crown	3½c
Thompson Seedless	4½c
Seedless	4½c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25@1.35
Almonds, Nonpareils	11½@12 c
I X L	10½@11 c
Ne Plus Ultra	10 c
Drakes	9½c
Languedoc	8½@9 c

## WALNUTS.

Softshell, No. 1	12½c
Softshell, No. 2	8½c
Hardshells	less 2 c
California Chestnuts	10@12½c
Italian Chestnuts	10@11 c

## HONEY.

There is no stock of water white honey, either comb or extracted, on this market, and the white grade is moving fairly well at prices formerly quoted. Prices are still maintained on the lower grades, but they are moving off very slowly.

Water White, Comb, lb.	Nominal
White	15 c
Water White, extracted	Nominal
White	7@8 c
Light Amber	6½@7 c
Dark Amber	4½@5½c
Candied	4½@5½c

## HOPS.

The hop market is closely cleaned up, except on the less desirable stock, of which there is still considerable offering. Prices accordingly show a wide range, according to quality, and sales are small, as a good deal of poor stock is held for more than buyers are willing to pay.

Hops, per lb.	5@9 c
---------------	-------

## WOOL.

The fall clip in California is now pretty well sold, as the market has been in fair condition for some time past. There is no

particular advance in prices, but it is possible to dispose of stocks in the East, where California wools were neglected entirely for a long time. A fair movement is still going on.

Red Bluff (f. o. b. Red Bluff)	6 @ 7½c
Defective	less 2 c
San Joaquin (at S. F.) free	5 @ 6½c
Defective	4 @ 5 c
Mendocino, free	7 @ 9 c
Defective	5 @ 7 c

## MEAT.

A further advance has taken place in several lines, as stockmen are holding back their shipments and supplies on hand have been reduced. Arrivals of hogs are large, but the price is unchanged. Dressed cows and heifers, veal and ewes are higher and the same descriptions of live stock have also been advanced.

Beef: Steers, per lb.	6½@7 c
Cows	5 @ 6½c
Heifers	5 @ 6½c
Veal: Large	7 @ 9 c
Small	8½@9½c
Mutton: Wethers	7½@8½c
Ewes	6½@7½c
Lambs	9 @ 10 c
Hogs, dressed	8 @ 9½c

## LIVESTOCK.

Steers, No. 1	3½@4 c
No. 2	3@3½c
No. 3	2 @ 3 c
Cows and Heifers, No. 1	3 @ 3½c
No. 2	2½@3 c
Bulls and Stags	1½@1¾c
Calves, Light	4½@4¾c
Heavy	4 c
Sheep: Wethers	3½@4 c
Ewes	3½@4 c
Lambs, lb.	4 @ 4½c
Hogs, 100 to 150 lbs.	6 c
150 to 250 lbs.	6 @ 6½c
250 to 325 lbs.	5½@5¾c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.	

## PUBLISHER'S DEPARTMENT.

Have you seen the new Morse & Co. seed catalogue? It is just out, and a beauty. If you are intending to have a garden next spring, it will pay to read their advertisement, and send for a catalogue.

The new edition of "California Fruits," by Prof. E. J. Wickson, is selling very fast—better, we believe, than any previous issue. And it ought to sell—it is larger, handsomer, and gives more up-to-date information than the former editions. Every fruit grower in the State ought to send \$3 to us and have a copy sent him, postpaid.

Friends of the PACIFIC RURAL PRESS have been very lavish of their commendations of the improvements in the paper of late. We are going to do better, so as to deserve the nice things said. By the way, this edition is, we think, a good one. Special articles, besides regular features, make up a table of contents covering every feature of farm life. Our subscription list is growing nicely, and will grow faster if our readers will show the paper to their neighbors and ask them to subscribe.

New advertisements in this issue: Orange County Nursery & Land Co., of Fullerton; Pacific Seed Co., of Sacramento; Chico Nursery Co., of Chico; W. H. Samson Nursery, of Corning; M. M. Avellar, of San Leandro, who offers a fine stallion for sale; The English Novelty Co., of San Francisco, which makes the latest society craze, "jumbled pictures." These are all good firms and are worthy of your patronage.

Next week we expect to publish an article by Judge Peter J. Shields, of Sacramento, on "Country Life." This subject is now being very much discussed, and Judge Shields has handled the subject in a masterly way. We know that his article will cause our readers several serious thoughts, but in the main they will agree with him.

That 23% of the cattle examined in northern and central parts of the State show tuberculosis, is the report of Prof. A. R. Ward and Dr. C. M. Haring of the Agricultural Department of the State University. In bacteriological tests of 1976 animals, 453 revealed the disease. Only four small herds were found to be absolutely healthy. The disease, say the professors, was found under ideal conditions as to fresh air and sunshine. Isolation is therefore the only remedy.

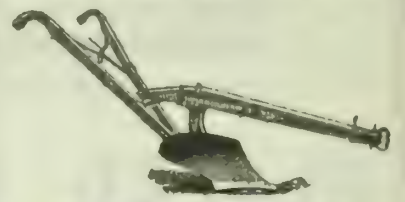
## UNTIL YOU INVESTIGATE.

## "THE MASTER WORKMAN,"

a two-cylinder gasoline, kerosene or alcohol engine, superior to any one-cylinder engine; revolutionizing power. Its weight and bulk are half that of single cylinder engines, with greater durability. Costs Less to Buy—Less to Run. Quickly, easily started. Vibration practically overcome. Cheaply mounted on any wagon. It is a combination portable, stationary or traction engine. SEND FOR CATALOGUE. THE TEMPLE PUMP CO., Mrs. Meagher and 15th Sts., Chicago. THIS IS OUR FIFTY-FIFTH YEAR.

Several tons of dried fruit were shipped this week to the Orient on the steamer Mongolia, from the Gaines ranch, near Sebastopol. The consignment consists of apples, pears, prunes and peaches, all suitably packed to withstand the tropical climate. To Gaines ranch belongs the distinction of sending the first large shipment of dried fruits through the San Francisco custom house to the Malay States.

## THE "SOUTH BEND"



THE BEST CHILLED PLOW IN THE WORLD.

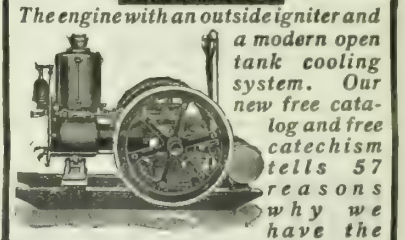
The No. 1-B vineyard plow, as illustrated above, is especially designed for the Pacific Coast orchards and vineyards. It has the same capacity as the No. 1-B, turning a furrow 5x8 inches. It is fitted with a hinged handle, as shown in the picture, at the right, which can be closed up, thus enabling the operator to plow very close to the trees and vines without doing damage to either, making orchard and vineyard cultivation an easy and comfortable task. Weight, 65 pounds.

Write us for Catalogue describing the Complete South Bend Line of Plows.

General Agents,

PACIFIC IMPLEMENT COMPANY,  
135 Kansas St. San Francisco.

## Stickney Gasoline Engines



SEND FOR FREE CATALOG best engine Stationary and Portable 1½ to 16 h.p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

De Laval Dairy Supply Co.  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.  
HANDSOMELY ILLUSTRATED

Price \$3 per copy, postpaid.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO  
PACIFIC RURAL PRESS, Publisher,  
667 HOWARD STREET,  
San Francisco, Cal.

HENRY B. LISTER,  
ATTORNEY AT LAW.  
Notary Public and Commissioner of Deeds for New York.  
937 Pacific Bldg., Fourth and Market Sts  
San Francisco.



# TREES TRUE TO NAME

AND

Propagated from the Best Specimens of Their Kind

TWO IMPORTANT FACTORS

## PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches	Apricots	Apples
Plums	Almonds	Persimmons
Pears	Cherries	Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

**ORDER NOW****WRITE US**

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

## PEAR-BLIGHT We can CURE IT

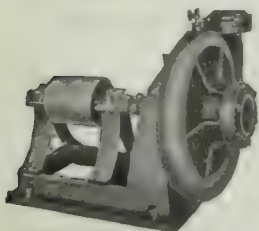
Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

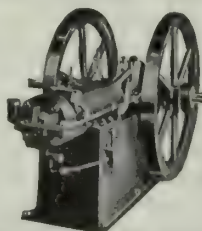
## PEAR-BLIGHT REMEDY COMPANY



**Gould's Centrifugal Pump**  
Has a greater efficiency and takes less power to operate. All sizes up and including 10 in. in stock.



**Red Cross Wind Mill**  
Is built right. Works right. Runs in light wind. Has ball bearing turntable and outer thrust.



**Stover Gasoline Engines**  
Built upon honor. They develop more than the rated horse-power. Simple, durable, easily operated, economical in fuel consumption and guaranteed. We carry in stock from 2 to 50 horse-power.

PUMPS FOR EVERY SERVICE AND USE.

### WOODIN & LITTLE PUMP HOUSE

70-72 FREMONT STREET  
SAN FRANCISCO

Pumps for Irrigation, Road Sprinkling, Electric Motors, Gasoline Engines, Spraying, Whitewashing, Wine Pumping, Wind Mills, Hand and Power Use, Steam, Etc.

Gasoline Engines, Wind Mills, Tanks, Pipe, Pipe Fittings. Send for Catalogue.

## THE EVANTS CULTIVATORS

The Evants Cultivator, with 9 Circular V Teeth and Seat, Cutting 4 1/2 feet; also with Wheels and Levers for Lifting Teeth out of Ground and Ratchet for Regulating their depth in the Ground.

1st Premium at State Fair 1907-8.

The Best Summer Fall-ow Plow.

Light Draft and great saver of horse-flesh. See Catalog for testimonials. Send for Catalogs.

BOWEN & FRENCH  
MANUFACTURERS659 Washington St.,  
Oakland, Cal.

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution, Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

## Was Your Last Catalogue Satisfactory?

- 1. IN TRADE-PULLING POWER.**  
Was the general get-up genuinely attractive, and did it present your stock so that the reader became interested and in a frame of mind to give you an order? First impressions go a great ways in establishing a friendly attitude toward the offerings of a good book.
- 2. IN QUALITY AND ARRANGEMENT.**  
Did the manner of its mechanical appearance and literary expression impress possible patrons of the superiority of the seeds and plants you are offering? Was it correct in nomenclature and reliable in cultural directions?
- 3. IN VOLUME AND NUMBER PRINTED.**  
Did you meet the demand by ending the season with just enough to carry you over, or did you have a surplus, or did you fall a few shy? This is important either way you look at it.
- 4. IN MATTER AND ILLUSTRATIONS.**  
You don't always discuss with your printer all these points,—but then, The Kruckeberg Press is different from the general run of printers; it is fitted up to be really helpful to the seed and nursery trade, the live stock and agricultural interests, to do this class of work, from the preparation of the copy to the finished product.  
Correspondence invited.

## THE KRUCKEBERG PRESS

HORTICULTURAL PRINTING AND ENGRAVING  
CATALOGUE MAKERS. TRI-COLOR PRINTERS

123 South Los Angeles St. A 1420 Home. Los Angeles, Cal.

## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe. Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Deely Block.

Prices, specifications, hydraulic data and general information furnished upon request.

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
T. W. JACKSON & CO., Temporary Address,  
42 Market St., San Francisco.

"THE OLD RELIABLE"

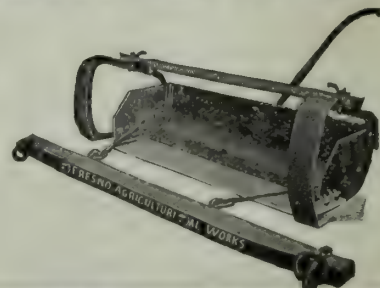
## DIETZ LANTERNS

THERE ARE NONE "JUST AS GOOD"  
WHEN YOU BUY A LANTERN INSIST ON A "DIETZ"  
MADE BY R. E. DIETZ COMPANY NEW YORK  
Largest Makers of Lanterns in the World  
ESTABLISHED 1840  
PIONEERS AND LEADERS

## Blake, Moffitt & Towne

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
PAPER Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon

## The Fresno Scraper



Send for Raisin Machinery Catalogue.  
**FRESNO AGRICULTURAL WORKS**  
FRESNO CALIFORNIA.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 25.

SAN FRANCISCO, SATURDAY, DECEMBER 19, 1908.

Thirty-eighth Year.

## American Country Life.

By Judge PETER J. SHIELDS, of Sacramento, at the California Fruit Growers' Convention.

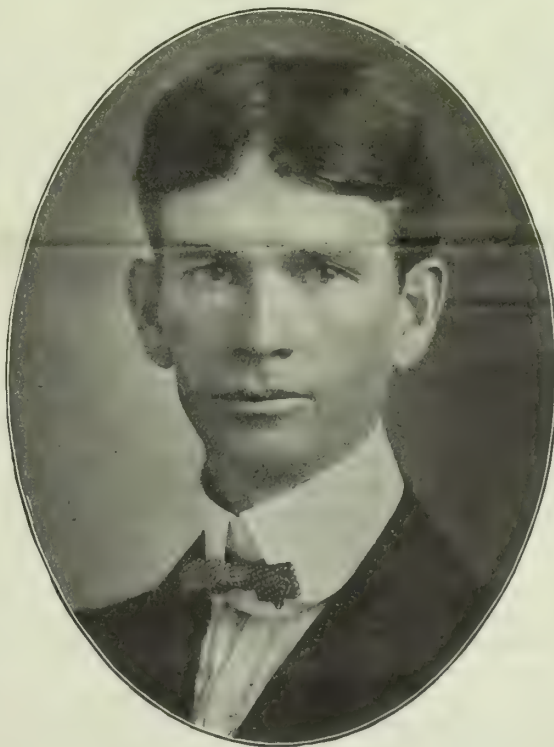
Life in the open country, under the clear sky and in the midst of green fields, has never failed to excite the praise and move the fancy of the world. There industry does not hum, but is full and abundant; life is peaceful, but of a measureless range; and the silent forces of nature stir only man's best impulses. Such a life requires no praise or appreciation.

Nor shall we here attempt any praise or defense of farm life, nor of the men who live it. With outdoor conditions have ever gone a type of manhood that was clean in its morals, sturdy in its courage, useful in its industry and loyal in its patriotism. Country life has given to America its ideals, and our institutions are peculiarly its product. Its freedom and independence and repose are everywhere expressed in our Nation's aim and purpose. It has all of its strength and reserve and courage. While we remain a republic, dedicated to justice and equality, we must remember from whence our strength and power came; and we must foster our country life, that it may supply the influence which will keep our Nation ever vigorous and young.

But, mindful of these conditions, we are mindful too that this life has its weaknesses as well as its strength, and our purpose today is not to rhapsodize or appreciate its better side, but to study its conditions as they are, to endeavor to determine its value, and to indicate, if we can, how its condition, good as it is, can be made better, and how its usefulness, great as it is, may be enlarged. On its weaker side, it may be said of farm life that it lacks social advantages and educational opportunities. The life is too often solitary and isolated, and the range of its activities narrow and circumscribed. Too much of its labor is mere drudgery, and it lacks the alluring prospect of easy profits or large wealth; its earnings are too often small; its work hard, and its hours of labor long and monotonous, lacking stimulation and enthusiasm. Many elements of the home life are meagre, the farm women lack companionship, their work is hard, routine and uninteresting. A combination of these influences tends toward a general atmosphere of repression. Over wide areas these conditions happily do not prevail, and everywhere they are becoming outgrown. When we were going through that phase of our country life in which these conditions were most prevalent, our cities began to grow, and our youth in a steady stream left the, to them, unattractive farms for the pleasures and opportunity of the apparently larger life. Under the influence of this desertion rural conditions further degenerated, farm life languished and the cities grew apace. This disproportion, this condition of social and industrial unbalance excited first interest and then

alarm. Our people began to study the consequences to the individual and the state, of rural decay; we began to see country life with a better understanding and consequently a new appreciation. We began to see that the country produced a different, although not necessarily a better, man than the cities. The full industry of the country, its beauty and its sweetness, its dignity and its peace were reflected in the character and personality of the man who grew up there, and gave him a depth and earnestness and sincerity which make him big and effective.

We saw that the country was free from those temptations which beset the path of the city youth, and that a simple honesty was characteristic of it. Its industries were moral and creative, its wealth



JUDGE PETER J. SHIELDS.

was clearly realized from the very elements by the application of honest toil. With a new force we saw that its products fed the industries of the cities and created the commerce of the Nation. With the continued growth of our cities our social problems began to develop. Crime increased, and the overcrowded tenement districts and large numbers of helpless poor began to appear. The question of what to do with our great mass of dependent children began to press for solution, and divorces so multiplied as to become a national scandal. And we then observed that these conditions did not arise in rural communities, that its wholesome industrial conditions forbade them, that they were the sole product of the cities, and that the country's only part in their existence was to pay the price of their correction and support. We came early, too, to realize the political value of a country citizenship. It early appeared that it cast a steady and conservative vote; without

passion or hysteria, having peculiarly high patriotic and moral ideals, it moves to the solution of governmental problems slowly but sternly. We saw that it was the Nation's hostage against the forces of revolution and unrest.

These considerations, newly realized or newly learned, gave to country life an enlarged appreciation and a new eminence, and lay at the base of a revived national desire and purpose to foster it as the very foundation of the Nation. As a result of these considerations the question is constantly, though crudely, asked as to the relative advantages of the two types of life, as to which produced the better man. This admits of endless discussion, but one without profit. It is readily apparent that both conditions are indispensable to a large national existence and symmetrical social growth. That a man should follow that life in which he can find the most happiness and do the best work is self-evident, and if that be a city life or a country life, that is for him the one to follow. There is in each enough to furnish the materials of a useful and happy life, for a life of distinction and greatness. The one undisputed fact in their comparison is that success in either is a question of interpretation, of seeing large. Our great cities are rich in stimulation for those who can feel it. If the city boy once knows the thrill of the high life about him, he may pursue its best purposes to distinction. If the country boy once catches the inspiration of his noble surroundings; if he once sees the size of the factors with which he is dealing, the big thought makes him a big man, and masterfully and with an enthusiasm which ennobles his labors, his life tends naturally to fine achievement.

Manifestly the thing to do is to cease comparing the two and go about so controlling the forces back of each that the youth of both shall hear the right call and that their progression be directed toward the high places in life. Each of its best is good enough, and the Nation is more concerned in knowing that each is lived to its best than that either is the more meritorious. The general welfare is served when governmental and social forces are so formed that city and country life, each in its own field, shall be perfected, and that both working together shall round out a sound and useful society.

Growing out of this new national purpose to strengthen agricultural life many influences conspired to effect its betterment. The city man regarded his country brother with a new respect, the country man felt a new pride in his calling. Having more friends, in its prosperity many strong influences combined to aid it. Commerce ramified and extended, and the farmer learned business from the city merchant. Transportation facilities multiplied and gave the farmer new and better markets and enlarged the range of his life. Agriculture was given a place in the President's Cabinet, and the Department in recent years has been doing a great good to the industry which it was created to serve. Agricultural newspapers

(Continued on Page 325)



# Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

Advertising rates made known on application.

E. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

## California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., December 15, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.64	10.65	13.07
Red Bluff.....	.79	3.98	7.62
Sacramento.....	.58	2.78	5.07
Mt. Tamalpais.....	1.47	7.18	5.82
San Francisco.....	.51	3.71	5.68
San Jose.....	.82	2.59	5.69
Fresno.....	.25	1.36	2.65
Independence.....	.00	1.80	2.56
San Luis Obispo.....	.48	3.66	4.45
Los Angeles.....	T	4.06	3.19
San Diego.....	T	2.13	1.97

## The Week.

We have done another 1600 miles of California studying without going north of San Francisco—which shows what a great State we have, and we like continually to think about that. It is surely an empire in itself, and this time we went indeed to the empire of it—the Imperial valley and county of California. It is, of course, an empire inchoate, for we slept one night in an \$80,000 hotel, another in a \$25 shack, another on a piazza, and if we had stayed one night more we should probably have found ourselves on the sand of the desert under the peculiarly brilliant stars—but even that would not have been bad, for the alfalfa was a foot high on its eleventh crop and the hay was being cut—all this in the middle of December.

But, large as California is, we could not quite make our 1600 miles on the round trip without stepping over a few miles into the Mexican territory of Lower California, and we did that to see how secure were the great works which were necessary to convince the Colorado river that its proper heaven was not in the bosom of the Imperial valley, and that it must again pursue its destiny in the Gulf of California. The restraining works on the west side of the Colorado river, covering the break which threatened the whole county and miles into Mexico, are admirable in design and construction, and when they are turned westward as planned, so as to hold out water and hold up a first class railway across the whole south boundary of the valley, the vast, fertile, irrigated area will be secure for all time. Not only that, but the main southern overland line may be swung through the Imperial country into a district teeming with products and people and away from the desert primeval which it now traverses on its way from Salton Sea to the Colorado crossing at Yuma. As one sees these things and thinks upon them, he realizes more fully how important to the State and to the Nation that the riotous river was laid hold upon by a capable and resolute agency which could command the best engineering skill and ample money, which were necessary to protect this large and fertile south-east corner of California from the flying sands of the desert and the onward creeping of the devastating waves of the Salton Sea.

We found a most buoyant spirit prevalent in the Imperial valley. The slump in cantaloupes, amid the vines of which so many dreams of greatness were entwined a year ago, is being looked upon

now as a valuable lesson against putting all the eggs in one basket with insecure handles—for it was in the handling of the crop, and not in the growing of it, that the disaster came, and the lesson is against going too far in untried paths. Even the cantaloupe will roll out all right in its way as the demand rationally develops. The great erosions in the valley which the escaping Colorado furrowed out in its course to Salton sink are being counted now as valuable features in the reclamation of the region, for they are great channels, often scores of feet in depth, which will furnish the valley lands outlets for drainage, which are always of great value in irrigated districts. The rampant river thus supplied what it might have required decades of exhortation, legislation and expenditure to secure. There are other regions of the State which would be benefitted if a great river could sluice out drainage channels for them, even though the incidental loss would be vastly greater than it was in this new land. On this insight the people are disposed, now that they are securely protected, to regard these deep scars as blessings—not exactly in disguise, for they are sad to view from their banks—which will save vast areas from ascending ground water and make washing out of alkali almost automatic in much of the land where subterranean water movement is free. Such operation is, in fact, now demonstrating itself, for the small amount of water now flowing in the bottom of these channels is said to be too alkaline for stock to drink, which shows how salts are escaping to join their kin in Salton Sea. The behavior of alkali under fresh water above and drainage below had shown itself years ago, when land pronounced by experts to be in danger of quick sterility proved increasingly productive under irrigation. The salts which were carried down into the free subsoil by the fresh water can now escape from the subsoil into these deep gullies, and thus find their way to levels below the irrigated area. There is still some laughing in the district at the experts who prophesied ruin. It was apparently a case in which the prophets did not reach the limits of the science which they invoked. They stopped too soon, but the water went on and out, and the alkali went with it.

But this discussion is getting too salty; it may come to tears if we pursue it further, so we will choose something fresher. The newest thing in the Imperial country is the Imperial Valley Collegiate Institute, which the trustees invited us to come down and help them formally open at Heber last week. Our particular interest in this new institution is indicated by the following declaration by the organizers: "The science of agriculture, especially in its bearing upon the problems of the Imperial Valley, is to be one of the prominent departments of our school, and we desire to come into as close relationship as may be with the University in this feature of its work." Such a declaration is dear to us as manifesting an appreciation of the importance of agricultural education and the relation thereof to local agricultural problems in different parts of the State. The organizers have also declared for local experimentation, and have a gift of land from a local philanthropist for that purpose. They have also come very close to the agricultural department of the University by choosing Mr. Charles J. Booth, a graduate of the current year, to have special charge of their agricultural work. Under these circumstances we delighted to go to the Imperial Valley to help open the school, and to rejoice with the people in their satisfaction in having entered upon an effort of such great promise. There were many manifestations of sincere local interest besides the earnest addresses made at the opening. The Collegiate Institute was born some weeks ago, when Mr. Moorehouse and Mr. Booth began their instruction of 12 pupils who gathered in an available temporary building; it was christened in a cantaloupe packing house last week, in the presence of a hundred and fifty earnest people; it has a promising outlook in the way of property and endowment, and all the outside world has to do is to watch it grow, for it is courageously undertaken as a local enterprise, and will be speeded on its way by local men and money. The way things grow in the Imperial Valley should prepare the public for surprises in the development of this

school, which in its plan and its organizers is clearly in full sympathy with the present ruling passion for education which aims at efficiency in character and in industry. The district has an outfit of common and high schools of the usual types, but it desires also to have a school of another type, and it has set to work to build up such a one. For pertinent comment on the fact we cannot do better than ask the reader to carefully peruse the admirable essay by Judge Shields in this issue.

Things do not look so well for the quiet and peaceful settlement of the question as to whether California producers shall be allowed to use sulphur reasonably in the preparation of their sunshine-evaporated fruits. It was supposed to be agreed all around that the matter should be held in friendly abeyance until the referee board appointed by President Roosevelt should submit its report. It was expected that Dr. Taylor would require the current year for his investigations abroad, and that the board itself would take up investigation in California while the next crop was in the sunshine, so that the matter might be understood fully, as it certainly is not at the present time. According to recent telegrams, this truce is not being observed by Dr. Wiley, who is said to be going on for all the world as though he was the only man in it. Congressman Needham, who is certainly just the man needed in this instance, has declared to President Roosevelt that Dr. Wiley is not fighting according to the rules of civilized warfare. The report is that he and others in the California interest made their declaration to the President after the passage of resolutions against California sulphured fruit by several Eastern States and a diplomatic controversy between this country and fruit with regard to the sulphured fruit question. Two weeks ago the French government, through the embassy at Washington, informed the United States government that, in view of Dr. Wiley's statements, California sulphured fruits would have to be barred from France. Congressman James C. Needham learned of this correspondence and called the attention of the Committee on Foreign Relations to the situation. A reply was sent to the French government that French wines contained sulphur, and that the United States would have to retaliate by barring these wines from this country. A letter came hastily from France apologizing for the first communication and explaining that the French government had found that sulphur-cured wine was not injurious. The letter stated that no action would be taken against California sulphured fruits. Congressman Needham has a copy of this correspondence in his possession, and is disposed to use it to the full to induce Dr. Wiley to keep quiet and not prejudice people against California fruits. We have a high regard for Dr. Wiley, but really we cannot see why he cannot behave. If he is so cock-sure he is right, why cannot he wait for the right to prevail?

It seems to us exceedingly unfortunate, to say the least of it, that the announcement of an advance in overland freight rates on cured and canned fruits should have come just at this time. Producers and shippers are fighting the increase in a thoroughly organized and effective way, and we cannot add anything to the facts which they are setting forth, nor the force with which they are presented. The public certainly will believe that such strong protests participated in by people in all phases of the fruit interest are well founded. We do not recall an issue which joined men of such large, varied, and sometimes rival, interests, and such showings must prevail. The side issue which we suggest as particularly unfortunate is that the claim of the transportation companies for more freight on this product, when they are now drawing so many millions yearly from it, will create a very wide belief that there is really much more profit in the producing effort than there really is, and that that will be lined up against our claims for protection against foreign producers. The transportation managers are generally credited with being pretty good judges of what the traffic will bear, and the general public will certainly get the impression that the carriers have overlooked something and are trying to get their share of it, or all of it—according to the notion



of the individuals who form the general public. Then again, others will claim, what is the use of protecting a product when the corporations get all there is in it anyhow. The whole business is bad, directly and indirectly, and ought never to have been thought of by those who claim to be actuated by a desire to develop the country and increase prosperity. It seems to be a case in which selfishness has forgotten not only every other's interests but is blindly acting in opposition to its own. There is no wonder that producers and shippers are fighting it, and fighting hard.

## Queries and Replies.

### Silo and Syllogisms.

To the Editor: I have been trying for some time to find someone who has had experience in siloing alfalfa, and to find out if anyone has ever tried making ensilage of first-crop alfalfa containing a large percentage of foxtail. We have great difficulty in growing Indian corn. We have an abundant spring growth of foxtail, and while it is growing it is a great milk producer, but when it becomes dry or is cut for hay it becomes a curse. There are thousands of tons burned, which seems to me to be an awful waste, and in the fall, after the water is gone, we have a terrible scarcity of succulent food for our cattle. I would also like to know the value of sorghum silage. And of corn upon which the tassel has fired and the ear has not been fertilized and has an empty husk, although the stalk and leaf are succulent and vigorous. Our trouble in growing corn is that we frequently cannot get water while the corn is tasseling, and it is then that if the roots are not wet the tassel fires.—Farmer, Kern County.

Alfalfa can certainly be successfully siloed, and is being handled in that way with satisfaction by a number of our dairymen. The siloing of alfalfa containing much foxtail is also successfully used. Of course, the silo must be properly constructed, so that it will be air-tight, and the material must be cut so as to secure close packing and exclusion of the air. On the other hand, some of our growers prefer to feed the foxtail. If the ground is not in good shape for pasturing, feed in the corral, being careful to cut while the plant is still young, and at that stage it seems to be a very nutritious and desirable feed. Sorghum is also successfully siloed, but there seems to be more objection to it than to corn, which is generally considered much superior. The difficulty in handling the stalks which have failed to ear would lie in the fact that for successful siloing the corn must be green and succulent, and it cannot be successfully treated if allowed to become too dry. Where corn is growing thriftily with plenty of moisture it comes into good siloing condition at just about the time when the kernels begin to glaze over. You might have some difficulty in getting satisfactory results with a plant which was showing lack of moisture because, though green, it might not be succulent enough to silo well.

### Cutting Alfalfa for Hay.

To the Editor: I would like to have the time to cut alfalfa hay discussed. I find in this county one-half the hay is nearly spoiled. I will start the subject by giving my idea of it. The cow is the best judge of the proper time for cutting. If she eats it well and with a relish, that is good hay, but if you find from one to two-thirds of it in the manger something is wrong. I have cut first crop that was preferred to second or third, and again the second or third was preferred. How must each crop be cut so that it will all be eaten and not wasted? I think the first crop should be cut when there are only one or two blooms to the ten-foot square. The second when there are one to six blooms to the bunch and the third when there are six to ten blooms to bunch. The thicker the stand the fewer the blooms. This may not do in counties where they irrigate, but for these coast counties I believe it about right.—Farmer, Hopland.

You have made a very interesting communication and given very good reasons for your conclusions. The measure which you give of the condition in which to handle the different cuttings is original, so far as we know, and is a good thing

to think about and practice with. It seems to us rational. Cutting as the plant is coming into bloom is followed more widely than it used to be and is undoubtedly better than to cut in half-bloom or full-bloom, as was the old practice, and was certainly too late and productive of low-grade, stemmy hay. We shall certainly be glad to have all alfalfa growers give their experience and conclusions as our correspondent suggests.

### Corn Smut.

To the Editor: What is the cause of smut in field corn, and is there any practical way to prevent it? Have had considerable smut in my corn this year, and would like to know how to prevent it next season.—Old Subscriber, Sonoma county.

The cause of corn smut is a fungus which lives upon the tissues of the corn plant and the smut is the spores (or seeds) by which that fungus distributes itself. Corn smut is a different fungus from the smut of wheat, oats, etc. It gains access to the plant in a different way and is not largely controlled by dipping seed in bluestone or formalin solutions. Theoretically it could be controlled by spraying the corn plant with Bordeaux mixture from time to time during its growth, but that would cost more than corn it worth. The grain can be largely protected by beginning early in the season, say in June or July, and gathering all the small pustules on the tender parts of the plant, for if these are removed and burned the abundant supply of spores produced later will be prevented and the health of the ears thus preserved. Most people begin picking smutty ears too late and then they throw them on the ground to become dry and fill the air with spores.

### Globe Artichokes.

To the Editor: Will you please tell how to plant and when to plant artichokes—the table variety—and what kind of land is best for them?—Subscriber, Fresno county.

The globe artichoke will grow in any good garden soil; it does not make very sharp requirements in that line. It can be readily grown from seed started in February and will bear a crop of buds the same year in California. It is also easily multiplied by dividing the roots, taking a little top-growth with each root-piece. Our seedsmen furnish both seeds and young plants usually. The plant is a handsome one, rather tall and is particularly good as a garden border plant or hedge row or as a screen to hide unsightly buildings or compost heaps. It is long-lived and will furnish buds for several years. The long season of California is especially suited to give satisfaction with this plant, and every house garden ought to have a row of globe artichokes where they need not be disturbed, but still can receive water and culture enough to keep them thrifty.

### Eucalyptus and Overflow.

To the Editor: Can eucalyptus trees be grown successfully on lands which overflow during periods of extreme high water and remain covered to a depth of two or three feet for as long as two months at a time? We have a number of small tracts of land which are too small to reclaim successfully, and are of no particular use at present, which would be valuable if something of the character of the trees named above could be grown. The soil of these tracts is a river sediment of the very best quality—as good as is to be found anywhere. Oak and willow trees grow very well indeed, and it has occurred to me that where these trees grow the gum trees might do just as well.—Reader, San Francisco.

We do not know how long eucalyptus trees will stand submergence of the roots, although we have seen them growing thriftily in situations where there must be quite a period of it. Will readers on reclaimed islands or flood basins give us data from their observation?

### Planting Walnuts.

To the Editor: We are about to plant walnuts or walnut trees, and would like your opinion as to the best method to adopt. Shall we plant black walnut trees, say two years old, and thereafter graft in the walnut of the variety which we wish, or should we plant the black walnut in the place where we want the tree, and thereafter graft in

the variety we wish, or would it be all right to set out the grafted walnut trees after they have been grafted?—Planter, San Francisco.

You can proceed in any of the ways that you mention. You would, of course, save much time by planting out two year old black walnut seedlings and then top-grafting them after one or two, or even more, years' growth in the orchard. The larger the tree the easier to graft. At the same time, we would prefer to plant out good thrifty trees already grafted, but the supply of such trees is perhaps not large, and the price is reasonably high. You will have to determine what is best for you to do by consideration of the demands of your plans and what materials are available for planting.

### We Cannot Assume Business Risks.

To the Editor: I am thinking of buying land in a small valley on the west side of the Sacramento valley, to plant almonds, or do you think it would be better to plant grape vines. I would like your opinion before deciding.—Miner, Placer County.

We cannot undertake to advise correspondents as to what agricultural product they should choose. There are so many things involved in that sort of advice that we do not wish to take the risk of it. It is also particularly unsafe unless one has the advantage of careful local study of the land and some knowledge also of the experience of people with the different crops which they have undertaken. For example, the chief trouble with the almond in such a small valley as you indicate is the occurrence of late frosts, but your land may be so located as to be practically out of frost. For this reason we cannot advise you as to that product. Where late frosts occur they are also likely to catch the early growth of the vines, and yet the vines might start so much later than the almonds would bloom, that the place might be unsafe for almonds and safe for vines. We will be glad to assist you in any problem that may arise in your experience, but you will have to determine for yourself what line of agriculture you should undertake.

### A Dangerous Proposition.

To the Editor: I have land where water is not obtainable. Yet fine crops of barley are raised on it. It lies up on a hill, yet is not rough. I wish to make it productive of something that will be more remunerative than barley, but as I cannot get irrigating water, must use some fruit that will grow well without water. Can you suggest anything? How will figs do?—Land Owner, Los Angeles.

Whether figs or any other fruit will succeed on the land which you mention depends entirely on the amount of moisture which is available, the depth and character of the soil, etc. There is a great deal of land which will grow a barley crop that will not furnish summer moisture enough for fruit trees. It is rather a vain hope to get any sort of a tree to make satisfactory growth unless you have sufficient moisture for it, and many a tree will grow fairly, but not find moisture enough for good fruit. That is a question which you must look into carefully.

### Japanese Chestnuts.

To the Editor: Will you please give me some information how Japanese chestnut trees do here, and if it pays to raise them in this part of the country? I have also some pecan trees, and would like to graft chestnuts on them. The trees are three years old. Please tell me when and how to graft them.—Reader, Healdsburg.

So far as we know, the Japanese chestnut trees will be satisfactory, so far as early and full bearing is concerned. They generally act that way. The Japanese chestnut is, however, rather coarse, and it is quite a question whether it is desirable for anything but stock feeding. The chestnut generally used in the California markets is the Italian variety.

We do not believe the pecan will grow permanently upon the chestnut. Pecans and hickories are closely related, but the chestnut is far away. If you wish to try the experiment, ordinary top-grafting, such as is used with pear and apple trees, is the method to be employed.



## Horticulture.

### NEW PESTS WE SHOULD GUARD AGAINST.

By E. M. EHRLHORN, Deputy Horticultural Commissioner in charge of Quarantine Division, Ferry Bdg., San Francisco, at the State Fruit Growers' Convention.

(Continued from Page 373 of Last Week's Issue.)

**Peach Borers.**—Two boring insects both belonging to the clear-winged moths should be guarded against, lest one or the other should be imported, these are the squash-vine borer (*Melittia satyriniformis*) and the peach-root borer (*Sanninoidea exitiosa*). The first is something which would be entirely new to our State, for the few insects which attack our squashes and pumpkins are well known to us, and we might say that we are prepared in a way to overcome their attack except perhaps in exceptional seasons, when we must accept the inevitable and take our loss. The record shows that the squash borer attacks the various squashes and also the cucumber and has been known to attack muskmelons and is recorded as a serious pest. Its life history gives us some hope at least that its transportation would be rather difficult, the moth passes the winter as pupa in the ground, and unless these should be brought in soil attached to plants, it would be difficult to bring the pest into California.

The second insect, the peach-root borer, sounds more familiar to us, and although we have its near cousin in a few sections of our State, yet we should not permit any infested trees containing the larvae of the Eastern species into our State. I know that infested stock is shipped here, for we have destroyed such and have reared the adult moth from some of the condemned stock in our laboratory. This species has been reported from Oregon, but from correspondence with Professor Cordley, I have his statement that he has never reared the Eastern species in his State, nor has this species ever been reared from material collected in California, despite the fact that rumor had it that it did exist in our State. J. H. Hale, the well-known Eastern peach grower, is quoted as saying: "The peach borer has killed more trees than all other causes combined." Slingerland of Cornell says in his bulletin on the peach-tree borer: "We suppose that but comparatively few of the peach trees which have been planted east of the Mississippi river during the last quarter of a century, have lived to produce a crop of fruit without suffering more or less from this dreaded borer." And he also says: "The peach-tree borer has ranked as one of the standard and serious insect pests of the United States for nearly a century." With such statements as quoted above, I don't think it will take much more to convince the planter to purchase his peach trees at home, where we do know that we have no risk of getting this dreaded pest, and it should give the county boards of horticulture some idea about the great chances they take with nursery stock coming from States where this pest is known to exist.

The fall-web worm (*Hyphantria cunea*, Dru.) is another insect which should be guarded against. It produces webs or tents resembling those of the tent caterpillars we have here, only making them in the autumn. The insect passes the winter in the chrysalis contained in a delicate cocoon which is attached to the bark of the food plant. In some parts of the East only one brood occurs, but in the more southern portions we find two broods, which would no doubt be the case in California's climate. The records show that this species does considerable damage to fruit trees.

A pest which might prove a great detriment to our cypress hedges and other shade trees is the bagworm (*Thyridopteryx ephemeraformis*). The larva of this moth lives in a bag formed of silk and decorated with small pieces of twigs and leaves. As the worm grows it increases the size of the bag, carrying it along as it feeds. The female is wingless and never leaves the bag, and in the fall of the year she deposits a quantity of eggs in the bag, which remains hanging in the tree during the winter. This pest would be very easily transported on nursery stock such as arbor vitae or other ornamentals. There exists a much larger

species in the orient and Australia which does serious damage to trees. This species has been found on shipments arriving at San Francisco and a very close examination must be made of all such stock because when the larvae are young the bags are also very small and can be very readily overlooked.

A pest which has made its appearance in a few of the Eastern States and is probably a recent importation from another country, is the peach sawfly (*Pamphilus persicum*): It has been reported doing serious damage to the peach, partially or wholly defoliating the trees. This pest has been noticed in Connecticut, New Jersey and Pennsylvania.

**Snout-Beetles.**—Snout beetles, known as the plum curculio (*Conotrachelus nenuphar*) and the quince curculio (*Conotrachelus crataegi*) are considered great enemies of the Eastern fruit industries, especially is this true of the plum curculio. Neither of these pests exist in California as yet. For many years the growers of this State, many of them originally from the East, have been in great fear of the appearance of this pest, as it would mean a great set-back to our stone fruits and it would not stop at this, for it attacks also the apple and the pear. The injury to the fruit is done by both the beetle and the larvae and all fruit except apples and pears usually drop before maturing, if not the fruit is so badly scarred as to be unmarketable. The adult beetle passes the winter among the decaying leaves or in the grass covered orchards or wherever any rubbish has accumulated. Owing to these conditions it is not an easy matter to transport the pest, nevertheless close watch should be kept on shipments of nursery stock, especially if any kind of rubbish-like packing, old leaves, sod and the like is used. All such materials should be immediately destroyed by burning.

Another beetle belonging to the snout beetles is the strawberry weevil (*Anthonomus signatus*). This is a very small species, but capable of doing enormous damage to the strawberry crop, by damaging the blossoms. It is found in Canada, the Atlantic States, a portion of the Southern States and through the middle States. It could be easily transported in strawberry plants as the adult hibernates and is often found among these.

Right here I wish to call attention to the reputation of snout beetles, namely that nearly all species are serious pests of some plant or of its product. The cotton-boll weevil (*Anthonomus grandis*) is another species too well known to the cotton grower, and although our State has no cotton industry as yet, we are now trying the growing of cotton in the Imperial valley. The action taken by the State Commissioner of Horticulture in regard to the importation of cotton seed, so as to prevent the introduction of this pest is very timely. The records show that this pest has cost the cotton States many millions of dollars, and if we are to start a new industry here it behooves us to start it without its greatest enemy.

Our flat-headed apple-tree borer (*Chrysobothris femorata*) is too well known to all fruit growers to need any further remarks. What the round-headed apple-tree borer (*Saperda candida*) would do in our apple orchards can only be inferred from its records in other places. This insect lives three years in the trunk of the apple tree; it will also attack the pear and quince tree, but has a preference for the apple. Its work is very similar to that of the flat-headed apple-tree borer, but its three years' work in the tree makes this species a much more serious pest and would without question prove a very serious pest to our industry should it ever gain a foothold here. It is very widely distributed through the Eastern States and also occurs in Canada and some of the middle and Southern States.

**Fruit Flies.**—The mere mention of fruit flies causes a lot of thinking among our fruit growers, and although fruit-fly maggots could hardly be transported on nursery stock, yet it is worth while mentioning such species that are known to exist near us and to give some idea of their work and a warning to those who travel abroad or even to the Eastern States not to bring any infested fruit as exhibits or curios from their travels, before first ascertaining whether or not it contains one of these dreaded pests.

Foremost threatening the citrus industry may

be mentioned the Morelos orange maggot (*Trypota ludens*) so destructive in its native country. This pest has been known for many years and the strictest watch has been given all shipments at our port of entry, and so far the pest has not gained an entrance, and yet there is great danger at hand, for our eastern boundary is unprotected and hundreds of carloads of Mexican oranges find a market in the United States. Who can tell when even passengers from Mexico via El Paso to California won't bring some of this infested fruit in their hand baggage or lunch hampers? A fruit maggot when full grown leaves the fruit and drops to the ground, where it pupates and soon emerges as a very lively fly. An infested orange could well remain a week or ten days along the railroad track and the inmates would find good eating and finally a good home in the warm soil of our State. Such a little start would soon furnish abundant material for a strong infestation.

Other fruit maggots are known in the Eastern States and many sections of the tropics and have been reported as very serious pests to the fruit industries. The following are worthy of mention:

The apple maggot (*Rhagoletis pomonella*) and the cherry fruit fly (*Rhagoletis cingulata*) of the Eastern States would create a lot of trouble should either ever gain a foothold in our State.

The peach maggot of South Africa, the Queensland fruit fly, the melon maggot of Hawaii and several other fruit flies in adjacent countries have kept us in constant terror lest one or the other should creep in unnoticed. Since our quarantine protection several lots of maggot infested fruit and vegetables have been seized and destroyed, and the closest watch is always necessary to prevent other lots from landing.

The two species that are found in the Eastern States are distributed from Massachusetts and New York southward to Maryland and as far west as Michigan. These pests would have to be brought into our State either in the fruit as maggots or as pupae in soil from badly infested areas.

Another pest which comes in this group is the pear midge (*Diplosis pyrivora*, Riley). This is a very small fly resembling somewhat the Hessian fly. It lays its eggs on young fruit and as soon as these hatch, the maggots enter the fruit and feed near the core, causing the fruit soon to shrivel and drop. The full-grown larvae leave the fruit and fall to the ground, where they pupate and remain until the following spring.

**Pests of Vegetables.**—Besides maggots which attack fruits there are several species which attack vegetables, roots and other portions of plants. The melon maggot of Hawaii has already been mentioned, but there are the cabbage maggot (*Pegomya brassicae*) and the onion maggot (*Pegomya cepetorum*) well established in the Eastern States and Canada. Both are very serious pests and at times cause very noticeable damage.

Other pests attacking vegetables are the sweet potato root borer (*Cylas formicaris*). This species has been reported from China, India, Cuba, Louisiana and Florida. As this pest is already recorded from the United States there is no telling when we shall discover its presence here. The damage done to sweet potatoes is very serious; at times whole crops are a total loss.

The melon worm (*Diaphania hyalinatalis*) and the pickle worm (*Diaphania nitidalis*) are two other pests, both moths, which would cause very serious trouble to our melon industry. The first is rather abundant in the Gulf States and the latter is reported from many of the Eastern and middle States as well as from South America.

A pest which has paid us a visit, but which as I am informed has now been under control for a year, is the dreaded orange white fly (*Aleyrodes citri*). We cannot use too much care in our inspection of nursery stock coming from outside States, because this pest has been found in greenhouses in many States and exists in several of the Southern States of the Union and it has also been taken on nursery stock coming from Japan by the quarantine office. This pest is very prolific and being the enemy of citrus fruits, we can hardly blame the citrus growers of our State, with their \$30,000,000 industry, for feeling alarmed when this pest made its appearance among us.

[TO BE CONCLUDED.]



### NOT TOO MUCH GOOD FRUIT.

To the Editor: The writer's attention has been called to the misconception in regard to over-production of deciduous fruits, and fearing that such misunderstanding will eventually be prejudicial to the standing of northern California with the country at large, we think a word at this time from a grower's organization actively engaged in the growing, packing and marketing of deciduous fruits will not be amiss:

We first want to state that we do not consider we are facing over-production of good fruit; in fact, we were overwhelmed with orders a great part of this season, but we did have a good deal of trouble with decay and inferior quality, especially in grapes, the latter largely owing to the lack of proper appreciation on the part of many shippers, of the requirements of a commercial pack.

Yesterday a single car of grapes grossed the handsome sum of \$2,947. It would not take many such cars to clothe the growers shipping such grapes in purple and fine linen. We are frank to admit the values this year ruled low on some varieties, but the question naturally arises: What industry this year did not suffer in the matter of values as compared with last season? We hear complaints from the growers of cotton, of hops, of wheat, and the manufacturers of steel, iron and lumber products, and we scarcely think it is fair to set up a complaint about over-production by reason of values obtained this year, one of the lowest in the history of the business.

There were three potent factors that materially interfered with values this year: An off financial year, a presidential year, and a very large crop of unusually fine quality in the East, and we might add that a great portion of the fruit shipped from California this year was very small in size on account of the lack of spring rains. However, on fruit of first-class quality we had no trouble in realizing good values, and such being the case, we think every effort should be used to correct the idea that we are facing an over-production, as such a statement is not only misleading, but dangerous to the welfare of northern California.

W. C. WALKER,

General Manager California Fruit Exchange.  
Sacramento, December 9.

## Citrus Fruits.

### HAVE WE A METHOD?

Written for the PACIFIC RURAL PRESS  
By Mr. THOMAS C. WALLACE.

In discussing the merits of two managers of large citrus properties recently, the claim was made that one had a definite method of soil treatment, while the other was practically experimenting. The majority opinion gave the advantage to the man of definite method. This suggests a study of the subject which may give us some valuable ideas. The teachers and professors of agriculture and horticulture vigorously dispense advice to the grower, urging him to experiment and apply the information thus obtained to the practical farm work. This sounds well, but it seems to say in one breath that they have no reliable information to impart or the grower is too unsophisticated to understand, and on the other hand that the grower is quite capable and trained to profitably study his experiments and deduce the valuable facts from them.

Without a pretty well grounded knowledge of the causes that produce results in the various branch arts of agriculture the conclusions drawn from farm experiments are rarely reliable. Take, for example, the vast amount of experiments made with fertilizers by the orange growers all over the State and you can scarcely get two settled parallel opinions, and those who have followed this plan longest, figuratively have their hands in the air with terse expression, "search me!" Is not the same true of the cultivation, the irrigation, and

even the pruning? The general verdict of growers is that orange culture is an unsolved problem, if we are to judge by the diversity of their practice, which is as unsettled as it is diverse. Is this correct?

A method for the cultivation of the orange must compromise at least the four branch arts of agriculture: cultivation, irrigation, fertilization and pruning, and these must be regulated to suit the immediate conditions of the grove. To understand the practical application of this work, cause as well as effect must have consideration, and without a knowledge of the probable causes which produce results and consequential effects experimentation rarely guides aright.

Sufficient is surely known of the effect produced on a given soil by the use of the ordinary cultivating tools to guide us to a distinct method of cultivation. The action of water on the various soil make-up is not still a sealed book, so that we can reduce the principles of irrigation to a method for watering the land to support vegetation continuously. The office of loam is not a mystery because all the intricacies of humus are unsolved, and a method for installing and maintaining loam in a light or heavy soil does not call for a decade of experimenting. Even the much discussed art of fertilization is not the sleep disturber so often described, if the principles of chemistry, physiology and the data of scientific research receive due consideration in selecting a method for supplying food to the trees. A rational view of pruning coupled with but slight study of plant physiology readily gives us a methodical plan for keeping the wood of the tree within bounds so as not to interfere with or overbalance the reproducing instinct or powers of the tree.

To be sure there are intricate and even obscure points involved in the prosecution of all operations which are so wrapped up in the evolution of life that even the turn of a few degrees of temperature or a slight barometric change may produce unaccountable results. But without caviling on these or demanding the unattainable a definite method for orange culture can be adopted, which, though defective in some minor details, is yet suited to the maintenance of healthy trees and level average production. Is not this better and eminently more practical for the grower than endless experimenting, the results of which rival the "temple of mystery?"

Again it may be asked, does experimentation by the untrained in the principles of the arts involved educate except in a pessimistic sense? The other day a bright young grower told me that tankage was a dangerous fertilizer and he was becoming afraid of fertilizers. He said he put tankage on several rows of young trees last spring and they got yellow by midsummer and were only now recovering. He said that about an equal acreage of the trees were not treated with tankage but with blood and they looked well. Now here was a test, an experiment, of you please, made to prove the efficacy of these two packing-house fertilizers. A little catechizing brought out the facts to be, that the soil upon which the tankage was put was shallower and heavier than the rest of the young orchard. The deeper and lighter soil was ready to work before the heavier, so the vetch cover crop was thoroughly disced up and the blood drilled in. Later the heavy soil was ready to work, but having become too dry for easy disking it was deeply plowed and the tankage applied because blood was not readily obtainable, while high-grade 12 per cent tankage was, and a test of respective materials was suggested. Result: all the surface roots and rootlets were cut off in a shallow soil, so that not only did the trees not receive the food of the tankage, but they even suffered both thirst and hunger in a general way.

This is not an exaggerated case, for I have analyzed hundreds of more glaring inaccuracies in reading home experiments. Sometimes fertilizers are blamed for troubles which arose from irrigation or cultivation, and vice versa, while the thermometer or the barometer would often point unerringly to the culprit.

Another point in this discussion which arose was that while the owner of a grove was entitled to all the experimentation he chose, a manager who was experimenting to find out how to grow oranges was not earning above a foreman's wages, as he was a mere director of work.

## The Field.

### WHAT OUR BURR CLOVER IS DOING.

The Texas Experiment Station lately issued a bulletin, prepared by W. C. Welborn, on "Winter Burr Clover," which is the plant which we call simply burr clover. This plant is proven to be a good forage crop, valuable to the growing dairy interests of Texas and with a nutritive value probably equal to alfalfa.

This plant is gradually taking the commons and roadsides at many places in Texas, growing on all grades of land from the poor sands to the stiff, black waxy lands.

The burr clover has two species growing in this country, the medicago denticulata and medicago maculata, or spotted leaf kind. The former, also called California clover, is most generally found in Texas. It is growing about almost all the towns from Houston to Dallas. The other kind the writer has seen at Palestine, Jacksonville and Nacogdoches.

As the name "medicago" would indicate, burr clover is closely related to alfalfa. While alfalfa, being mostly a summer grower, requires choice land and almost ideal conditions, burr clover grows in winter and early spring, and will thrive on any kind of land with rainfall enough to bring up the seed in the fall, and without any particular effort in the way of preparation. Alfalfa will probably not grow profitably on the great majority of rather thin, sandy or clay uplands of east and south Texas. Burr clover is perfectly at home on these locations after once getting a start.

In nutritive value this plant is probably equal to alfalfa; but since it completes its growth and dies by April or May, it is not generally considered of much value for hay. It would give only one crop of hay, and that not a heavy one. Therefore it is generally grazed through winter and early spring. It is not relished especially by stock and when they can get other grazing they often pass it by, thus leaving the impression on people sometimes that stock do not eat it. As a matter of fact, they do eat it, and at a time when there is little else to eat, and it is very nutritious. Winter before last, a warm winter, the Mississippi A. & M. college kept 100 head of cattle on a pasture of burr clover without giving them more than two weeks of feeding. The cattle were in good shape all winter, and did not require even the two weeks of feeding they received.

In the Texas climate burr clover always gives good grazing from one to two months before Bermuda and other summer grasses are ready. It thus enables us to almost fatten cattle before flies, heat and other annoying conditions appear. As grazing for dairy cows, it materially lightens feed bills, and in a large measure compensates for the lack of silage, one of the best and cheapest dairy feeds to be had.

For hogs it affords good grazing from November to May, say full half the year, and the grazing is just as nutritious, according to chemical analysis, as alfalfa. Alfalfa probably does not afford grazing more than eight months in the year, and yet it is one of the greatest pork-producing crops known, when grazed in connection with light corn feeding. An acre of alfalfa has often produced pork enough to pay for the corn consumed and from 500 to 750 pounds besides.

With plenty of winter and summer grazing and a little corn feeding hogs have often been produced for from 2 to 2½ cents a pound, while hogs raised and fattened on corn alone probably cost in the neighborhood of 10 cents a pound. It should not be forgotten, however, that no grazing crop alone will make hogs grow rapidly without some grain or other concentrated food in connection with it.

Burr clover and Bermuda grass is the finest kind of combination for an all-the-year-around pasture. The clover grows in winter, while the Bermuda is dormant, and in the early spring before the latter gets a start. The grass sod holds up the stock while the clover is being grazed. The clover dies root and top in time to begin to rot and fertilize the soil by the time the weather is warm enough to start the grass.



## AGRICULTURAL REVIEW.

### HORTICULTURE.

A carload of Sacramento grapes sold in Chicago market for \$2,947 last week.

Orange harvest has commenced at Gridley, Butte county, and at Capay, Yolo county.

Over 10,000 tons of grapes were crushed at the Lemoore winery during the present season's run.

Orange shippers in Tulare county are somewhat embarrassed by shortage of refrigerator cars.

The Yolo county orange crop is not so heavy as that of last season, but is large and free of scale.

Packing houses in Sanger have recently shipped out fresh grapes and the new crop of oranges at the same time.

The berry growers of Bend Colony, in Tehama county, have formed an association through which to handle their output.

The Gridley fruit and vegetable growers completed organization of association to extend their market and improve facilities for handling crops.

Dates grown in the Imperial valley have reached an excellent state of maturity in the four years of their experiment in southern California.

Santa Clara valley prune men are very hopeful over the early advance in the price of prunes. Indications at this moment are exceptionally good.

At a meeting of the Santa Cruz county supervisors, W. H. Vlock was by a unanimous vote reappointed county entomologist at a salary of \$1,000 a year.

It is stated that the selling committee of the raisin pool at Fresno will make arrangements to seed their own raisins unless the packers there soon give them better terms.

Walter T. Swingle, in charge of the laboratory of plant life history of the U. S. Department of Agriculture, is investigating the fig industry at Ceres, in Stanislaus county.

The Oroville Chamber of Commerce and various private citizens have wired to the California congressmen urging them to do their best to prevent a reduction of the tariff on citrus fruits.

Los Angeles advices state that accurate estimates completed by experts indicate that the citrus crop for the season just opening will be 30,000 carloads, 25,000 of oranges and 5,000 lemons.

Grape prices grew better this year as the season advanced, and the last car sold in the Eastern markets netted the Yolo county growers more than any other car sold during the season.

It is stated that the government has leased the Masline Capri fig orchard in Placer county and will there propagate the Blastophaga wasp, which will be sent to any fig grower on request.

"Phylloxera and other vine diseases have cost the grape raisers of California \$75,000,000," said G. W. Hecke of Woodland in his address before the Fruit Growers' convention in Sacramento.

The first full carload of oranges ever shipped out from Biggs, Butte county, was sent out by the Butte County Citrus Association, and they were all raised within the limits of the city of Biggs.

Much planting will be done this winter at Terra Buena, Sutter county. Thompson seedless grape vines for over 100 acres have been contracted for and nearly as large an acreage is to be planted to alfalfa. In addition several tracts will be planted to prunes and walnuts.

Oregon's apple crop will fall behind the expectations of last spring by about 25 per cent this year, although it will still be ahead of last year in the size of the yield. This conclusion has been arrived at by Secretary Williamson of the State Board of Horticulture, who has been receiving reports from all quarters.

California apples have the swing at the Covent Garden market, according to the last advice received by a San Francisco produce firm from their London correspondent. The Newtown Pippins are the pick of offerings made by dealers, and have completely elbowed all the other home-grown and imported varieties.

Twenty carloads of apples have been sent to compete for the \$35,000 worth of prizes to be awarded at the apple show at Spokane. The prizes range from a huge golden apple to tracts of irrigated land and large sums in cash. A plan is

being developed to transport practically the entire show to Chicago and exhibit it there for one week in January.

### AGRICULTURE.

Stephen Brughelli, near Laton, is going to plant a large acreage this season in asparagus.

The outlook for good crops and a prosperous season is exceptionally bright in the Salinas valley.

The 750 acres of beet land at Sargents, leased by Spreckles Sugar Co., is being prepared for the new crop.

Paul Talbott of King City, Monterey county, says he will put in 8,000 acres of grain—5,000 of barley and 3,000 acres of wheat.

A large acreage will be sown to alfalfa in the Wheatville, Kings county, district this winter, and less grain farming will be carried on.

The first car of California celery of the season to reach the New York market showed excellent quality and sold promptly at \$1.50 to \$1.65 per pony crate.

The Pacific Sugar Co. at Visalia is preparing to plant over two thousand acres of sugar beets during the present month and at least two thousand more during December and March.

It is estimated that over 2,000 acres will be planted to alfalfa near Modesto this season. In addition to this, an immense acreage is being prepared for the planting of trees and vines.

Considerable interest is taken in planting sugar beets on the rich lands of District 70, Sutter county, and from all reports the coming season will see from 3,000 to 6,000 acres of the district put in.

It is estimated that 300 acres have been planted to cabbage in the Coachella valley, about 250 acres being in the Coachella district and the balance in the vicinity of Thermal. The early Winningsstadt is the variety being planted.

Indications are that the grain bag speculators are getting busy, with the end in view of having the grain bag law, which was passed two years ago, repealed, says the Woodland Mail. This law makes it impossible for the speculator to corner the output of the prison jute mills and sell it at a profit, but gives the farmer the first call on the product.

The California hop crop is moving very slowly, and the price is low—from 5 to 9 cents. In the East prices are 13 and 14 cents. An English farm journal states that Parliament will probably place an import duty on hops, and also prohibit the use of substitutes in making beer. Many hop growers in England are on the verge of grubbing out their fields, owing to low prices.

### LIVE STOCK.

Petaluma is to have an automobile milk wagon, the first in Sonoma county.

The meeting of the Petaluma Egg Exchange was postponed until the first Saturday in January.

Nearly, if not quite, 100,000 horses are in use at the present time in the rural delivery department of the United States postal service.

Miller & Lux shipped six carloads of cows with their calves from San Lucas to their Gilroy ranch, where they will be fed on beet pulp.

According to the figures gathered by the county statistician and by the creamerymen, the butterfat production in Stanislaus county for the past year will amount to \$1,168,994.

"The work of eradicating the Texas fever tick from Fresno county is progressing smoothly and good results are being obtained," reports Live Stock Inspector Otis A. Longley.

Daniel McLeod, who drove a herd of sheep across the plains to the Pacific coast in 1851, and who is believed to have been the pioneer sheep raiser of the coast, died at Santa Clara, December 7.

The market for draft horses is good in California, and while prices are not as high as they were two years ago, when the demand in San Francisco was very great, they are ready sale at fair figures.

Secretary Severin of the California Creamery Operators' Association states that the annual report on the dairy products of the State will show Stanislaus a close second to Humboldt county in the value of her dairy products.

The fourth annual exhibition of the Kings County Poultry, Pigeon and Pet Stock Association was the most successful show that the organization has yet

## MILL

TO

## MAN

Manufacturers  
of  
Fruit and Vine.

Orange  
and Lemon.

Nursery Stock  
and Alfalfa.

Fertilizers.



Hawaiian Fertilizer Company, Ltd.

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

Importers of  
Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

## IT'S FREE

### BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

CALIFORNIA FERTILIZER WORKS

OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new booklet "The Farmers Friend," for 1909.

THE PACIFIC GUANO & FERTILIZER COMPANY  
268E Market St., San Francisco, Cal.

## SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S  
BEST  
SEEDS**



Established 1885

Send Now  
For Free  
Catalog

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE CHAS. H. LILLY CO., SEATTLE, WASHINGTON.

## THE MARSHALL NURSERIES

FOR FRUIT TREES, GRAPEVINES,  
PALMS, ROSES.

FULL LINE OF EVERYTHING GROWN BY US.

S. W. Marshall & Son, Nurserymen.

BOX 652, FRESNO, CALIFORNIA.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
EKSTEIN & EKSTEIN,  
Modesto Euc. Nursery  
Modesto, Cal.  
Vignolo Euc. Nursery  
Anaheim, Cal.



# Ready To Ship

10,000 Superlative Raspberry, 2 years old

10,000 Plum Farmer Raspberry, 1 year old

50,000 Crimson Winter Rhubarb, 1 year old

100,000 Strawberry Plants

5,000 Penderosa Lemons

Also Trees, Seeds, Bulbs, Etc., Etc., Etc.

WHOLESALE AND RETAIL.

Send for Catalogue—Ready.

**A. MITTING, Nurseryman**  
17 to 25 Kennan St., Santa Cruz, Cal.

## EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

**JOHNSON & MUSSER SEED CO.,**  
113 N. Main St., Los Angeles, Cal.

## IMPROVED BERRY PLANTS

Strawberry, Raspberry, Blackberry, Dewberry, Logan, Phenomenal, Mammoth Black and Giant Himalaya berry plants. Crim-son Winter Rhubarb. Send for Catalog.

**G. H. HOPKINS & SON**  
BURBANK, CAL.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
**J. B. WAGNER, Pasadena, Cal.**  
The Rhubarb and Berry Specialist. Dept. I.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnocks Remedies cure blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**  
Loomis, Cal.

AGENTS WANTED

## Onion Sets 12½c. a Pound

Special Prices on Larger Quantity.

Headquarters for all kinds of Seeds. Catalogue upon request—FREE.

**NAVLET BROS., 520 K Street, Sacramento, Cal.**

## FRUIT TREES—TREES OF ALL KINDS

We make a Specialty of Muir Peaches, Bartlett Pears, French Prunes, and the Commercial Smyrna Figs.

Send in list of your wants and get our prices before writing elsewhere.

**MAYWOOD COLONY NURSERY COMPANY**  
W. Herbert Samson, Prop., Corning, Cal.

given. The birds were fewer but of a better quality, and several new exhibitors from adjacent counties were among the number who had their stock entered.

A herd of two hundred Shetlands is one of the features of the great stock range of the Greene Cattle Co. in Arizona. These ponies tend to increase in size in the warm climate of Arizona, but not so rapidly as in the more temperate zones farther north.

The organization of a State poultry association which will concern itself more with marketing and co-operative purchasing of supplies than with exhibition of fancy poultry is coming closer to perfection than ever before. The secretary of the Petaluma Association is pushing the matter.

The Bee Institute at Monterey has been set for Monday and Tuesday, December 28 and 29. It will be conducted by Prof. Ralph Benton of the State University, assisted by Prof. M. C. Richter, also of the State University; by W. A. Pyral of Oakland, Bee Inspector Hennekin of Monterey and by Vernon Townsend of Soledad.

Eggs in New York at present are being quoted at top notch prices, and dealers say the shortage at this season, when the supply is usually limited, is serious, and stocks are being reduced despite high prices at the rate of 50,000 cases a week. Fifty to fifty-two cents is asked for white eggs, while mixed eggs are quoted from 35 to 42 cents. Low-grade eggs bring from 20 to 25 cents, but offerings are light.

### MISCELLANEOUS.

An irrigating system is being installed at the Plant Introduction Garden at Chico.

Articles of incorporation of the Napa County Farmers' Mutual Fire Insurance Co. were filed in the office of the county clerk recently.

A representative of the Alhambra Sugar Co. is at Davis superintending the unloading of two carloads of machinery for planting sugar beets.

Petitions for two reclamation districts have been presented to the Sutter county supervisors. One proposes to reclaim over 4,000 acres, the other 2,400.

The work going on in the irrigated district around Modesto gives evidence of the wonderful development that will be seen there the coming spring.

San Francisco capitalists have purchased 1,000 acres of the Raeger tract in the Orland project. The land will be subdivided and sold to homeseekers in small tracts.

A sub-irrigation system is to be installed on the marshes under the government project in Klamath county, Oregon, and Siskiyou county, California.

The Southern Pacific Co. has completed a well at Roseville, Placer county, that will supply 800,000 gallons of water daily if necessary. Other wells will be sunk at the same place to supply water for the great ice plant and pre-cooling station that is being built there.

In his biennial report, just rendered to Governor Gillett, State Forester Lull calls attention to the fact that the business of his office has increased at a rapid rate during the last two years, and recommends that the salaries of the State Forester and his assistants be raised by the next legislature.

Chief Gould of the United States Food and Drug Laboratory at San Francisco has received instructions from the Department of Agriculture that after January 1, 1909, all fruit or vegetables to which a green coloring has been imparted by the use of sulphate of copper or any other form of copper, must be refused importation.

While at Los Angeles the first of the week we met George C. Roeding of the Fancher Creek Nurseries of Fresno, who was there reading the final proofs on the new catalogue he will soon be sending out. This new book is more of a manual for planting than a catalogue, it being the handsomest ever issued by any house in the West. The book will contain 120 pages and cover, and 20,000 of them will be printed. The covers will be in colors, showing olives on the first page and the new early variety of raisin grape on the last. Over 2,000 fruit and ornamental trees and plants will appear in the index, and 125 new cuts are used to illustrate the text. The book will soon be ready for distribution and can be had for 25 cents per copy. The Kruckeberg Press are the printers and they have produced a handsome book for Mr. Roeding.

## EUCALYPTUS GROWN IN SUNSHINE

with roots balled while growing in flats. Saves all roots; make sure success when removed to the field and good growth the first season. Sample lots at wholesale rates. Can take from flats and send in tight packages to save cost, risk and time.

HENRY SHAW,

320 River St., - - - Santa Cruz, Cal.

## FERRY'S SEEDS

Ferry's are best because every year the retailer gets a new supply, freshly tested and put up. You run no risk of poorly kept or rancid stocks. We take the pains; you get the results. Any of the best equipped and most expert seed growers in America. It is to our advantage to satisfy you. We will. For sale everywhere. Our 1909 Seed Annual free. Write to

**D. M. FERRY & CO.,**  
Detroit, Mich.

## Gregory's Seeds

are raised with the greatest care from superior hand-selected stock and sold under three warrants covering all risks. This year we are offering

### Yellow Globe Onions

at the remarkably low price of \$2.25 a pound. Sold for \$4.00 last year. Our packages of vegetable seeds are larger this year, and our

**NEW SEED BOOK—FREE** tells about the special cash discounts we are making. This book is an invaluable guide to farmers and gardeners. Send for copy to-day.  
**J. J. H. GREGORY & SON,**  
Marblehead, Mass.

## Bench Grafts

ZINFANDEL on ST. GEORGE

— APPLY TO —

**J. S. MOULTON,**  
Ripon, - - - California

## FOR SALE.

Logan, Mammoth, Phenomenal, and Himalaya berry plants. Send for prices to

**R. J. HUNTER**

Oak View Berry Farm  
GRIDLEY, CAL.

## EUCALYPTUS TREES

Large Assortment. All Varieties.

### MONTEREY CYPRESS.

Transplanted in flats 100 each.

Write for prices, giving amount wanted.

**W. A. REINHOLDT**

Main Street Nursery, - - - Petaluma, Cal.

## The Ruehl-Wheeler Nursery

Fruit, Ornamental and Citrus Trees.  
Strong Field-Grown Roses.

PHONE BLUE 1396 BOX 525  
SAN JOSE

### ETTERSBERG GOOSEBERRIES

Are Worthy of a Trial in Your Garden. New and distinct variety. Prolific and of highest quality. Skin very tender and seeds few, and half as much acid as other gooseberries. Cuttings root easily and are only 50 cents per dozen by mail, direct from the originator. Order before January 15. Stamps accepted.

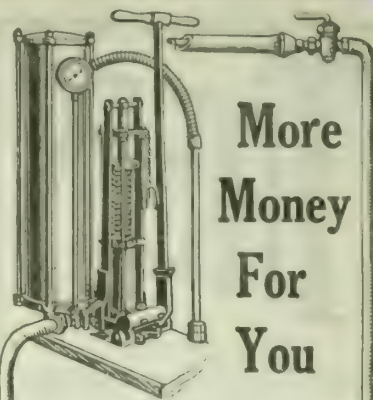
**ALBERT F. ETTER, Briceland, California.**

## Ask for SNOW'S GRAFTING WAX

IN USE ALL OVER THE STATE

For sale by all the large grocers, or

**D. A. SNOW, Lincoln Avenue, San Jose, Cal.**



More Money For You

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

**BEAN SPRAY PUMP CO.**

211 West Julian Street  
San Jose, Cal.

## PEACHES

Best policy to plant when prices are down.

### MUIR

**SELLERS FREE**

Regular bearers; fruit dries heavy.

### TUSCAN CLING

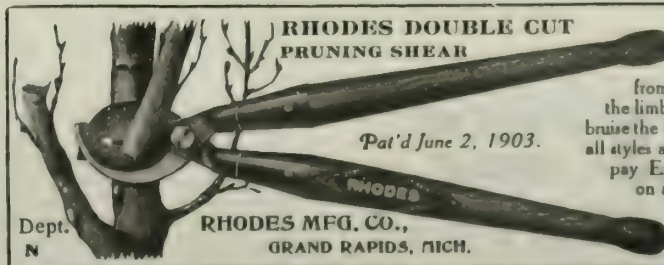
**SELLERS GOLDEN CLING**

Bear heavily; always money makers.

**\$150 per Thousand.**

WRITE FOR FULL CATALOGUE:

**LEONARD COATES NURSERY CO., Inc.**  
Morganhill, Cal.



**RHODES DOUBLE CUT PRUNING SHEAR**

Pat'd June 2, 1903.

Dept. N

**RHODES MFG. CO.,**  
GRAND RAPIDS, MICH.

THE only pruner made that cuts from both sides of the limb and does not bruise the bark. Made in all styles and sizes. We pay Express charges on all orders. Write for circular and prices.

## GREENBANK

Powdered Charcoal Soda and Pure Potash. Best Tree Wash.  
**T. W. JACKSON & CO., Temporary Address,**  
42 Market St., San Francisco.



# TREES

SEASON 1908-9.  
ORDER NOW FOR FUTURE  
DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$200,000.00

**FANCHER CREEK  
NURSERIES**

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## GOLDEN RULE NURSERIES

MRS. L. L. CROCKER, Proprietress  
Loomis, Cal.

The celebrated Crocker Bartlett Pear, guaranteed immune from blight.

Golden Rule Summer Apple, dormant buds.

Crocker's New Free Peach, 50 cents each; 5,000 left.

Deciduous Trees and Grape Vines.

## Winegrowers, Take Notice

I am now receiving orders for

### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

# TREES

**STANISLAUS  
NURSERY**

Formerly Anny Nursery, of Sebastopol.

T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

**PACIFIC SEED CO.,** Grower and Importer of all kinds of seeds, bulbs, onion sets, grass, clover, alfalfa seeds. 609 J. St., Sacramento, Cal. Send for catalogue.

## AMERICAN COUNTRY LIFE.

(Continued from Page 385.)

have everywhere increased in number and improved in quality until they have become an invaluable aid in improving farming conditions. And then the improvement and multiplication of agricultural schools and colleges has come to do all that can be done to prepare the country man to live a country life.

The latest agency which has offered itself to the out-of-door man, the latest evidence of the Nation's concern for the farmer, was the appointment by the President of the Country Life Commission, which has so recently visited us. The purpose of its appointment was that it might study and observe all of the conditions applicable to, or operating upon out-of-door life, and to recommend such direct remedies, or the pursuit of such general policies as in the judgment of the Commission promises to improve or correct them. The forces behind this commission include the Nation itself, and whatever views we may hold as to conditions, or how they may be improved, we must not undervalue its possibilities. That it can aid in the great work of improving rural conditions, the most superficial observer can easily see; that it must do so should be the determined purpose of every farmer in America. But we must carefully study the way in which it can be made useful, that it may not waste its powers, and we our opportunity, in fruitless and ineffective activities; that it does not waste its energies in recommending legislation which cannot reach the evils aimed at; that it does not concern itself with effects, rather than with causes.

To determine how this Commission can be of help to country life, we have only to recall the unfavorable features of that life and inquire how they may be remedied. These disadvantages are pretty generally set forth in the letter of the President and the correspondence of the Commission. Happily, they have little reference to California conditions. Among them is the isolation and lonesomeness of farm life. This the Commission may point out as it has been pointed out countless times before, but it cannot recommend legislation for its correction. Nor can it favor laws abolishing unintelligent methods, long hours and heavy, unprofitable and uninteresting work. These are personal and industrial conditions, beyond the reach of legislation. Health regulations may be legally and practically enacted to improve city conditions, but if the rural sanitation is bad, laws promise little more remedy than their suggestion. The President suggests a study of the condition of the rural schools. They are now good, and substantially meet the demands of the people in whose midst they are. Of what avail to improve a course of study if the school is open too short a time, or if the children, at work on the farm, do not attend it. Of what use to recommend a more capable teacher if the people cannot afford to pay the price of his employment.

Our people are now building better roads as fast as they feel the need of them; appreciate the loss they sustain through the use of poor ones, and as fast as they can afford to, pay for them. Laws in relation to good roads under present conditions would be largely temporizing, while the conditions which resulted in bad roads continued. We must change the condition. Our present mail facilities reasonably meet the demands of our farm people. In the main they are satisfactorily served with such mail as they have the judgment or taste to select, the means to pay for and the time to read. It is suggested that the rural people should meet more frequently and co-operate more fully to effect the welfare of their industries. This, if only the repetition of an old, is as surely a wise, recommendation. But if to do so the farmer has to travel a long distance over a poor road, at the end of a long day's toil and on the eve of another, it is an obstacle which neither argument nor law will remove. He has been misled and injured by such means until he has grown suspicious; he has not been trained in such activities, and he does not make them interesting or profitable. And so, afraid, bored and without hope of advantage, he maintains his seclusion. It would be fertile to point out the advantages of such meetings while these conditions continue. And the scarcity and unreliability and unintelligence of farm labor is beyond the reach of law to remedy; it is an evolution which can only be remedied by a correction of the forces which produce it.

I think it clear that rural conditions

# TREES TRUE TO NAME

—AND—

Propagated from the Best  
Specimens of Their Kind

TWO IMPORTANT FACTORS

## PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches

Apricots

Apples

Plums

Almonds

Persimmons

Pears

Cherries

Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

ORDER NOW

WRITE US

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

## SEED

TREES

PLANTS

BULBS

If you are interested in the best seed, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you Free.

## Trumbull Seed Company

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - - San Francisco.

Please mention this paper.

## 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurseryman, Petaluma, Cal.

## SMYRNA PARK NURSERIES

Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

CAMPIN & MOFFET - - - - Ceres, Cal.

## EUCALYPTUS

Large Assortment—All Varieties Hardy and Selected Rapid Growers. Write for prices, giving amount wanted. LLOYD R. TAYLOR, Modesto, Cal.



## YELLOW MONEY AND YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor  
SAN DIMAS, - - - CALIFORNIA

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

FOWLER NURSERY CO.,  
Fowler, Cal.

## The Seed House of the Great Southwest 1909 SEED CATALOGUE.

We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies ever published on this Coast. If you do not receive yours by the 20th of December, write for it and get your name on the list.

AGGELER & MUSSER SEED CO.  
Successors to  
Johnson & Musser Seed Co.,  
113-115 N. Main Street, - - - LOS ANGELES.

SEED GRAIN BLACK and RED OATS,  
WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.  
BRAY BROTHERS, 220 Clay St.,  
Buyers of Grain and Beans. San Francisco, Cal.  
Members Merchants Exchange.  
Established in 1855. Correspondence invited.

cannot be corrected, or even improved, by laws directed immediately at its defects; we must go deeper and correct the causes, and this remedy cannot be applied by someone else for the farmer; paternal law in his behalf would not only fail of beneficial results, but would work an injury, and be resented by a man who is able to take care of himself. The country man needs no legislation peculiar to himself; his wants are met in that respect when the people generally are wisely and justly governed. His interests are best served by those measures which are of general application and best serve the interests of the whole people. Given good general criminal, financial and economic laws, and his condition demands no more; it does not permit of any other. To a greater degree than any other man he can work out his own progress. Firmly fixed upon the soil, controlling the very forces of nature and bending them to his service, he is his own master, and is able to mold his own destiny.

But this does not acknowledge the existence of numerous and grave limitations to rural life, and despair of their correction. For there is a remedy, and it is easy of application and entirely adequate. It is as broad as the evils sought to be corrected, applicable to all conditions, and capable of accompanying agricultural life through all of its developments, and keeping it sound and making it supreme. And that remedy is Education! Not general education, although that would be most helpful. Not educating the farmer, the out-door man, to be a merchant, a journalist, or a physician; but teaching him to be a farmer; training him for the work he is to do, for the life he is to lead.

This will help the country in the only substantial and permanent way in which it can be helped, and start it on the road to an endless development. Agricultural education will not only refine and cultivate the country man, it will stimulate and energize his mind. Trained to know his soil, his seed and his animals, he will use only the best, and those to best advantage. Growing only the best and the most of it, combined with business methods, he will make more money, and consequently have to work less hours. Leisure and wealth will give him time for new ideas, and the means to realize them. He will add beauties to his farm and refinements to his home. He will farm more on fewer acres. His labor, to what is new regarded as its humblest detail, will become intensive, farms will be subdivided and population will increase. Upon these conditions the farm meetings and farm organizations will follow naturally and be made to realize their fullest measure of social betterment and business advantage. The intelligent and prosperous farmer will see the advantages of good roads and will build them. He will demand better schools, which has children will have time to attend, and he will provide and develop them for himself. He will read more and better publications; he will have an increased correspondence; he will need better mail service, and he will have the power and intelligence to get it. To this well settled and prosperous country transportation facilities will come, and the whole life will go up. Country life will become attractive, and its labor problem will be settled. Better men will be drawn to it, they will be trained and its discipline will make them efficient and dependable. There is no phase of country life to which education of this character does not apply and which it does not improve. We should therefore urge upon every moral reformer, upon every humanitarian; upon every statesman and political idealist, that they advise and demand that immediate steps be taken to give to this country an enlarged and adequate system of agricultural education. We should earnestly recommend to the Country Life Commission that it bend its every energy in furtherance of such a national policy, and should point out to it that action in any other direction will be indirect and ineffective.

The Department of Agriculture should utilize all of its vast forces to the same end. The Davis Bill now before Congress, or some such similar legislation, should be enacted. Every State should be urged to do its utmost in this direction. Let us in California strengthen our College of Agriculture and make it fit our necessities. With particular emphasis let us go about the work of building up and supporting the School of Agriculture at Davis, and making its management practical and vigorous. Knowing the value of a strong rural population, of its necessity as a source of happiness, of wealth and strength, blind to consequences, we have

been training our city man for all of his activities and the country man for none of his. We have been teaching men to practice law, to conduct banks, to lay bricks; but we have asked this country man to grope amid nature's mysteries without a ray of light. If our cities grew great under this treatment, while the country fell away, let us not be blind to the cause, nor hesitate now at its correction. This will require work and will take time, but it will be worth while.

Looking into the future, and seeing country life as it will develop under training, I see a field into which science has gathered all that is good, and from which progress has banished all that was ill. I see farm houses filled with the fruits of wealth and culture and moral purpose, set amid the dignity and sweetness of nature; the kind of homes which shelter strong, clean and effective men, and which nurture a youth fit for all the trials of life, equipped for effective industry and the kind of citizenship which this great democracy demands.

## Now is the Time for Ordering Trees.

We have a large lot of EUCALYPTUS, CYPRESS, PINE TREES, transplanted in this; also a large variety of ORNAMENTAL TREES AND SHRUBS, EVERGREEN AND DECIDUOUS, most suitable for planting along streets and sidewalks and for beautifying parks and gardens. Also PALMS, DRACENA, ROSES, ERICAS, CAMELLIAS, AZALEAS, RHODODENDRONS, FRUIT TREES and BERRY BUSHES.

THE PACIFIC NURSERIES,  
3041 Baker Street, - - San Francisco,  
And Millbrae, Cal.  
Send for Catalogue. Mention Pacific Rural Press.

## MODESTO NURSERY. Complete Line of Citrus and Deciduous TREES,

BERRIES, VINES AND ORNAMENTAL STOCK.

Write for PRICES NOW.  
SHERLOCK & CARDWELL, Modesto, Cal.  
Box 272.



## "THE MAN WITH THE HOE" SHOULD SOW

## MORSE SEEDS

ALWAYS RELIABLE

Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

## SEEDS, PLANTS AND TREES

This Catalogue is the finest we have ever issued and will be mailed free to all who write us.

## C. C. MORSE & CO.

IF IN THE CITY CALL AT  
Retail Store:  
125-127 MARKET ST.  
(Opposite Junction with California.)

WHEN WRITING ADDRESS US AT  
Jackson Street  
SAN FRANCISCO

## EUCALYPTUS TREES

## AND GENERAL NURSERY STOCK.

Large supply of Peach trees, Ornamental trees, Ornamental plants, and Rose bushes, in large quantities.

WRITE US FOR PRICE LIST AND DESCRIPTIVE CATALOGUE.

## ORANGE COUNTY NURSERY & LAND CO. FULLERTON, CAL.

Riverside, Cal.

Corcoran, Cal.

## TREES GRAPE VINES YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES,  
ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

THE FRESNO NURSERY  
F. H. Wilson, Proprietor, - - - Fresno, Cal., Box 615.

## GRAPE VINES, BERRIES AND ROSES

Ornamental, Shade and Deciduous Fruit Trees.

A Good Class of General Nursery Stock.

SEND FOR CATALOGUE

CHICO NURSERY COMPANY, Chico, California.



## Live Stock and Dairy.

### DAIRY INSPECTION AND SANITATION.

At the ninth annual convention of the California Creamery Operators' Association, in San Francisco, there was a committee on resolutions appointed by President Jensen, consisting of E. B. Stowe of Stockton, W. B. Cartmill of Tulare, F. W. Johnson of Marysville, C. E. Gray of Eureka and A. L. Lundy of San Francisco. Among the resolutions embodied in their report was the following, which was adopted by the convention, as the result of the deliberations of that body:

Whereas, There is a growing sentiment among the consumers of all classes of food products which demands that their purity shall be above suspicion and that the sanitary conditions surrounding their production shall be such as to insure their wholesomeness; and,

Whereas, The production of dairy products is of a nature that too often tends to abuse as to their purity and toward low sanitary ideals unless controlled by proper legal regulations; and,

Whereas, The existence of improper sanitary conditions surrounding the production of dairy products, even if their existence is only in exceptional instances, has had the effect of casting reflection upon the dairy industry as a whole, including the great and growing creamery industry of California; and,

Whereas, Those identified with the creamery industry recognize the fact that improper sanitary conditions, both on the dairy farms from which the raw product of their industries originates, and in the creamery plants as well, are responsible for heavy losses through low quality in the product turned out, the discussions of this convention having clearly shown that faulty sanitary conditions are the primary cause of low quality in butter, as well as in other forms in which the products of dairy cows are consumed; and,

Whereas, There is on the statutes of California a law which would be an effective remedy for improper sanitary conditions were it possible to enforce it properly; and,

Whereas, The State Dairy Bureau, an institution having for its object the improvement of our dairy conditions and to aid in the development of the dairy resources of California, has not during the past and present fiscal year been in a position to enforce the law relating to sanitary conditions surrounding the dairy business, through the failure of the legislature at its last session to renew the appropriation made by the preceding session which enacted the law, to provide an appropriation for its enforcement, a failure that has been deeply deplored by those familiar with the need for its enforcement; therefore,

Resolved, that the California Creamery Operators' Association, assembled in its ninth annual convention, again renews its petition that the legislature at its coming session provide an appropriation that will enable the State Dairy Bureau to employ a force of inspectors ample to enforce the law referred to in the foregoing preambles.

Resolved, That we approve and support the State Dairy Bureau in its work in behalf of the betterment of the dairy industry of the State, and in its efforts to have the dairy industry deal fairly with the consumers to the extent that its limited financial support permits.

### FOOT AND MOUTH DISEASE.

To the Editor: As an outbreak of foot and mouth disease has occurred in the Eastern States and you have told what is being done to stamp it out, will you not go a step further and tell your readers how the disease can be recognized, and how stock owners can guard themselves against it?—Subscriber, Loomis.

The suggestion is a good one, and we gladly comply, with the understanding that the disease is not to be quietly treated and concealed, but every suspicious case must be reported at once to the authorities, in order that the disease may be extirpated wherever it crops out. This is the only safe way to proceed. The authorities must be immediately informed. In order to meet our correspondent's request for information we take from a circular recently issued by the U. S. Department of Agriculture the following paragraphs:

Foot and mouth disease is an excessively contagious malady peculiar to ruminating animals (cattle, sheep, goats, deer) and swine. Rarely is it transmitted to man. It is characterized by the eruption of vesicles or blisters in the mouth, upon the heels or between the toes, and upon the teats or udder. The appetite is depressed, the milk flow diminishes, the animal loses condition and becomes lame. After a day or two the vesicles break, peel off, and leave a raw surface that may heal in a few days, or, especially upon the feet and teats, that may remain sore for a long time and lead to serious complications. The death rate is very low, but it attacks the whole herd, and many animals are seriously damaged, so that the loss to a herd owner is heavy.

European cattle owners have learned by long and bitter experience that this disease is the source of most discouraging and not infrequently of ruinous losses. While the disease does not often kill, it damages, temporarily or permanently, every cow it attacks, to the extent of \$10 to \$40. The total loss on a herd is usually enough to wipe out a dairyman's profits for a year or two. The effect upon fat animals is quite as serious. It is not uncommon for the stock owners of England, France, or Germany to be injured by this disease, in a single year, to the extent of \$5,000,000. With our much larger holdings of live stock in this country, the possible losses from this disease, if it were to become general, are stupendous and incalculable.

There is no other disease that is so readily and certainly conveyed by contact. It is also conveyed by exposing healthy animals, even for an instant, to the stables, yards, pastures, or cars that have been occupied by affected animals; by buckets, cloths, brushes, or other objects that have been used by or on diseased cattle; by the use of forage exposed in mangers or even in the distant parts of the stable harboring infected animals. The disease is also carried by small animals, as dogs, cats, rats, birds, or upon the hands, boots, or clothing of men. A road along which diseased cattle have passed may retain enough virus to infect other cattle that pass over the same place several hours later. Premises occupied by diseased cattle are not safe for other cattle for a few months after the disease has disappeared. In short, it is to be remembered that every diseased animal is dangerous, and also every animal, person, or thing that has been near it or has been near a place occupied by it. Inspectors may avoid the danger of carrying the disease by cleanliness and disinfection.

The symptoms of this disease most obvious to stockmen are: Sluggishness, shivering, poor appetite, stiffness or lameness, collection of saliva upon the lips, salivating, slobbering or drooling, sucking and swallowing motions of the mouth and throat, smacking of the lips, blisters inside the lips, upon the gums, tongue, or roof of the mouth; later, raw sores in the same places. Blisters and sores may also form upon the teats or udder and upon the heels and between the toes. The flow of milk lessens or ceases and the subject usually loses weight. All these symptoms may not be present in the same animal, and all are never present in an animal at one time. Moreover, the symptoms occur in varying degrees of severity. They may be very mild or very intense. The later symptoms may be intense lameness, emaciation, sore teats and garget. With sheep and swine the feet are chiefly affected.

The most important matter is to prevent the infection of animals not yet exposed. This can be done by avoiding the purchase of affected stock; by excluding all outside animals from the herd or flock; by each person who comes near healthy stock avoiding contact with diseased animals or the places or things contaminated by them; by excluding visitors from the cow stable, sheep and hog pens, and by preventing the access of strange or stray animals, which may carry the virus on their feet or hair, although they are themselves in good health. Neither cows nor bulls should be moved from one place to another for service.

### THE PORK PRODUCT.

To the Editor: We have had some discussion as to what might be the maximum product, under the most favorable conditions where California alfalfa and grain land is devoted exclusively to the raising of hogs. Some parties claim that they are able to produce a ton of pork per annum to the acre, raising all the feed on the land. Please tell me if you

War:anted to Give Satisfaction.

### Gombault's Caustic Balsam



Has Imitators But No Competitors.

A Safe, Speedy and Positive Cure for Curb, Splint, Sweeney, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address

The Lawrence-Williams Co., Cleveland, O.

## Bargain Counter Sepa- rators



The so called cheap (?) ones that are offered by Cheap Johns' at bargain counter prices, should never be tolerated; because they are not only worthless but unsafe.

It's throwing money away to buy one. If you are in need of a separator investigate the

### Tubular Separator

the machine that has stood the test.

Tubulars not only do the work, but they are simple, durable and reliable.

Remember the best is always the cheapest, in the long run.

Catalog 131 describing Tubulars sent free. Write for it.

THE SHARPLES SEPARATOR CO.,  
West Chester, Penna.

Toronto Can. San Francisco, Calif. Chicago, Ill.

## FOR SALE The Imported Desire de Saint Gerard

Pedigree:

Desire de St. Gerard (32008)	Bourgogne 7902	Brin d'Qr 7942
	Fauvette de St. Gerard, 1449	Marie de Goych 6831

This fine Belgian Stallion was bred by Mr. Martin Tirtiaux of Graux St. Gerard, France; foaled February 12, 1902, and was imported by Dunham & Fletcher of Wayne, Illinois, July 10, 1906. He is a magnificent animal, deep bay in color, with star in forehead. His weight is 2200 pounds.

For authenticated records, price, terms, etc., write to or call on

M. M. AVELLAR, San Leandro, Cal.

## Pure Bred Holsteins

At present we are offering a fine lot of **Young Bulls and Heifers** at very attractive prices. All of this stock have large **Advanced Registry Records** in their pedigrees and are from the famous **Riverside Premier Herd** of the Pierce Land and Stock Co. now owned by the

**OAKWOOD STOCK FARM**  
LATHROP, CAL.

## Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

**THE CUTTER LABORATORY**

Temporary Address  
Grayson and Sixth Streets, BERKELEY, CAL.  
West of San Pablo Ave.

## FOR SALE

**FOUR THOROUGHBRED AYRSHIRE BULLS**, Aged 12 to 20 Months.

If you don't want tuberculosis, breed the Ayrshires.

J. W. & J. D. McCORD,  
Phone Red 123. Hanford, Cal.

## GLIDE BROTHERS

Successors to J. H. GLIDE & SONS  
**Famous Blacow, Roberts, Glide French Merino Sheep.**

Glide Grade seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

**RAMS FOR SALE AT ALL TIMES**  
P. O. Box Home Telephone  
297 Sacramento, Cal. Dixon, Cal.

# California Short-Horn Sale!

Get of the noted sires, Imported King Arthur and Edward Straight Archer  
from the herds of

**40**  
**BULLS**

**MRS. J. H. GLIDE and HOWARD CATTLE COMPANY**

**20**

**HEIFERS**

Sale to be held at Chase's Pavilion, 478 Valencia Street,  
San Francisco, Cal.

Write for Catalogue,  
MRS. J. H. GLIDE,  
SACRAMENTO, CAL.

**JANUARY 5th, 1909**

Write for Catalogue,  
HOWARD CATTLE COMPANY,  
441 Mission St., SAN FRANCISCO.



have any data on this and give what information you can concerning the matter.

San Francisco.

We do not enjoy generalizations; there are too many indeterminate factors involved. The best way to meet the question is to state what has been done in individual cases, and we hope our readers will report such results for general information.

### A MID-WINTER SHORT-HORN SALE.

Summer or autumn sales on the breeding farms or the fair grounds and winter sales in the metropolis is not a bad program for bringing good stock to the closest attention of those who should invest in and use it. To make this comment concrete we advise our readers that a special combination sale will be held at Chase's Pavilion, 478 Valencia street, San Francisco, on January 5 at 12:30 p. m., comprising selections from the prize-winning herds of Mrs. J. H. Glide and the Howard Cattle Co., both breeders being already well known to PACIFIC RURAL PRESS circles.

There will be sold forty pure-bred bulls, the get of such sires as Imported King Edward, Imp. Ruddington Star, Topsman, Straight Archer, Oxford Grand and Duke 10th; also twenty pure-bred cows and heifers bred to King Edward, Straight Archer, Oxford Grand and Duke 10th.

A visit to the city just after New Year's will be pleasant all around and can be made profitable also by attending this sale.

The Tehama Live Stock Association met at Red Bluff. It was recommended that stray stock be advertised in the local papers; that the public highways be free to stock, and that railroad companies furnish cars for stock without delay. The practice of requiring stock to stand a certain time before weighing was condemned.

Mules are in great demand and there are a dozen buyers traveling over the State at the present time picking up the hybrids wherever they can find them, and taking everything offered without regard to size or age, so long as the animal is able to work. Prices are fair.

Two fine Jersey cows died at the university farm at Davis. The men in charge say the cows were poisoned from licking white lead that was put in the bottom of a small trough to prevent it from leaking. It was set in the corral before the lead was thoroughly dried.

Cattle raising along the eastern foothills, and, in fact, throughout the country contiguous to Oakdale has more than doubled within the past few years.

Yolo cattle men are purchasing blooded stock in other States to improve their stock.

## Apiculture.

### ANOTHER MEETING OF BEE-KEEPERS.

The Northern California Beekeepers' Association will hold its third annual convention on December 21 and 22 at Pioneer Hall, Seventh street, between J and K streets, Sacramento. The association is composed of honey producers, and as such is organized with a view to promoting the bee keeping interests of northern California. A good program is assured and the benefits from attending the meetings of the association are many. These gatherings afford an opportunity for beekeepers to meet in a social way and extend their circle of friendships, as well as to renew old acquaintances. Through the program knowledge is disseminated concerning approved and successful methods of practice. A question box is conducted, through which questions may be asked and discussions so stimulated in the direction in which information seems to be needed.

The association has heretofore marketed the honey crop of its members, and has in this way found an invaluable basis or medium of co-operation in the matter of disposing of honey at a reasonable and fairly remunerative figure for the beekeeper. Every beekeeper is cordially invited to attend these coming meetings, on Monday and Tuesday, December 21 and 22, and to plan to bring his wife, take part in the discussions, and become a member of the association if he so desires. Membership in this association entitles one also to membership in the National Beekeepers' Association, an organization composed of beekeepers from all over the United States and Canada.

### THE MORSE SEED CATALOGUE.

We are in receipt of the handsome new catalogue just issued by the Morse Seed Co. of San Francisco. This book contains 128 pages and cover, the latter being very handsome, showing garden peas on the front and new varieties of sweet peas on the last pages. Besides being one of the largest seed growers on the coast, this firm has nurseries of their own, and the new catalogue gives a very good idea of the magnitude of their business. A wholesale house on Jackson street, retail store on Market street near the ferry, seed farms at Carnadero, nursery salesyard at Oakland and nursery at Livermore, all are needed to handle the great business of the company. Catalogues will be sent upon request.

Governor Gillett has been informed that the sum of \$25,096.61 is placed to the credit of the State of California. This amount is 5 per cent of the net proceeds received from the sales of public lands within the borders of the State, these sales being made up to June 30, 1908.



### Our No. 8 Single Buggy Harness

Bridle  $\frac{3}{4}$  inch—square or sensible blinkers. Lines  $\frac{3}{4}$  and  $1\frac{1}{4}$  inch.  
Breast collar 3 inch, V shape. Traces  $1\frac{1}{4}$  inch.  
Saddle  $3\frac{1}{2}$  inch, full patent leather, or our flexible trimmed nickel or imitation rubber.

Price per Set, \$15.50 net.

This harness is the best in the market for the money. If you should not be pleased with it, return it and we refund your money.

**Lastufka Bros. & Co.**

1659-1661 Market Street  
San Francisco, Cal.

Write for Catalogue.

### THE BEST IN THE WORLD; HAS NO EQUAL The Original R. I. Knapp Side-Hill Plow

Orchard and Vineyard Plow received first premium at State Fair.



Send for  
Illustrated  
Catalogue.

HAS given entire satisfaction for over thirty years. Equally as good for valley as hill sides. We manufacture five sizes—from one-horse orchard and vineyard plow, to the strongest grading plow.

SAN JOSE, CALIFORNIA

**H. G. KNAPP & SON.**

## MAKING AND SELLING A MILLION CREAM SEPARATORS AND THE KNOWLEDGE GAINED.

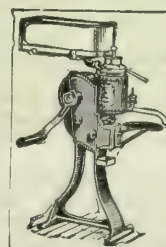
Thirty years ago Dr. De Laval invented the first practical centrifugal cream separator. Since that time the De Laval Separator Company has manufactured and sold one million DE LAVAL machines. These separators are today in use in every civilized country in the world. They have been operated and criticized everywhere. Through all these years suggestions for their improvement have come by the thousands from every quarter of the globe. These have been investigated and tried out from time to time. The best have been adopted. The 1908 improved DE LAVAL cream separators represent the thirty years accumulation of such ideas and experiences. They represent the knowledge and experience gained through the manufacture and sale of one million machines. If in your lifetime you had milked one million cows, wouldn't you feel that you knew how to milk a cow just a little bit better than someone who had milked but one thousand? That's the way we feel about the cream separator. Our knowledge of its manufacture and practical use is many times greater than anyone else's. If you are thinking of buying a separator, can you afford to ignore the raters? We don't believe you can. We offer you the 1908 DE LAVAL for your most critical examination. An illustrated catalogue will be mailed for the asking. Write for it today.

### DE LAVAL DAIRY SUPPLY CO.

108 SO. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:  
101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.



The 1908 Improved  
**U. S.  
CREAM  
SEPARATOR**

Meets every emergency in the Dairy

It has a solid, low frame; waist low supply can without the back breaking low crank; simple yet thoroughly efficient bowl, holding World's Record for cleanest skimming; is thoroughly lubricated, as gears run in a pool of oil, and has ball bearings at high speed points, making it the easiest running separator made.

Do not delay longer in the purchase of a separator and buy no other until you have seen our catalogue No. 148 sent to any address on receipt of a postal.

Vermont Farm Machine Co., Bellows Falls, Vt.  
Prompt deliveries from 16 distributing warehouses in the U. S. and Canada

Prompt Delivery Assured California customers from Stockton Warehouse. No delays. Address all letters to Bellows Falls, Vermont.

### HORSES AND CATTLE.

JOHN LYNCH, breeder of Registered Short horns; milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

**HOWARD CATTLE COMPANY.**  
**BREEDERS OF SHORTHORN CATTLE**  
641 Mission St., San Francisco, Cal.

### SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Hogs and Sows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS  
C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co. Cal. Registered Poland-China Hogs, both sexes

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

80 POLAND-CHINA HOGS FOR SALE.—W. R. McCaslin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 116, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.

### Stickney Gasoline Engines ARE THE BEST

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine

Stationary and Portable 1½ to 16 h. p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

**De Laval Dairy Supply Co.**  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## PIPE

### PRICE LIST.

Second Hand Pipe—Merchantable Lengths. Standard Threads and New Standard Couplings. Dipped in a solution of hot Asphaltum, maintained at a Temperature of over 300 Degrees. Closely Inspected and fully Guaranteed. All prices F.O.B., San Francisco.

Size.	Weight per ft.	Price per 100 ft.
1 inch	.84 lb.	\$2.50
1 1/4 "	1.12 "	3.85
1 1/2 "	1.67 "	4.50
2 "	2.24 "	6.25
2 1/2 "	2.68 "	7.25
3 "	3.61 "	10.00
4 "	5.74 "	16.00
5 "	7.54 "	19.75
6 "	10.66 "	30.00
8 "	14.50 "	42.50
10 "	18.76 "	50.00

**ALEXANDER PIPE CO.**

1083 Howard St., San Francisco, Cal.

BROOM CORN AND BROOMS.—A treatise on raising broom corn and making brooms on a small or large scale. Illustrated. 66 pages 6 by 7 inches. Cloth. \$0.50



## The Poultry Yard.

### THE TURKEY AND WHERE IT FLOURISHES.

Written for the PACIFIC RURAL PRESS  
By M. R. JAMES.

For all its centuries of domestication, the turkey has not become inured to the evils of civilization. Confinement, crowding, stuffing, filth, the conditions which the long-suffering hen struggles through more or less cheerfully, soon knock out this tamed wildbird. The freedom of the sheltering forest; the chase of the frisky grasshopper, the search for seeds and tender plants, are still as necessary to its health and well-being as when it was an untamed denizen of the wild.

The demand for this bird, together with its price, is constantly increasing. It has come to be used not only for the holiday roast, but at all seasons, and largely for cold cuts, salads, sandwiches, and broilers. In the large Eastern cities the broiled poult is a prime favorite with the epicure. The production is not likely to keep pace with this increasing demand. Blackhead has completely wiped out this industry in many of the turkey growing sections of the East, while the production has never been large compared with other poultry. According to the last census, there was an average of less than two turkeys on each farm in this country.

Texas takes the lead in this industry, producing one-tenth of the entire output of the country. The States of Missouri, Illinois, Iowa, Ohio, and Indiana follow in order. Rhode Island's turkeys, like her horses, though fewest in number, rank highest in quality, finding a ready demand at 40 cents per pound when other turkeys do not go above 25 cents.

It would seem that California ought to rank somewhere in line with Texas in the growing of this bird. Both have open winters, and in the interior of southern California, much the same climate. Texas, it is true, knows not the chill coastwise breezes; neither is California acquainted with the Texas norther, which latter is in a class by itself. In the middle of January, there, the writer has known it so warm and close that doors and windows were left open at night; and in the morning, howling winds and ice!—a drop of some 60 degrees in a few hours. Still, roup is not prevalent among fowls; but this is offset by cholera, which is always more or less active. Nor is the Texas poultry raiser more industrious and painstaking than the Californian—far from it. The Texas native considers that only a fool will do anything that can possibly do itself; and while the Yankee at first works and puffs and sweats, the climate soon gets on his energy, and he continues to sweat, but he works and puffs less. The secret of that State's record-breaking in turkey growing must lie in the vast ranges alive with insects; there everything that creeps and flies may be found at all seasons, even the stinging scorpion which hides under every stone, and the tarantula are savory meat for poultry. Then too when the blizzard goes to sleep at the north pole there are no more northers sweeping down on Texas, and a tropical climate prevails all through the breeding season until late in the fall—in fact, the climate would always be tropical if there was a range of mountains extending east and west, instead of north and south, to act as a wind-break.

In California, owing to the coolness and dryness of our summers on the coast, there are no insects to speak of; and again, farmers in this State do not have the range necessary to the rearing of this bird in large numbers. Still, though there are few turkeys raised directly on the coast, just over the foothills, in the San Ramon and Livermore valleys, they prove a profitable source of income to the farmers. And even on this side they are successfully raised by a few. We interviewed one such in the town of Elmhurst. As might be expected, it is a woman who, with the assistance of her schoolboy son, has a bunch of some 60 turkeys each year for the holiday market. Her breeding pen consists of three hens and a tom, the latter weighing some 30 pounds; the birds are of the Bronze variety. Every two years she changes either the tom or the hens, for nothing is more fatal to success than inbreeding. She uses only the turkey hens in hatching and rearing the young and expects to bring off three hatches each season, but if the spring proves late and cold, only two are secured. The February and April hatches

are ready for the Thanksgiving trade and the July hatch for Christmas. This lady seems to set our turkey rules and handicaps at defiance, yet raises a larger percentage of the poult than is averaged in the poultry centers of the East. Her turkey lot is only some 100 feet square; however, she herds the birds out in the adjoining orchards quite often. Her houses are closed and warm, with tight board floors covered with clean dry chaff for the poult; when they are large enough to roost, perches are placed two feet above the floor. The yards for the young are protected by a high fence and sacking tacked on frames to a height of ten feet. In reply to my questions she said:

"They require much care—more than most people are willing to give. Turkeys are much more delicate than chickens and more liable to colds, roup, liver and bowel troubles. The young must not get even their feet wet and they must never be chilled; they must have a comfortable roosting place entirely free from drafts and dampness, and must also be sheltered from damp, cold winds in the daytime." Asked about the danger from over-feeding, she said: "Turkeys need plenty of feed and a variety. I keep grain always where they can find it. When they have a big range with lots of seeds, grasses and insects, as in the East, it may be different; but here everything must be fed to them, and I think most people make the mistake of not feeding enough or sufficient variety. They must have plenty of green feed and fresh meat—not commercial beef scraps and meals. I give the poult hard-boiled eggs mixed with shorts and lettuce once a day until they are two weeks old."

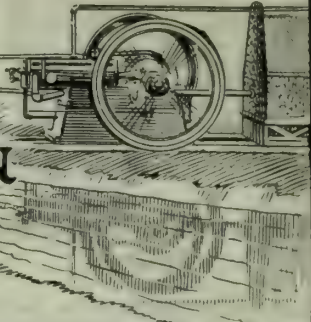
### A CHICKEN-CORN CONTEST.

It would be well for our State to get in line with the advance movement in the East in regard to interesting and instructing the young folks of the farm in agriculture and its improved methods. When the subject is made alive to the farmer boy and girl, and their ambition and interest awakened in the things pertaining to rural life, the lure of the city will be less potent and the love of the simple and natural life of mankind will take a firm hold upon them. The following from the Standard, a poultry paper published at Quincy, Ill., is interesting and suggestive:

During the past week we attended the Adams county first annual school children's chicken-corn contest at Camp Point, Ill., and were impressed with the value of such contests for increasing the love of poultry and agriculture in the minds of our boys and girls. That the contest was a success was due principally to the energetic work of the county superintendent of schools, and we are informed that 75 per cent of the public schools under his jurisdiction had taken a great interest in the contest. One or more exhibits of chickens or corn were made by the pupils of 30 or 40 per cent of the schools. There were 138 chickens exhibited and these competed as breeds. In each breed class the prizes were: First, \$5; second, \$2.50; third, \$1.50; fourth, \$1; fifth, 50 cents. No entry fee was charged. The awards were placed by Judge Heimlich by comparison and afterward the judge kindly filled out score cards (at the same time explaining defects) for all the children who wished to have their birds scored. The birds were of good quality, and the enthusiasm of the boys and girls knew no bounds. One breeder of Rhode Island Reds won an incubator for the best pair of birds in the show, and Judge Heimlich told us that the pullet was superior to any Red female that he had seen this year. You can imagine the feelings of the proud 14-year-old boy who raised the pair and entered them. There were 70 exhibits of corn, each consisting of ten ears, and the judge stated that his class was high quality. The highest score was 38 for ten ears of Boone county white. Instructive addresses were delivered by the judges and other experienced poultrymen and corn growers in the town hall, and the educational side of the matter was further increased by a collection of sixty varieties of natural woods found in Adams county; grains in the sheaf and native grasses.

There are Illinois farmers today who are making more money from their standard-bred chickens and eggs for hatching than from the remainder of their farm products. The boys and girls who enter their chickens in the chicken-corn contests will learn to love their poultry and well-filled ears of corn.

## I. H. C. GASOLINE ENGINES AS AIDS TO IRRIGATION



Almost every farmer has a few acres of land that lie too high to be irrigated from his laterals. To flume or siphon the water to these few acres is not practicable on account of the expense. And yet to let this land lie idle means a big hole in the profits of the farm each season.

The most economical and satisfactory way to bring such waste lands under cultivation is to use the powerful I. H. C. gasoline engine to pump water upon them.

These engines pump water in large quantities. They are operated at small expense. They require but little attention.

The cost of running an I. H. C. engine during an irrigating season, including fuel and attendance, is a very small item compared with the value of the crop that will be produced.

Remember, the engine will be operated only a short time during the season. During the remainder of the year the engine is available for other farm work, such as running the cream separator or churn, sawing, grinding, cutting feed, etc.

And even while the engine is being run to irrigate the lands, the operator does not give it his whole time. He returns to it occasionally. He can devote practically all his time to looking after the head of water which the engine pumps.

The cost of the engine is only a fraction of the value of the reclaimed land. Its cost of operation for the season is only a fraction of the value of that season's crops.

When you buy an I. H. C. engine you have a power for pumping that is good for many years' service.

If you have land lying above the ditch, why will not an I. H. C. engine for pumping water be a wise investment for you?

Call and see the International local agent about it. He will supply you with catalogs and give you all information desired. Or, if you prefer, write direct to the nearest branch house.

WESTERN BRANCH HOUSES: Denver, Colo.; Portland, Ore.; Salt Lake City, Utah; Helena, Montana; Spokane, Wash.; San Francisco, Cal.

INTERNATIONAL HARVESTER COMPANY OF AMERICA  
(Incorporated)  
CHICAGO, U. S. A.

## Coulson's No. 3 Condition Powders

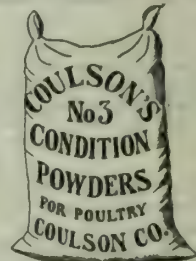
BEST AID FOR GETTING HIGH PRICED EGGS

A splendid tonic and digestive. Enables hens to lay lots of eggs during fall and winter.

Sold by Dealers.

Manufactured only by

Coulson Poultry and Stock Food Co.  
PETALUMA, CALIFORNIA.



### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buffs excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. W. SULLIVAN, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements Cal. Large size, good plumage, early maturity

### BREEDERS' SUPPLIES.

JUST OUT Croley's "Little Red Book No. 51." Free. Send postal GEORGE H. CROLEY, 637 Brannan St., San Francisco. POULTRY SUPPLIES.

### OAKLAND POULTRY YARDS

Established 36 Years. Importer and Breeders of all Varieties of Land and Water Fowls. Stock for Sale Dept. 31, 320 McAllister St., S. F.

125 Egg Incubator and Brooder Both For \$12. If ordered together we send both for \$12 and pay freight. Well made, hot water, copper tanks, double walls, double glass doors. Free catalog describes them. Wisconsin Incubator Co., Box 117, Racine, Wis.

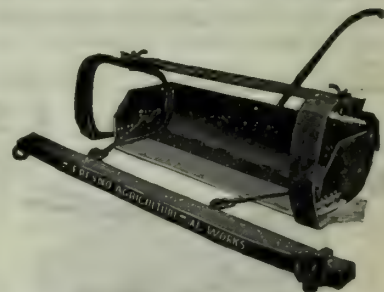
## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you Free the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76. Glen Ellen, Cal.

## The Fresno Scraper



Send for Raisin Machinery Catalogue.

FRESNO AGRICULTURAL WORKS  
FRESNO CALIFORNIA.

### "THE OLD RELIABLE"

DIETZ  
LANTERNS

THERE ARE NONE "JUST AS GOOD"

WHEN YOU BUY A LANTERN INSIST ON A "DIETZ" MADE BY R. E. DIETZ COMPANY NEW YORK Largest Makers of Lanterns in the World ESTABLISHED 1840 PIONEERS AND LEADERS

HENRY B. LISTER,  
ATTORNEY AT LAW.

Notary Public and Commissioner of Deeds for New York. 937 Pacific Bldg., Fourth and Market Sts San Francisco.



## The Home Circle.

### Merry Christmas.

Merry Christmas, little heart!  
Stealing tiptoe down the stair,  
While the shadows spread apart,  
Just to show a something there  
By the chimney, long and white.  
Santa Claus was here last night!  
Did I see him? Well, perhaps;  
But I thought I heard the taps  
Of a tiny little hoof  
Pattering across the roof;  
And I know that you will see,  
Out upon the maple tree,  
That one branch is bare and brown  
Where they brushed it coming down.

HARRIET F. BLODGETT.

### In Christmas Times.

Christmas is the children's season, and its chief pleasure for grown-ups is in contributing to and witnessing the delight and happiness of the little ones.

The following extracts from "A Christmas Snow Party" in the Paris Modes give some hints in tree and party making that will be helpful to many. The nearer you can get the Christmas tree to look like it came direct from the Frost King's hand, the more up-to-date it is, and, what is of more importance, the more beautiful it is.

It was a wonderful Christmas tree that the children saw as they marched into the parlors to the air of a lively march, after the guests had arrived. It was a veritable snow-laden tree of the woodland that seemed just to have stepped in from the forest. Its branches were covered with what looked like real snow, and there were many nests peeping out from the evergreen branches that were not snow-covered, each with two, three or four eggs in. Cotton batting, pressed down on the foliage and covered with powdered mica, glistened like real snow. The birds' nests were made of natural colored raffia, the eggs being the oval-shaped sugar almonds slightly tinted, while some were white and speckled. The tree stood apparently in snow two feet deep, with a heap of snowballs piled up at its base ready for the children to have a game of snowball with. These balls were made of strips of cotton batting rolled over some small toy to form a convenient sized ball, then tied securely with thread, and the cotton picked up all over to give the ball a round, fluffy appearance. The hostess started the children to dancing around the tree, holding hands and singing. Then the snowballs were picked up and a merry game followed till each had reached its owner. This was indicated by a slip of paper, with the name of the child lettered on it, and on the opposite side of the paper was this interesting item:

"Open the ball of the Frost King  
And find his gift within."

The games which followed were in keeping with the wildwood idea given by the tree. "Finding the Snowbird" is a game played like "Hide and Seek." A little white toy dove is hidden in the room, and the one who hides is supposed to have the bird in his possession.

The refreshments for the party were chicken sandwiches, frosted cakes, vanilla ice cream, and a fruit punch made from canned strawberry syrup topped with a spoonful of whipped cream made a delicious pink drink.

Shortly before the happy little folks took their departure the hostess' younger brother masqueraded as the little Frost King. The hall draperies swung aside and in came a huge snowball, followed by a figure that looked like he had come direct from the north pole. His costume was white Canton flannel, made wrong side out, and it sparkled with imitation frost, as well as his cap, which fairly dripped icicles of every length. The big snowball which he had bounced in was made in the same way as the small snowballs, and when it was unwound, all kinds of fruit tumbled out. These were papier-maché boxes resembling apples, oranges, pears, and the like, filled with bonbons, one for each child.

They talk about a woman's sphere  
As though it had a limit;  
There's not a place in earth or heaven,  
There's not a task to mankind given,  
There's not a blessing or a woe,  
There's not a whisper, yes or no,  
There's not a life, or birth,  
That has a feather's weight of worth  
Without a woman in it.

### THE HOME CIRCLE CHAT.

#### Christmas Cakes.

Many cakes of many kinds are made at all seasons but the Christmas-tide is par excellence the cake-making season. In the old days when sweetmeats were not so freely indulged in and the simplest sort of cake had to pass muster for all but special occasions, this season of sugar plums and spicing and icing galore left a sweet and fragrant memory in the minds of the youngsters, which remains with some to the present time and inclines them to the belief that in these days there are no such cakes as "mother used to make." Before the advent of baking powders, more eggs and beating and painstaking were used in the creation of cakes and they may have had a more rich and mellow flavor—anyway time has given it to them.

Before starting the Christmas cake-baking the "decks should be cleared for action" all other work put out of hand and out of mind; the kitchen and the cake-maker spick-and-span; mixing bowls, utensils and baking pans and all ingredients in readiness; and all intruders barred. Then the cake-maker can devote herself wholly to the work and both she and the cakes will come through in beautiful shape.

Small patty-pan cakes iced and ornamented, and cookies cut in fanciful shapes are especially nice for the holiday times. There are some of us old enough to remember the wonderful creations made in cakes of the cruller kind; Noah and his entire ark were deftly cut out on the cake board, and arose from the bubbling kettle of fat in delicious brownness and fantastic form. A few ingenious touches with icing, citron and currants and a complete menagerie delighted childish eyes on Christmas morning. The fruit cake is the aristocrat among cakes. When the housewife has turned out a couple of these noble cakes she feels that the heaviest part of her cake making is done and that she has something lasting to show for her work. Wine or brandy improves the flavor and keeping qualities of this cake and one need have no conscientious scruples, for the alcohol all evaporates in the baking; when liquor is not used New Orleans molasses may be substituted. The proper preparation of the fruit has much to do with the excellence of the cake. Currants should always be well washed and dried before using. The so-called "cleaned currants" are always more or less gritty. Raisins should be rubbed in a coarse towel and carefully picked

### WHEN YOU CHOOSE A SCHOOL

Select the one that can give the **BEST TRAINING** and the one that can do most for you when you are ready to enter business.

**THE HEALD COLLEGES—  
THE GREATEST SYSTEM  
OF SCHOOLS IN AMERICA,  
PROVIDE BOTH.**

Over 35,000 people have passed from **HEALD'S** to **BUSINESS.**

This vast army knows the value of the **HEALD QUALITY OF TRAINING**, and are the moving spirits in the Commerce West of the Rockies. When they want skilled office help, they come to **HEALD'S.**

More than 46 years in the front ranks of business education.

Still in the lead and under the **SAME MANAGEMENT.**

The Winter Term opens Monday, January 4. A good time to begin.

Call or write for particulars. Address **HEALD'S BUSINESS COLLEGE, 423 McAlister St., San Francisco, Cal.**



**Every Blade Tested**

Like all the famous Keen Kutter Tools and Cutlery—not a single Keen Kutter Safety Razor is sent out until it is worthy to uphold the well-earned reputation of the name. Every blade is tempered, ground, honed and tested until it will cut a hair at any part of its edge. The

**KEEN KUTTER**  
Safety Razor

is the only one adjusted to give the sliding stroke that cuts the beard clean and smooth without pulling.

The angle of the blade is exactly right to cut close without scraping.

The quickest, closest, smoothest, most comfortable shave—any time—any where—is assured with the Keen Kutter. The Keen Kutter Safety Razor is guaranteed.

Silver Plated in Genuine Black Leather Case, \$3.50.  
Gold Plated in Genuine English Pig Skin Case, \$5.00.

If not at your dealer's, write us.

**SIMMONS HARDWARE COMPANY (Inc.)**  
St. Louis and New York, U. S. A.

## Holiday Greetings

from

California's  
Largest

*The Emporium*

America's  
Grandest

SAN FRANCISCO, CALIFORNIA

### THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.

SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

Special attention is given to lessons in elocution, singing, the violin, the piano, and to location and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909. For further particulars address

**Miss Sarah D. Hamlin,**  
2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

### PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

**DEWEY, STRONG & CO.,**  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

### Country Boy Preferred

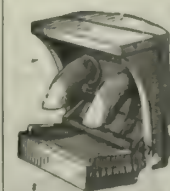
"Send us one of your graduates that you can recommend. We prefer a boy from the country—one who has a bright mind and a strong body, and who is capable of advancement. Good pay from the start, and excellent opportunities to advance."

We receive messages like the above daily from San Francisco's leading business houses. They call on us because they know we have the right kind of young men in our school, and because they know we are giving the right kind of training. If you are interested in the opportunities offered by the new San Francisco write us for particulars.

### San Francisco Business College

733 Fillmore St., San Francisco, Cal.

### Burn Air--Save Fuel



No Odor.  
No Dirt.  
No Danger.  
Used in Factories  
and the Home.

### GEARNHART OIL BURNER CO.

1922-1924 Fresno St., FRESNO, CAL.



over; citron should be sliced very thin and cut in small pieces else it will cause the cake to break apart. Good butter and fresh eggs must be used to have cake at its best in both appearance and flavor. If the butter is very salt it should be washed. For dark cakes use the best brown sugar. All white or delicate cakes require very fresh eggs, powdered sugar and pastry flour for best results.

Mrs. M. E. Painter of Berkeley has kindly contributed her own recipe for fruit cake to the Home Circle. We can vouch for its excellence, it is a prize winner among its kind and in truth

**A PERFECT FRUIT CAKE.**—Ingredients: Fruit; five pounds currants, two and one-half pounds raisins, one and one-half pounds citron, two pounds chopped walnuts. Spices: One grated nutmeg, one ounce each cinnamon and mace, one teaspoon cloves, two teaspoons of ground chocolate. Three pounds of flour, two and one-half pounds butter, two and one-half pounds sugar, one-half cup of molasses, 18 eggs, one teacup of brandy. Mix the spices and fruit and pour the molasses and brandy over them and cover tight and let stand till the following day.

This recipe makes two very large cakes. For ordinary using one-half of the amount

of the recipe is about right. A cake of this size requires four hours baking in a steady heat, about the same as for baking light bread. Line the baking pans with heavy brown paper well greased with fresh lard; have a cap of the same paper to place over the top.

**A QUICK AND CHEAP FRUIT CAKE.**—One and one-half cups of brown sugar, one-half cup of molasses, two cups of flour, one cup butter, three eggs, one cup raisins, three tablespoons of loganberry jam, cinnamon and cloves to taste, one spoon of baking powder sifted in the flour. Simple and good.

**NUT CAKE.**—One quart of flour sifted with two teaspoons of baking powder, one cup of butter, three of sugar, four eggs, one cup milk, lemon to taste; mix well and add one pint chopped walnuts or other nuts. Ice and decorate with the unbroken halves of walnut meats with cut citron leaves and stems.

**PINEAPPLE CAKE.**—One and one-half cups white sugar, half cup butter, three teaspoons of baking powder sifted with two heaping cups of flour (when sifted), whites of six eggs or three whole eggs. Bake in three or four layers. Grate one large pineapple that is thoroughly ripe into a bowl, and a fresh cocoanut into another. Alternate the layers of cake with pineapple spread thickly and sprinkled with powdered sugar and ditto with the cocoanut; cover the top with the cocoanut and pineapple mixed; make a meringue with the whites of two eggs beaten stiff with two tablespoons of powdered sugar; pour it over the cake and set in the oven to harden. A delicious cake.

**FIG CAKE.**—Coffee cup of butter, two and one-half of sugar, one of sweet milk, three teaspoons of baking powder in enough flour to make three even pints when sifted, whites of 16 eggs or 8 whole ones, one and one-quarter pounds of best figs cut in strips like citron.

**CHOCOLATE CAKE.**—Make the layers as in the pineapple cake; beat the whites of three eggs stiff, then beat in one and one-half cups powdered sugar, six tablespoons of grated chocolate and two teaspoons of vanilla. Put the layers together with this icing and cover the outside smoothly with the same.

**FIG LAYER CAKE.**—White part: Two cups powdered sugar, half cup butter, two-thirds cup sweet milk, whites of eight eggs, three teaspoons baking powder in three cups of sifted flour. Bake in two layers. Yellow part: One cup sugar, one-half cup butter, one-half cup sweet milk, one and one-half teaspoons baking powder in a scant two cups of flour, yolk of seven eggs and one whole egg, one teaspoon each of allspice and cinnamon. Spread half of this batter in a tin like the white part was baked in, and lay over it a layer of split and slightly floured figs, pour over this the other half of the batter and bake in moderately hot oven. Put the cakes together while warm with icing, the fig part in the center, and cover with the icing.

**OLD FASHIONED CRULLERS.**—Four eggs, one teacup of sugar, one-half cup lard or butter, one cup of milk, one teaspoon of cream tartar, one-half of soda (or one and a half teaspoon of baking powder), a little salt; mix as for biscuits; roll out to thickness of one half inch, cut in long strips, twist in figure eights, or into rings and cook in boiling lard; or they may be fashioned into fanciful shapes or those of birds and animals as mentioned above.

**NUT WAFERS.**—Beat very light three eggs and one cup of brown sugar, add one-half cup of sifted flour with a pinch of salt; now beat in one cup of coarsely chopped meats of walnuts or other nuts. Drop on a well-greased tin and bake quickly in a hot oven.

Whoso combeth his hair with a view to hiding the bald spot, is a liar at heart.

When a man nearly breaks his neck getting out of the way of a lightning bug, supposing it to be a locomotive, it's time for him to swear off.

If all of the devils were cast out of some people, they would look like walking skeletons.

When a tramp asks for bread, don't give him a stone, set the dog on him.

The man who wants the earth invariably gets it—when he dies.

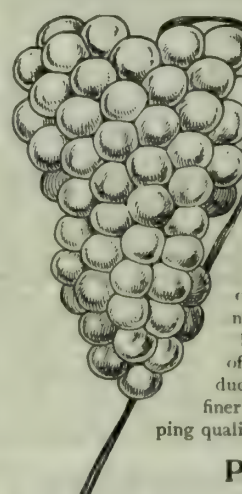
If some men were to lose their reputation, they would be lucky.

A crank is a man who has a different hobby than your own.

A man who attends strictly to his own business has a good steady job.

A man's body may be an earthly tenement but he objects to being called a flat.

Man is made of dust; along comes the watering cart of fate and his name is mud.



# POTASH

is the surest standby in securing big yields of

## GRAPES

of the finest quality which command the highest market prices. Potash meets the heavy demands of this fruit upon the soil, produces grapes of better color and finer flavor and improves the shipping qualities. Experience proves that

### Potash is Profit

See that your commercial fertilizer is complete in Potash—not less than 10% of any formula.

For valuable Literature, FREE, write to

**GERMAN KALI WORKS, 93 Nassau St., New York**  
CHICAGO—Monadnock Block. ATLANTA—Candler Bldg.

MEYER, WILSON & CO., San Francisco, Cal., are Sole Agents for the Pacific Coast.

## THE MARKETS.

San Francisco, Dec. 16, 1908.  
(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

Wheat remains very firm all over the Coast, prices being constantly maintained at the figures that have prevailed for some time. The local market, however, is quiet, both for spot and future grain, little speculative interest being shown by the buyers. Supplies of choice milling wheat, which is the grain in most spot demand, are not large, and are closely held, while the millmen are buying only for current needs.

California White Australian	\$1.75	@ 1.80
California Club	1.67 1/2	@ 1.70
California Milling	1.70	@ 1.72 1/2
California lower grades	1.45	@ 1.60
Northern Club	1.65	@ 1.67 1/2
Northern Bluestem	1.72 1/2	@ 1.77 1/2
Northern Red	1.62 1/2	@ 1.65
Turkey Red	1.75	@ 1.80

### BARLEY.

Stocks of barley in the California warehouses are somewhat larger than at this date last year. The movement for export continues fairly large, another cargo having left a few days ago. The local trade, however, is very quiet at present, with no great demand for either feed or brewing grades. Prices are lower both for spot grain and the May option, quotations being about the same as three weeks ago.

Brewing	\$1.45	@ 1.47 1/2
Shipping	1.45	@ 1.47 1/2
Chevalier	1.57 1/2	@ 1.62 1/2
Good to Choice Feed, per ctl.	1.40	@ 1.42 1/2
Common Feed	1.35	@ 1.38 1/2

### OATS.

The strong demand for oats for seed purposes which was anticipated at this time has not materialized, and the market remains about as quiet as it has been for the last month. The movement for feed is also light. All supplies, however, are very strongly held for the prevailing figures, as it is well known that there is a shortage in the north.

Choice White, per ctl.	\$1.70	@ 1.75
No. 1, White	1.65	@ 1.67 1/2
Gray	1.65	@ 1.70
Red, seed	1.75	@ 2.00
Feed	1.50	@ 1.70
Black, seed	2.45	@ 2.65

### CORN.

Another car of Western corn has arrived in the market this week, but stocks on hand are closely cleaned up, and very little is being ordered. Sacked Western yellow and mixed, to arrive, are lower, but local buyers are taking very little interest.

California Small Round Yellow, per ctl.	Nominal
Large Yellow	Nominal
White	Nominal
Western State Yellow	\$1.60 @ 1.65
Mixed, in bulk	1.52
White, in bulk	1.54

### RYE.

There has been no movement of any consequence in rye for several weeks, as very little is needed in this market. Stocks are light for this time of year, but there is not enough demand to give much firmness to the market. Holders are quoting the same prices as before.

Rye	\$1.42 1/2 @ 1.50
-----	-------------------

### BEANS.

According to the report of the Merchants Exchange the stock of beans in the State on December 1 was 870,000 sacks, which is somewhat more than at the same time in 1906 and 1907. It is believed by some dealers that the stock is considerably in excess of this estimate. The market has shown little activity during the past week, owing to the approach of the holidays, and prices show very little change. There is still a pronounced firmness in white beans, other varieties in general being steady. Stocks of cranberry beans are decreasing under a good demand, and some speculative buying has brought an advance. In view of reports from other markets, California beans should be in good demand for the rest of the season.

Bayos, per ctl.	\$2.90 @ 3.00
Blackeyes	3.25 @ 3.50

Cranberry Beans	2.75 @ 3.00
Garvanzos	2.50 @ 2.85
Horse Beans	1.50 @ 2.00
Small Whites	4.35 @ 4.65
Large White	3.65 @ 3.85
Limas	4.35 @ 4.40
Pea	4.50 @ 4.75
Pink	2.40 @ 2.60
Red	3.50 @ 4.00
Red Kidneys	3.25 @ 3.50

### SEEDS.

With favorable weather this market now shows considerable activity, and the local dealers are keeping quite busy. Alfalfa seed is once more in strong demand, which has resulted in a slight advance. Quotations on the other descriptions, as given by local dealers, are the same as before.

Alfalfa, per lb.	17 @ 18 c
Broomcorn Seed, per ton	\$20.00 @ 25.00
Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	4 1/2 c
Flaxseed	2 1/2 @ 3 c
Hemp	4 1/4 @ 4 1/2 c
Millet	2 1/4 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

Supplies are comparatively large in this State, and the demand is limited mostly to local requirements, with only occasional light shipments to foreign countries. The price, however, is quite firm at the recent advance, owing largely to the firmness in the wheat market.

Cal. Family Extras	\$5.60 @ 6.20
Bakers' Extras	5.60 @ 5.85
Superfine	4.40 @ 4.70
Oregon and Washington, Family	4.90 @ 5.40

### HAY.

Receipts of hay in San Francisco for the past week have amounted to a trifle more than for the week previous, but the general condition in the city market is about the same as it has been. The trade is not very active, though arrivals are readily absorbed at current quotations. The rain has given great encouragement to growers, but has not caused any increase of shipments, as most of the stock in storage in the country is now held by dealers, who are holding for an advance. The greatest activity in hay is in the interior, as hay is being shipped to many districts which usually grow enough for their own needs. Alfalfa shows more strength than grain hay, as the grass is not coming on very fast, and the high price of feedstuffs compels the feeding of more alfalfa than usual.

Choice Wheat, per ton	\$20.00 @ 22.00
Other Grades Wheat	16.00 @ 19.50
Wheat and Oat	15.00 @ 20.00
Tame Oat	15.50 @ 19.00
Wild Oat	14.00 @ 18.00
Alfalfa	11.00 @ 16.50
Stock	11.00 @ 13.00
Straw, per bale	60 @ 95c

### MILLSTUFFS.

With a good outlook for green feed, the current demand for millstuffs is now light, showing a considerable decline in the last few weeks. The feeling in the market is accordingly easy, though so far prices have been maintained at former figures. Another large lot of bran has arrived from the Orient, and the supply is plentiful. There is nothing new in miscellaneous feedstuffs.

Alfalfa Meal(carload lots)per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Broom Corn Feed, per ctl.	1.20 @ 1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Mealalfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	28.00 @ 32.00
Oil Cake Meal, per ton	38.00 @ 39.50
Rollod Barley	30.00 @ 31.00
Shorts	33.00 @ 33.50

### VEGETABLES.

The demand for onions is only about average, but the arrivals are falling off, and the quotations show a further advance for ordinary stock on the wharf. Good

## TALKS ON TEETH

—BY—

The REX DENTAL CO.  
(INCORPORATED.)

### Why Don't You Wear "Alveolar" Teeth?

It seems a wonderful and impossible thing to the average "plate" wearer that we can put teeth in the mouth and make them stay there firmly without the use of a plate.

Almost the first question put to us by a plate victim is, "How can you do it?" and "What holds them in place?"

The Alveolar method of putting in teeth is our secret. The fact that we do the work successfully, and that it is both beautiful as well as successful, is proof the secret is valuable.

Given two or more teeth in either jaw, tight or loose ones (we make the loose ones tight and healthy), we promise to put in a beautiful set of teeth, each tooth set independently of its neighbor, the whole forming a piece of work that cannot be told from the best that nature can do.

Will they last?

The question usually follows. We can show hundreds of cases that have been in upwards of four years, and are, if anything, more firmly entrenched today than when the work was finished.

You will be just as well pleased as this lady whose letter follows:

Dear Doctor:

I am more than pleased with my new Alveolar teeth, they feel just as natural as if I had my own teeth back again. I would advise any one in need of teeth to have this new system before considering a plate or bridge. One feature about them, they are solid and firm as a rock, and I don't have to bother about taking them out like I would a plate as they are put in to stay.

Anyone, who would like to see my teeth, I would be glad to have them call and be convinced that it is the best method known today, and practiced only by the Rex Dental Company.

Very respectfully,  
Mrs. Chas. E. Mason,  
1806 Grove St., Oakland.

They will outlast those who are wearing them.

Will you come in and let us look your teeth over? The consultation and examination are free.

No obligation goes with it to have any work done unless you wish to employ our services.

If we can enable you to do away with a wobbly, unclear, unsatisfactory, painful plate, wouldn't it be the greatest service that could be done for you?

If you can't call, send for our book, "Alveolar Dentistry," which explains the method. You will be intensely interested in reading this book.

We send it free on request.

Caution:—Don't be deceived by imitators and impostors, for this method can only be had at addresses given below:

**The Rex Dental Co.**

DENTISTS.

SAN FRANCISCO.

228 Pacific Building, Fourth and Market.

OAKLAND.

80 Bacon Building, 12th and Washington.

LOS ANGELES.

201 Severance Building, Sixth and Main.

HOURS—9:30 to 5:30; Sundays, 10 to 12.

**Blake, Moffitt & Towne**

Dealers in 1400 FOURTH ST., SAN FRANCISCO  
Blake, Moffitt & Towne, Los Angeles  
PAPER Blake, McFall & Co., Portland, Oregon



re-picked lots are bringing a considerably greater advance. Arrivals of vegetables from the south have been fairly large for the last few days, but offerings are meeting with a better demand, bringing higher prices in several lines. Few tomatoes are now coming in from local points, and prices for them are irregular. Crated stock from the South is plentiful and inclined to weakness. Rhubarb and celery are both higher, and good lots of summer squash, egg plant, peppers, beans and peas bring an advance.

Onions, ctl.	85@ 90c
Garlic, lb.	7@ 9c
String Beans	8@ 12½c
Green Peas, lb.	7@ 10c
Cabbage, per ctl.	\$1.00
Marrowfat Squash, per ton	10.00@15.00
Tomatoes, crate	75@ 1.00
Turnips, sack	10@ 15c
Bell Peppers, lb.	4@ 5c
Chili Peppers, lb.	7@ 10c
Egg Plant, lb.	50@ 60c
Cauliflower, doz.	\$1.25
Summer Squash, box	35@ 50c
Celery, doz.	1.25@ 2.00
Rhubarb, box	10@ 20c
Mushrooms, lb.	

## POULTRY.

Arrivals of Eastern chickens continue heavy, being about the same as last week, and supplies of local stock are also liberal. Prices in general are a little lower, though there is a good demand, and all choice stock is disposed of without difficulty. Receipts of turkeys have been very liberal, and with the demand limited by bad weather the market has been overstocked. Prices are accordingly rather low. With the return of good weather, however, a stronger market is expected from now till Christmas. Commission men are advising their shippers to get their dressed turkeys for the Christmas market in the city by the 24th and live stock not later than the 22nd.

Broilers	\$ 4.50@ 5.00
Small Broilers	3.50@ 4.50
Fryers	5.00@ 6.00
Hens, extra	7.00@ 9.00
Hens, per doz.	5.00@ 6.00
Small Hens	4.00@ 5.00
Old Roosters	4.00@ 4.50
Young Roosters	6.00@ 7.00
Young Roosters, full grown	7.00@ 8.00
Pigeons	1.00@ 1.25
Squabs	2.00@ 2.25
Ducks	4.00@ 8.00
Geese	2.00@ 2.25
Turkeys, live, per lb.	18@ 21c
Turkeys, dressed, per lb.	22@ 25c

## BUTTER.

Receipts of butter have been somewhat larger during the past week, and as the demand at former prices was limited the quotations have been lower for choice stock. Present quotations on the Dairy Exchange are higher than a few days ago, but fresh extras are 1 cent below last report with a decline of ½ cent on firsts. Ladle-packed storage stock is stronger.

California (extras), per lb.	31 c
Firsts	29 c
Seconds	25 c
Thirds	20 c
Storage Ladies, extra	23 c
Cal. Storage, extras	29 c
Pickled Butter	23½c
Packing Stock, No. 1	21½c

## EGGS.

Supplies of eggs have been comparatively large all week, and under some pressure to sell on the part of large receivers the price of extra stock stood for a time as low as 41 cents. The reduction, however, has served to stimulate the demand, and supplies have been well cleaned up, bringing the quotation back to 44½ cents, though the market is barely steady at that figure. Lower grades of fresh stock have not declined, but are described as weak, though Eastern and storage goods are firm at former prices.

California (extra), per doz.	44½c
Firsts	40 c
Seconds	35 c
Thirds	29 c
Storage, Cal., extras	35 c
Storage, Eastern extras	30 c

## CHEESE.

There has been a much easier feeling on cheese, supplies having increased considerably, though there is still a very fair demand. New California flats are only steady, with ½ cent reduction on the top grade, and Y. A.'s are weak, with a slight decline. Oregon stock and local storage goods are also weak.

Fancy California Flats, per lb.	15 c
Firsts	14 c
New Young Americas, fancy	16½c
Oregon Flats	14 c
Oregon Y. A.	16½c
Storage, Cal. Flats	13 c
N. Y. Cheddars	17 c
Storage, Oregon, Flats	14 c

## POTATOES.

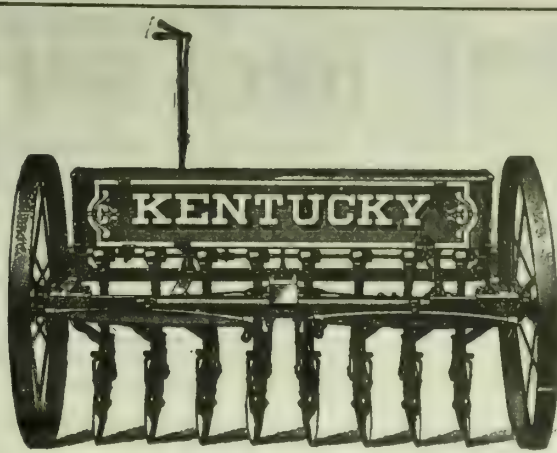
There is still considerable business in Early Rose potatoes for seed purposes, the price being as quoted below. Burbanks are now quite firm, and the demand on the average is very fair, though prices show no change. Oregon growers are looking for a larger demand from the Southwest, though prices in that region are considered rather low.

River Whites, fancy, ctl.	65@ 90c
Common	50@ 60c
Salinas Burbanks, ctl.	\$1.25@ 1.50
Oregon Burbanks, ctl.	1.15@ 1.30
Early Rose	1.25@ 1.35
Sweet Potatoes, ctl.	1.25@ 1.50

## FRESH FRUITS.

The deciduous fruit market now shows very little feature, few varieties being offered. Some raspberries have arrived, but offerings of both raspberries and strawberries are light. Coos Bay cranberries are cleaned up, and the Cape Cod variety is bringing stiff prices. The market for choice apples is more active, and higher prices are expected. There is very little inquiry for grapes, persimmons and pears.

Apples, fancy	75c@ \$1.75
Apples, common	40 @ 75c



## Kentucky Disc Drills

meet every requirement of particular Farmers. Constructed on correct mechanical principles, of the best material obtainable, they are strong and lasting. KENTUCKY Conical Disc Bearings are unique. Of fairly large diameter, they are narrow, giving greatest clearance between discs. Dust proof, oil retaining and adjustable. Over 250,000 in use, giving perfect service, have demonstrated the superiority of the Kentucky Disc Bearing.

Write us for Catalogue of the complete

KENTUCKY LINE.

## Pacific Implement Company

135 KANSAS ST., SAN FRANCISCO.

Cranberries—	
Cape Cod, bbl.	14.00@15.00
Grapes, crate	75c@ \$1.15
Pears, box, Winter Nellis	75 @ 1.25
Other varieties	50 @ 75c
Persimmons, box	50 @ 1.00

## CITRUS FRUITS.

Business in the citrus lines is beginning to increase, though the demand for oranges is still moderate, with plentiful supplies. Good lots of navel oranges are selling at lower prices, though some brands bring more than quotations. Tangerines are higher. Grapefruit at lower prices meets with a steady demand. Fancy lemons are also a little easier.

Choice Lemons	\$2.00@ 2.50
Fancy Lemons	3.00@ 3.25
Standard	1.25@ 1.50
Limes	4.00@ 5.00
Oranges—	
Navel	1.50@ 2.50
Tangerines	1.00@ 1.25
Grape Fruit	3.00@ 4.00

## DRIED FRUITS.

Business on most varieties of dried fruits was very fair up to the end of last week, but since then there has been very little inquiry from the Eastern trade, and the market is apparently quieting down for the holidays. A more general buying movement is expected in the East, however, after the first of the year, as dealers there are carrying light stocks of all varieties. Apricots are still the leading feature, supplies in the East being practically cleaned up, while there is very little stock held here either by growers or packers. Prices on fancy lots are higher in the East, and the scarcity is causing more attention to be given to peaches, though there is so far little movement of this fruit. Prunes are still dull, and while the larger sizes are very firmly held, there is said to be a feeling of easiness on small fruit. There is nothing new in raisins, and it is understood that large amounts held outside the pool is causing packers to hold off. All prices, as quoted by local packers, are as before.

Evaporated Apples	5½@ 6½c
Flgs, black	2½@ 3 c
Flgs, white	3 @ 4 c
Apricots, new crop	8 @ 10½c
Peaches, new crop	4 @ 5½c
Prunes, 4-size basis	3 c
Pears, new crop	4 @ 7 c

## RAISINS—NEW CROP.

## NUTS.

The movement of nuts has quieted down considerably of late, neither almonds nor walnuts being in very strong demand for shipment, as the Eastern market is fairly well supplied for immediate requirements. Stocks are steadily held and prices show no change.

Loose Muscatels, 4 crown	4½c
3 Crown	4¼c
2 Crown	3¾c
Thompson Seedless	4½c
Seedless	4¼c
Clusters—Imperial	\$3.00
Dehesa	2.50
Fancy	2.00
London Layers	\$1.25@ 1.35
Almonds, Nonpareils	11½@ 12 c
1 X L	10½@ 11 c
Ne Plus Ultra	10 c
Drakes	9½c
Languedoc	8½@ 9 c

## WALNUTS.

Softshell, No. 1	12½c
Softshell, No. 2	8½c
Hardshells	less 7 c
California Chestnuts	10 @ 12½c
Italian Chestnuts	10 @ 11 c

## HONEY.

There is little demand for honey at present and the market is quiet. There is little choice stock on hand and medium grades are moving slowly at the prices formerly quoted.

Water White, Comb, lb.	Nominal
White	15 c
Water White, extracted	Nominal
White	7 @ 8 c
Light Amber	6½@ 7 c
Dark Amber	4½@ 5½c
Candied	4½@ 5½c

## HOPS.

Hops are now quiet, with the better lots fairly well sold up. There are still considerable quantities in first hands, however, and the outlook for prices on what is left is not considered promising, as the demand has been pretty well filled.

Hops, per lb.	5 @ 9 c
---------------	---------

## MEAT.

Dressed meats show no further change, all prices being firmly maintained. Hogs

are fairly plentiful, but supplies of other livestock are light, with decreasing shipments from the ranges. Higher prices are accordingly quoted on live cattle and sheep.

Beef: Steers, per lb.	6½@ 7 c
Cows	5 @ 6½c
Heifers	5 @ 6½c
Veal: Large	7 @ 9 c
Small	8½@ 9½c
Mutton, Wethers	7½@ 8½c
Ewes	6½@ 7½c
Lambs	9 @ 10 c
Hogs, dressed	8 @ 9½c

## LIVESTOCK.

Steers, No. 1	4 @ 4½c
No. 2	3 @ 3¾c
No. 3	3 @ 3¼c
Cows and Heifers, No. 1	3 @ 3¼c
No. 2	2 @ 2¾c
Bulls and Stags	1½@ 1¾c
Calves, Light	4½@ 4¾c
Medium	4 @ 4 c
Heavy	3½c
Sheep, Wethers	4 c
Ewes	3¾c
Lambs, lb.	4 @ 4½c
Hogs, 100 to 150 lbs.	6 c
150 to 250 lbs.	6 @ 6¼c
250 to 325 lbs.	5½@ 5¾c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.	

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Dec. 14.—The Christmas movement of oranges is over and the packing houses are nearly all quiet again after a busy week. Just 400 cars of oranges were shipped from southern California for the holiday trade, an average of 50 cars a day for the eight-day run.

From the experience gained in former years the shippers know that it is not well to be caught with any great quantity of fruit rolling and unsold after the Christmas demand has been satisfied. For that reason they are content to await the outcome, and nearly all the fruit going out from now to the 22nd inst. will be on orders.

Last year the output dwindled down to less than 20 cars a day between the 12th and the 22nd of the month and from that

## CALIFORNIA FRUITS AND HOW TO GROW THEM

By E. J. WICKSON, A.M.

REVISED EDITION, 500 PAGES.

HANDSOMELY ILLUSTRATED

Price \$3 per copy, postpaid.

Prof. L. H. Bailey, the leading horticulturist of the East, says of the book:

"This work is an invaluable addition to the literature of horticulture. The conditions of culture are so peculiar in California that a particular treatise is demanded for them. The present volume deals in a clear and comprehensive manner with the whole field of California pomology. The author has enjoyed unusual facilities for the acquisition of facts, and he has everywhere used the material to good advantage."

SEND IN YOUR ORDER TODAY TO

PACIFIC RURAL PRESS, Publisher,

667 HOWARD STREET,

San Francisco, Cal.

time on gradually rose until by the first of January fully 100 cars a day were going forward. It is expected that about the same conditions will prevail this year, but as there has been much less fruit shipped to date than there was a year ago at this time it may happen that the demand will greatly increase this outgo.

Up to Saturday there had been shipped 562 cars of oranges and 474 cars of lemons, while to the same date last season, 1,165 oranges and 445 cars of lemons had been shipped. About the same condition prevails in the north. The shipments from Tulare and Butte counties inclusive have been something over 1,300 cars up to and including December 19, and last year at this time they amounted to over 2,200 cars. The lemon market is rather weak.

## Large Land Sale

## The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers. The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce. The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 3,600 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and other rich lands in the same vicinity for agricultural purposes.

They would be sold separately or as a whole.

The properties offered include the celebrated

Howers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada—the Crouch lands in Mountain Meadows, comprising some 15,000 acres, and upon which an enormous tonnage of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

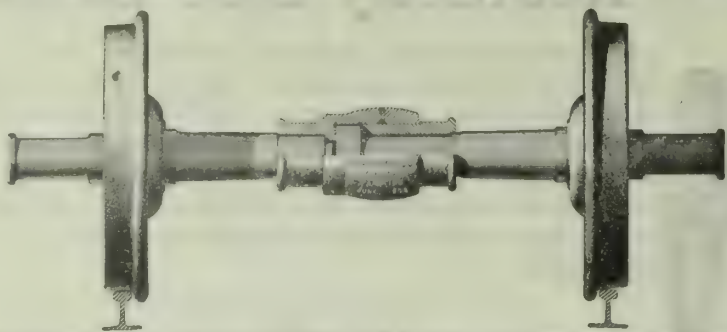
Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company.



## Great Excitement AT THE San Bernardino Shops



THE officials and men of the Santa Fe Railway are very enthusiastic over the Seabrook-Box Differential Railway Axle Coupler, which is being applied to an 80,000 pound capacity oil car at the San Bernardino shops. The expression you hear among the men very frequently is, "SAVE YOUR MONEY AND BUY AXLE STOCK."

Mr. Seabrook, a prominent engineer of Los Angeles, has invented a Differential Railway Axle Coupler that promises to make more men rich than any other railroad device ever invented. Mr. Seabrook has had a very wide experience in railroad work, as he was General Manager a great many years for a company which employed from six hundred to one thousand men. Considerable of this work was in repairing and rebuilding locomotives and cars. He, therefore, realized the necessity of a Differential Axle for railroads.

Mr. Seabrook's device is the only device to which railroads of the world can look that will enable them to haul a much greater tonnage and reduce the expense of operation and maintenance.

An axle equipped with a Seabrook-Box Coupler is stronger by 50 per cent than a rigid axle.

It is pressed together in the same way that the wheels are pressed on the axle.

There are no bolts, screws, rivets or flanges employed in this axle coupler.

There are absolutely no loose parts to it excepting the journal movement, which is perfect.

It meets with the M. C. B. standards in every detail.

It does not in any way interfere with vested interests.

It is interchangeable.

It is more efficient in every way than the rigid axle.

It adds to the life of the axle at least 100 per cent.

It adds to the life of the rails on curves more than 75 per cent.

It adds to the life of wheels 200 per cent.

It enables a locomotive to haul from 25 to 35 per cent greater tonnage without the expenditure of any additional fuel or labor.

It never has to be inspected.

It does away with 75 per cent of the flange wear.

It never has to be lubricated, as this is accomplished at the time of its construction by the use of graphite and will last the entire life of the axle.

It is endorsed by Railroad Officials, Superintendents of Motive Power, Master Car Builders and Master Mechanics all over the world.

A small investment in this stock today will net you enormous returns in dividends. The stock is now selling at One Dollar per share, but will be selling very shortly at Two Dollars. It is the consensus of opinion that this stock will be worth Forty Dollars per share in a very few years and should be worth Five Dollars one year from today.

If you wish for further information we should be glad to supply it upon request. The stock may be advanced any day to Two Dollars, so be sure to send in your subscription immediately to the Fiscal Agents.

### THE WESTERN ENGINEERING COMPANY

Bank References.

501-2-3 Herman W. Hellman Bldg., Los Angeles, Cal.

This is an opportunity  
of a lifetime!

Cut out Coupon and mail at once.

Please send me further information  
in reference to stock in the American  
Differential Railway Axle Co.

Name .....

Address .....

## PEAR-BLIGHT We can CURE IT

Our Remedy will not in-  
jure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



WINE TANK.

### Tanks Tanks

WINDELER'S PLANING MILL

AND COOPERAGE

GEO. WINDELER, Prop.

Water Tanks, Wine Tanks, made from carefully  
selected stock by careful and experienced work-  
men. "Tanks that are well made last a long  
time." It will pay you to get my prices before  
buying.

GEO. WINDELER,

144-154 Berry St.

San Francisco, Cal.



WATER TANK.

## FRANCIS SMITH & CO., Manufacturers of

### SHEET IRON & STEEL PIPE

#### FOR TOWN WATER WORKS

Hydraulic, Irrigation and Power Plants, Well Pipe, Etc. All Sizes.

Office, 9 Fremont Street. Works at 8th and Townsend, San Francisco, California.

Water and Oil Tanks—all sizes.

Coating all sizes of Pipes with Asphaltum.

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution, Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.

Benicia, Cal.

YAKIMA REX SPRAY CO.

N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

## Was Your Last Catalogue Satisfactory?

### 1. IN TRADE-PULLING POWER.

Was the general get-up genuinely attractive, and did it present your stock so that the reader became interested and in a frame of mind to give you an order? First impressions go a great ways in establishing a friendly attitude toward the offerings of a good book.

### 2. IN QUALITY AND ARRANGEMENT.

Did the manner of its mechanical appearance and literary expression impress possible patrons of the superiority of the seeds and plants you are offering? Was it correct in nomenclature and reliable in cultural directions?

### 3. IN VOLUME AND NUMBER PRINTED.

Did you meet the demand by ending the season with just enough to carry you over, or did you have a surplus, or did you fall a few shy? This is important either way you look at it.

### 4. IN MATTER AND ILLUSTRATIONS.

You don't always discuss with your printer all these points,—but then. The Kruckeberg Press is different from the general run of printers; it is fitted up to be really helpful to the seed and nursery trade, the live stock and agricultural interests, to do this class of work, from the preparation of the copy to the finished product.

Correspondence invited.

## THE KRUCKEBERG PRESS

HORTICULTURAL PRINTING AND ENGRAVING  
CATALOGUE MAKERS. TRI-COLOR PRINTERS

123 South Los Angeles St. A 1420 Home.

Los Angeles, Cal.

## All Soils Alike to Wood Pipe



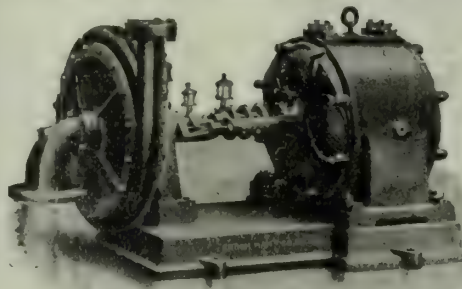
The heaviest adobe, the most corrosive alkali, the highest sand—all are alike where wood pipe is used. **It resists them all.** Wood Saturated, Air Excluded—Can't rot. Metal in bulk, Galvanized, Asphalted—Can't Rust. High Factor of Safety in Banding—Can't Leak. Our book let, "The Whole Story About Wood Pipe," contains valuable tables of the carrying capacity of pipe. Mailed free upon request.

Continuous Stave Pipe. Machine Banded Stave Pipe

### National Wood Pipe Company

404 Equitable Savings Bank Bldg., Los Angeles.  
Olympia, Washington.

318 Market St., San Francisco.  
Dooly Block, Salt Lake City, Utah.



## Centrifugal Pumps

For high or low heads  
Direct connected or belt driven  
Highest obtainable efficiency.

### Krogh Man'f'g. Co.

127 to 133 Beale St., San Francisco, Cal.

Send for new catalogue No. 50  
just issued.

## YOU WANT THIS

A New Gas Generator furnishing gas for Lighting, Heating, and Cooking at less than 10c. per day for an average family. Used in all large Poultry Ranches for heating incubators and brooders, 10 times as cheap as acetylene gas or electricity. Write for Catalogue No. 150.

## Western Gas and Power Company OAKLAND, CAL.



# THE PACIFIC RURAL PRESS

AND CALIFORNIA FRUIT BULLETIN.

Vol. LXXVI. No. 26.

SAN FRANCISCO, SATURDAY, DECEMBER 26, 1908.

Thirty-eighth Year.

## THE DUST SPRAY.

Written for the PACIFIC RURAL PRESS  
By Mr. J. P. DARGITZ, of Acampo.

Having been requested to give my experience in the use of dry or dust spraying, I will do so as nearly as I can. Let me, however, preface my remarks by saying that I have nothing to sell along this line, and no particular object to accomplish, other than the common good.

In this commercial age one must not lose sight of the commercial feature of fruit growing if he would continue in the race. If my neighbor can do his work for a much lower figure of expense than I can, he has me bested in the start, as far as selling prices and profits are concerned. It is for this very reason that the fruit grower should always be on the alert to grasp every new idea presented in the handling of his crops that may present a possible economy. This is my only excuse for experimenting with the dust spraying.

When I became a fruit grower, some five years ago, I was introduced to the lime-sulphur-salt method, which had been in vogue in a portion of our orchards for a good many years. It seemed to be very effective, but was extremely disagreeable to handle. It was also quite expensive, on account of the usually soft condition of the soil, the heavy weight of water and the wagons necessary to haul over the orchard. At the State Fruit Growers' Convention held at Hanford in December, 1906, my attention was first called to the idea of dust sprays, and I saw at a glance that if it was effective it would prove a great saving to the fruit growers of California, and I began to inquire at once. I found that Mr. A. N. Judd of Watsonville had been using it on his apple orchard for several years, with excellent results. I immediately ordered a machine from the Dust Sprayer Mfg. Co., of Kansas City, Mo., and also some dry materials, and prepared for work.

The lime-sulphur-salt spray had given us very good results, as I have said, but had never entirely controlled the curl-leaf on our peaches. We had a large almond orchard of over two hundred acres which had never been sprayed, and the peach moth larvae had become so bad in it that the 1906 crop showed 40% worm-eaten. The red spider had also proved quite serious for a year or two before this. We never had had the almond blight in our orchards here before 1906, but we had had the peach blight bad enough to make the 1905 crop very poor on some of the trees, and almost a total failure on those trees in

1906. In the last of February, 1907, the almond blight made its appearance, and in four days it had spread over about thirty acres and caused the trees to look as if a fire had gone through the orchard. The peach moth larvae became very hungry in consequence, and as often as a bud

almond orchard and dusted all of it. In two weeks we had a beautiful green foliage on the trees, which continued all summer, and set a fine crop of buds for the 1908 crop. We dusted some 200 acres of Sugar and Giant shipping prunes, and were able to ship as fancy packed green fruit to the east in 1907, 90% of the crop, which was very unusual. On that portion of our almond orchard which had never been sprayed before, we dusted once for the 1907 crop, and it showed 10% worm-eaten, as against 40% the year before. In the month of December, 1907, we dusted as a preventive of almond and peach blights some 300 acres, and had practically no blight this year. In February of this year we dusted again to catch the peach moth on almonds. In March we dusted the peach and prune trees for the same purpose. What was the result? After harvesting nearly eighty tons of almonds, twenty tons being shelled, not a single worm-eaten nut was found in the entire crop. I do not think there was a single worm-eaten prune, and we sold over 135 tons of dried prunes and shipped several cars of green prunes. No curl-leaf and no blight.

Now perhaps someone will say that the unusually dry year had more to do with these results than the dust spray. Possibly that is true. I thought that we were going to have a sure and certain test this year, because some blocks of fruit were treated with various well known liquid sprays comparable with others which had the dust spray. But all seemed to give equally good results, and we therefore conclude that if the dust did no good then neither did the others. If it was weather in one case, then it must have been weather in the others, and I have the advantage this once at least, that it did not cost me one-third as much as it did the others.

We have used the dust spray on about 500 acres all told now for two years, once a very wet year and the other a very dry year, and with entirely satisfactory results so far. We shall continue to use it, at least until we are shown very certainly that we are making a mistake in doing so.

What dust did we use? The "Vigorite" brand of hydrated lime from the Holmes Lime Co. of San Francisco. We tried hydrating some ourselves, but it is a

very dirty bit of work, and expensive. We can buy it all ready powdered cheaper. We have used a dry powdered preparation of bluestone, called Sal Bordeaux, obtained from the Dust Sprayer Mfg. Co., of Kansas City, Mo., but I think that Baker & Hamilton now have the State agency for

(Continued on Page 30.)



The Notable Spread of the Dust Spray.



Dust Sprayer at Work in the Orchard.

showed they promptly ate it up. This continued for some two or three weeks, when in desperation I sent some twigs to the Experiment Station at Berkeley, appealing for some information that would enable me to save the trees. The reply indicated as above. Having just finished dusting our peach orchard, I turned the machine loose on this



Pacific Rural Press

667 HOWARD ST., SAN FRANCISCO.

Los Angeles Office, 123 So. Los Angeles St.

TWO DOLLARS PER YEAR IN ADVANCE

Entered at S. F. Postoffice as second-class mail matter.

PACIFIC RURAL PRESS CO. - - - PUBLISHERS

Advertising rates made known on application.

W. J. WICKSON - - - - - Editor  
FRANK HONEYWELL - - - - - Business Manager

California Weather Record.

The following rainfall record is furnished the PACIFIC RURAL PRESS by the United States Department of Agriculture, Weather Bureau, at San Francisco, for the week ending at 5 P. M., December 15, 1908:

STATIONS.	Total rainfall for the week.	Total seasonal rainfall to date.	Normal seasonal rainfall to date.
Eureka .....	.92	11.57	14.67
Red Bluff.....	.36	4.17	8.72
Sacramento.....	.81	3.83	6.03
Mt. Tamalpais.....	.40	7.58	7.04
San Francisco.....	.37	4.08	6.90
San Jose .....	.27	2.86	6.88
Fresno .....	.02	1.38	2.99
Independence.....	.00	1.80	2.91
San Luis Obispo.....	.18	3.84	4.94
Los Angeles.....	.03	4.09	4.13
San Diego.....	.10	2.23	2.47

The Week.

We are glad to see that in all the timber specimens which the cabinet-makers are displaying to attract the attention of the President-elect, no one has claimed to have anything better for the chair of agriculture than Scotch fir grown in Iowa. It seems to be conceded that Mr. James Wilson, who entered the cabinet 12 years ago from the deanship and directorate of the Iowa Agricultural College and Experimental Station, is the most available man to represent agriculture in the cabinet of the new administration. This can only be taken as a token of the satisfactory service which Mr. Wilson has rendered through three presidential terms. The present greatness of the Department of Agriculture, which stands unrivaled in the world in its class of governmental efforts, properly serves the general public as evidence of his breadth of view and organized ability. The fact that no potent opposition to his continuance has arisen in the ranks of an industry so great and diversified as American agriculture, is also a popular demonstration of his administrative wisdom and honesty of purpose, for either a narrow or a hollow man would certainly have had no end of trouble before this time. But those who know Mr. Wilson and his work intimately have more than these popular evidences of his value. They understand that he has manifested exceptional strength and wisdom in handling all the conflicting interests and prickly individuals who have arisen in his pathway and has proceeded, cautiously and evenly but still steadily, in constantly increasing service in the promotion of American agriculture in all its forms and relations. He has shown in all issues which have arisen the sincerest regard for producers' interests and has always interposed his force and influence between them and all outbreaks of arbitrariness and prejudice. When a thing was shown to be right and in the public interest he has been not only unyielding in its support, but active in its promotion, but such an attitude was always preceded by a determination to be right and patient effort to understand exactly by what courses the right was to be attained. We are glad for the current consent to carry forward such a man into the new administration because it is the highest declaration of appreciation of his personal worth and public work and a token that a republic can be grateful.

It is very clear that there will be wide and various demands before the legislature to enable the agricultural department of the university to extend its work both in research and in instruction. In this matter the attitude of the department is to do everything it possibly can to minister to the public demand for new truth and the wide teaching of it. As in the past, so in the future probably, there will be a number of bills introduced authorizing and providing for work in crop protection and promotion and each group of producers will maintain the importance of their claims, as it is eminently proper for them to do. The greater part of the recent large increase in the agricultural activities of the university is due to this popular demand and the funds for the increase have come not by the claim of the institution so much as from the claim of the people who wish the work done. This is on the whole a most gratifying fact because it is the most emphatic testimony that the work is worth doing and that the university can do it. In the midst of these popular calls for special efforts in various parts of the State, it must be borne in mind that a fundamental need is the provision of suitable and creditable agricultural buildings at the university both for research and for up-to-date instruction which shall prepare men and women for the special efforts which are being demanded from those adequately trained for them. The University of California now labors under the disadvantage of having a poorer agricultural building than any other State University or State Agricultural College in the United States. In connection with this fact it should be remembered that every line of work in progress in the Agricultural Department is characterized by direct relation to the advancement of agriculture under the unique natural and social conditions which are characteristic of California, and is directly ministering to the development of the State. The area comprised in California if placed upon the map of the United States in some regions east of the Mississippi river, would cover several States, each of which is separately provided with institutions for agricultural instruction and research and each of which is receiving from the general government the same appropriation as California receives for its whole area. This view of the inadequacy of facilities for the purposes intended becomes more impressive when it is remembered that nearly all of the smaller States which might be included in an area equal to that of California have similar natural conditions and lines of production, and research results attained in one notably assist the others. California has within her own area, not only a wider diversity than such a group of States, but is for the most part different from all the other States of the Union in natural adaptation and in the character of the demands made by the people for information and investigation. Receiving, then from the general government only one talent while the same geographical area in the Eastern regions of the country receives many talents, the obligation rests upon California to put this talent to the most energetic and profitable use, and that can only be done by generous and adequate State provision, so that the university instructors and the investigators provided for by the United States shall have not only all the associates and assistants which the work requires, but proper class-rooms, laboratories, offices, etc., and ample equipment for their work. To this end a large modern agricultural building at the university is a fundamental requirement. Every undertaking of the Agricultural Department at large in the State makes this provision more imperative. Every activity in local experiments and in university extension sends more students to Berkeley, more letters for information, more demands for investigation and more requests for publications. This is a plain business result which all those who have experimented with good advertising will recognize at sight. It is the duty of every Californian who finds satisfaction in the strenuous and far-reaching effort for agricultural wisdom in theory and practice which the university is making, to exert his fullest influence to the end that agriculture shall have at the university a dignified, spacious and full equipped building which shall be, in the spirit of which it will be the exponent, and in the work which will be done in it, the basis and the inspiration of the State's ad-

vancement in agricultural science and practice, and of the general industrial development of California.

At a meeting of the regents of the university held in this city last week the need of a new agricultural building, which should place agriculture on an equality with other applied sciences, was declared to be a fundamental need of the institution, and the legislative committee was instructed to take proper steps to secure appropriation for it. It is currently reported that Lieutenant Governor Warren Porter, who is ex-officio a member of the board, will take special charge of this effort which commends itself strongly to him. He is not only fully informed of the present inadequacy of the present facilities for the instruction of 150 full-course pupils and 600 others who take agricultural subjects by election, but he is also closely acquainted with the inferior arrangements and equipment for investigation. In addition to his personal knowledge of university affairs, Governor Porter has, no doubt, had his surety of the need of proper outfit doubly assured by his acquaintance with university investigators and their work in the great apple industry of Watsonville, where he resides. In his advocacy of a new building at the university, Mr. Porter has not only the support of the regents and the president of the university, but the association of the alumni, now active citizens in all parts of the State, who have formally declared that the university should be strengthened and put in step with the progress of the day by this particular provision. This movement should be supported by the agricultural interests of the State in every honorable way. They should see to it that agriculture is fitly provided for at the very center of the State's effort for higher education. The whole State should make this contribution to the promotion of the agricultural industry. The cost of such a building is placed at \$300,000, which may seem rather a large sum by itself, but not so large when it is remembered that it is only about one-tenth of one per cent of the gross value of products which the agricultural industry is now giving the State each year and such a building as would be constructed would be serviceable for centuries, like the other steel and granite buildings which are being constructed at the university as parts of its permanent outfit.

This issue closes another volume of the PACIFIC RURAL PRESS and the publication will enter its thirty-ninth year with its next number. We have spoken too recently of the current life and prosperity of the journal to warrant further comment and gratulation now. We take it to be also a plain thing which readers can see for themselves, for they write very freely of their satisfaction. We do wish, however, to call the attention of the hosts of new subscribers to the fact that the PACIFIC RURAL PRESS is not simple printing for current reading, but should be put in the book or magazine class and simply bound or kept collected so that it can be easily consulted when the need of special information arises. It is for this purpose that much care and time are devoted to the preparation of the half-yearly index which appears upon the last page of this issue. In addition to the quality of the contents the publishers endeavor by clear printing, good paper and systematic arrangement of subjects to give their journal a permanent value in the homes to which it comes. It aims not to be stuff with which a fire can be kindled without sense of loss, but to be so good looking and acceptable in the printed page that an impulse to save and orderly arrange will arise unbidden in the mind of the subscriber. In this way the PACIFIC RURAL PRESS can really become a light in the home without being crushed into a wad and touched off with a match. Certain papers there are which seem to be designed by their creators for such purposes. Ours is not in that class. But no matter how good a paper may be, no one has time to hunt through unindexed pages for the facts or notions that he wishes to review at the moment, and so we exalt the index on the last page of each volume as the key to the information. It is the last service which the editor can render to the memory of the dying volume, and it is at the same time the service which alone can make the volume live in esteem and usefulness. Consider the index!



## Queries and Replies.

### A Little Too Fearful of Gypsum.

To the Editor: It is hard to get a cover crop on my hard, compact soil, yet I believe that is what the soil needs. It has occurred to me that the use of gypsum would assist. I hesitate, however, under the impression that gypsum dissipates the gases of the soil and would impoverish the soil as much as the cover crop would benefit. Would that be the case?

Trees and vines are slow coming into bearing on our soil. After eight or ten years growth they bear well. I am interested in trying to secure earlier returns. It has been suggested that the use of gypsum would hasten growth and crops, and would not injure vines or trees, especially vines, because they root deeper with age than the gypsum permeates. What is your idea? I understand that gypsum does not act on the plant, and that the plant would not be injured by the use of it, but that it liberates plant food in the soil.—Newcomer, Clovis.

It might be that gypsum would promote growth and have some effect upon earlier bearing. We are not sure about that. It is true that gypsum acts upon plant food in the soil, makes it more available and more quickly used up, presumably, but you do not need to be so scared of it. While we do not believe that it is necessary for you to use gypsum to produce such an effect as you mention, on your soil, there is no danger that the effect of such an amount as you would probably be willing to pay for would be noticeably injurious. We doubt if it is desirable to use gypsum in such a connection, because it is quite likely that you can get a good start with your cover crop by ordinary plowing and harrowing, undertaken when the ground is in good condition, and the growth and plowing under of the cover crop will accomplish the mellowing for which you propose to have recourse to gypsum. At the same time, we wish to assure you that there is no such great danger as you suspect in the use of a reasonable amount of gypsum, either to the plant or to the soil.

### Tap-Root Nonsense.

To the Editor: I intend to plant 40 acres of sandy mesa land to walnuts this winter, and am anxious to know whether it would be better to plant the nuts or plant two or three year old trees. My neighbors tell me that if trees of this age are planted the tap-root is cut off, and that the root system will always grow shallow. This would not be a desirable condition in this section, the coast district of central California, as the top of the soil is dry to the depth of 12 or 15 inches during late summer. Irrigation is not practical or necessary. The land grows fair crops of hay, grain, corn and potatoes. Beans grow five to eight sacks to the acre, and potatoes 20 to 40 sacks to the acre, without irrigation. By frequent shallow cultivation the land can be kept fairly moist, but we must avoid shallow rooted trees as much as possible. Will you give me the benefit of your experience in this matter?—A New Subscriber, Oceano.

The claim that you can discourage a walnut tree from rooting deeply by cutting off the first tap-root it sends from the seed is nonsense. We would like to state what kind of nonsense it is, but we forbear. It is likely that you can get the root down sooner by starting the nut in place, but you will assume more cost and trouble by doing it than it is worth. Seedlings in a field, 30 or 40 feet apart, are open to so many dangers, and cost so much to cultivate and protect, and so many will be lost or destroyed in spite of the cost and trouble, that we prefer to grow seedlings in nursery and transplant at two or three years of growth on the root, than to start from the nuts in place. If your land is very light, plant three or four inches deeper than the tree stood in the nursery, and the conditions which give you the good vegetables you speak of will grow good walnut trees if you cultivate as well.

### Various Alfalfas.

To the Editor: Would be very thankful for information regarding Turkestan alfalfa, i. e., its relative food value to other alfalfa; also how does it compare as a producer to other varieties? And

does the name Turkestan alfalfa mean a specific variety? Where can Arabian alfalfa seed be procured? How does this compare with the Turkestan? I am trying to get an alfalfa that is a better producer than our common variety.—E. T., Elk Grove.

You will have to correspond with leading seedsmen who advertise in the PACIFIC RURAL PRESS about what varieties of alfalfa are available. There are very many varieties from different parts of the world being introduced for trial at the experiment stations, but the seed of them is not generally available, nor is it desirable that they should be offered in quantity until more fully tried. The Turkestan has demonstrated good points, and is, we believe, now in the seed trade. The Arabian is showing striking value experimentally in California, but whether the variety tried agrees with the one which is being offered, we are not sure. So many introductions are being made that the question of identity will have to be worked out later. It is probable that no particular difference in nutritive value will be shown, but there is likely to be much difference in season, and perhaps in amount of growth. Those disposed to experiment should try small areas of the new kinds to compare with their main sowing, which should be the cleanest, strongest seed of the common variety. We know this is good; if anything else is better it must be shown by test and experience.

### Growing Redwoods.

To the Editor: I want to set out redwoods in the Santa Clara valley, on the slope of the foothills, at an elevation of about 225 feet. Specifically, the ground is a rather steep slope toward the east, and a piece of bottom land along a little creek which is a flowing stream all the year. The ground is now inhabited by a few liveoaks and willows. If it is a possible thing, I would like to start a cluster of redwoods in that place. There are a few redwoods growing by the creek, about a mile from my place, but I do not know whether they are survivals or whether they have been planted there. The native redwoods are farther back on the side of the range toward the sea. What is the best course to pursue in obtaining and giving the trees a good start?—Suburban, Santa Clara.

You should have no difficulty in starting redwoods in the place which you describe. The tree takes kindly to other situations than those in which it naturally exists at the present time, and why it has such a restricted habitat has never been satisfactorily explained. If you only want a few trees you could undoubtedly proceed most rapidly by buying them from nurserymen who handle shade and ornamental trees.

### Land for Alfalfa.

To the Editor: Please advise us what fertilizer, or ingredient, should be used on land from which the top to a depth of three to six inches or more has been removed in leveling and checking up preparatory to sowing same to alfalfa. Our land is a sandy loam, lying between the Merced and the San Joaquin rivers.—Planter, San Francisco.

Land otherwise suitable for alfalfa would not be noticeably injured for that purpose by such leveling as you have found it desirable to do. One distinctive character of California soils is their depth and deep distribution of fertility. This, of course, does not apply to land underlain by hardpan. It seems to us that you should go ahead with your alfalfa sowing on valley land of ordinary depth without recourse to fertilization. That is the common practice, and it is usually successful.

### Shot for Linnets.

To the Editor: Which would be the cheapest and surest way of preventing the linnets and other small birds from eating the fruit buds off my apricot trees? I have only a few apricot trees, but they are full of fruit buds and should bring a good crop if I could get rid of the linnets successfully. Any information you could give would be thankfully received.—Grower, Fresno.

A shotgun with a light charge of powder and bird shot is the most satisfactory defense against bud-destroying birds known to us. Kill all you can and you will frighten away a great many more. This is a surer way than poisoning and

you can kill only those which you know to be destructive.

### The Silo a Preserving, Not an Improving, Agency.

To the Editor: I have seen the silo warmly recommended in the PACIFIC RURAL PRESS. Along the Cosumnes river, where I have a small dairy, alfalfa has for many years been a failure, owing to the late spring high waters overflowing, or percolating through, the best lands and drowning it out; but corn is a sure crop, especially in the seasons when alfalfa is not, and so are sorghum, Egyptian corn, etc. Fed green to dairy cows, corn and sorghum are eaten with avidity and keep them in good condition; but neither is a good butter producer. Is either any better when converted into ensilage?—Enquirer, San Francisco.

The silo is a preserving agency, not an improving agency, except that materials may become more digestible in some cases. Siloing corn is not with the idea of making it better, but with the purpose of having about the same thing at a time of the year when you cannot get it from the field. Good green corn and sorghum, either green or siloed, are considered good feed for milk and for butter, and that is the reason they are so largely used. They can, of course, be improved somewhat by feeding alfalfa hay or linseed meal with them as these additions make a balanced ration.

### Salt Land Near Salton.

To the Editor: I have recently secured a tract of desert land near Salton, the soil of which is to all appearance very rich, but is so strongly impregnated with salt that it is doubtful if any ordinary products will grow there. Springs of water on this land have only a slightly brackish taste, and while on the surface of the ground there is in some places a slight crust of salt, generally speaking there is little visible to the eye, while to the taste it is quite apparent. Digging down two or three feet, all traces of salt are lost, even to the taste. At least this is the case in some places. Are there any kinds of eucalyptus or other valuable timber that you can recommend as worthy of trial? Or, is there anything that would take the salt from the soil if seed of the same could be germinated on the ground?—Reader, Los Angeles.

Whether any desirable plants or trees will satisfactorily grow or not, depends upon the amount of alkali which is present in the place where the tree is planted. The only satisfactory way to remove alkali is to wash it out of the soil by surface application of fresh water. This is being continually done in the irrigated parts of the Imperial Valley, and there are instances in which land carrying a heavy content of alkali near the surface, and which on that account was considered of doubtful fertility, did prove to be very satisfactory for alfalfa, sorghum—in fact, for most other plants, because the water either distributed the alkali through such a great mass of soil that it was not too strong anywhere for the plant, or that it dissolved and carried out the alkali in the underflow. Everything depends upon the content of alkali, upon the ample supply of fresh water for irrigation, and upon the character of the subsoil. Unless it affords free drainage, the alkali cannot escape by the way of water. You cannot rely upon the taste as a test for alkali. The practical determination is reached by making some plantings and noting their behavior. The Eucalyptus rostrata, which is of a hardy character suitable for planting in that district, is also frequently somewhat resistant to alkali, but we would not undertake any great investment on the land which you speak of without such preliminary tests as we have indicated.

### Australian Rye Grass.

To the Editor: Will you kindly advise me what kind of rye grass is used most in California, and which will stand the longest overflow water without destroying it? How many pounds seed to the acre?—D. F., Natoma.

The Australian rye grass, also called English rye grass (*Lolium perenne*) is the better for your purpose, although the Italian variety has some advocates. We do not know just how long an overflow it will endure, but certainly considerable. From 40 to 50 pounds per acre is the usual quantity for field sowing.



## Horticulture.

### THE DUST SPRAY.

(Continued From Page 401.)

this material, and the machines as well. Then we have used various brands of sublimed sulphur, but I think the Anchor brand is as good as any. We used dry paris green. I understand that the California Spray Chemical Co., of Watsonville, now prepares a powdered form of arsenate of lead, which may be even better than the paris green and much cheaper.

We use lime dust for a carrier in place of water. It is much lighter, and has some other advantages, in that it keeps your chemical poisons as a mixture, instead of several solutions forming when water is used. For the same reason, it takes much less material. Every bit of the poison you use is available when applied in the dry form, while in the wet form it is largely rendered inert by careless preparation and the consequent formation of several insoluble compounds, which are practically worthless. Anyone can mix various forms of dust without spoiling it. However, there may be certain pests which will not yield to it. Time will tell.

Mixtures used: For the blights, both peach and almond and curl-leaf, we used 40 pounds of lime, 10 pounds of sulphur, and 2 pounds of the Sal Bordeaux. This makes a good treatment for two acres, and costs about 80 cents per acre, including mixing charge and putting on the orchard. For the peach worm larvae and the codlin moth we added one pound paris green to the above amounts, which raises the expense about 25 cents per acre. I think, however, that the Sal Bordeaux could be left out where no blight exists. It is a fungicide.

To all appearances the dust acts as a valuable help in the carrying of pollen if used when the trees are in bloom. It can be used with perfect safety at such a time. Many of our almond trees had limbs four inches in diameter broken with the weight of nuts this year. I understand that a Mr. Foster and his neighbor, both orchardists near Dixon, Cal., and using dust spray this year had a similar experience. Mr. Judd of Watsonville says there is no mistake but that the dust does help to pollinize his apples if applied when they are in bloom. This might be food for thought by all orchardists.

Two men and two horses, with a machine like mine, driven by a one and a half horse-power engine, can spray from 30 to 40 acres in 10 hours, and one man will mix the dust in half a day for that much work.

In conclusion will say that dust spray may not be any better than the various wet sprays, but if it is as good it is worth your attention, as a matter of economy, and the possibility of applying just when needed.

A question has been raised about its sticking qualities in a dry climate. On this point I would say that the only secret about its sticking anywhere is to be sure that your material is fine enough to float in the air, and it will then stick to anything that it touches.

I do not want to be understood as having settled this spray matter fully, but as still experimenting, yet thoroughly satisfied as far as I have gone. Would be glad to know what it is doing for others who have given it an unbiased and fair trial.

### NEW PESTS WE SHOULD GUARD AGAINST.

By E. M. EHRHORN, Deputy Horticultural Commissioner in charge of Quarantine Division, Ferry Bldg., San Francisco, at State Fruit Growers' Convention.

(Concluded From Page 388 of Last Issue.)

**Foes of the Grape.**—The pests of our grape industry are but few in number, and we should be very careful to avoid importing some few others which exist in other parts of the country and in Europe.

The grape root worm of the Eastern States (*Fidia viticida*) is considered a very serious pest in the vineyards of the Atlantic Coast. We here in California have had some experience with our California grape root worm (*Adoxus obscurus*), and know the seriousness of such a pest. Both

species do about the same damage to the vine; let us endeavor to keep out the other fellow.

When we in California begin to notice wormy grapes it will set a lot of us thinking and asking ourselves, What next! Wormy apples, pears and peaches are bad enough, but wormy grapes would create some excitement, I am sure. The grape berry moth (*Polychrosis viteana*) is the cause of wormy grapes in the Eastern States and Canada, and at times does enormous damage to the crops, making them unmarketable. It is an American insect and, like its European cousin, *Polychrosis botrana*, has a very bad record as a pest. It has been reported as destroying one third of the crop in some vineyards in Ohio, and is usually double brooded, the first brood feeding on the blossoms, the second in the fruit. A third brood has been reported in some of the Southern States, and this would happen with us if the pest ever got introduced here. The insect passes the winter in the pupa, and the cocoons are fastened in the leaves of the vine, so that transportation would not be very difficult if vines or cuttings were carelessly packed.

The grape seed worm (*Isosoma vitis*) and the grape curculio (*Cuaponius inaequalis*) are two other pests which do equally injurious work as the foregoing.

The grape blossom bud gnat (*Cecidomyia Johnsoni*) belongs to the Cecidomyiidae, and is another pest reported from New York which, from its record, would prove a very serious enemy to our industry. This insect attacks the blossom buds, and after the maggots have matured they issue from the bud and drop to the ground, where they transform. As many as eighteen maggots were found in a bud, showing that the maggot is a very small individual. In one vineyard as many as one-third of the blossom buds were destroyed by this pest.

An insect which is placed next to the phylloxera in France, owing to the enormous damage done, is a Tortricid moth (*Cochylis ambiguella*). As many rooted vines are annually imported from France, great care should be used in the inspection of such stock. This species also attacks the blossom and fruit.

**Increased Vigilance Required.**—There are many very small pests, such as thrips and mites, which are known to do serious damage to trees and vines in other countries, and as we have had some experience with similar species in our orchards and know how hard it is to fight and even to detect these until they become so very abundant that the plant indicates trouble, it will be very necessary to employ the best inspectors to guard against all these minute pests. Many other injurious insects could be mentioned, belonging to nearly every family of the insect world, many of which now exist in countries with which we have as yet small commercial relations, but with our growing commerce and the advent of the Panama canal, which no doubt will bring us in closer touch with these countries, we shall be required to employ many good men, and above all, we shall have to broaden our laws, so as to be ably prepared for this work when it does come.

**Pests of Forest Trees.**—A serious pest which would soon destroy the looks of our elm trees is the elm leaf beetle (*Galerucella luteola*). This insect is of European origin, and has been known as a very destructive pest to the elm in most of the New England States for more than fifty years. The damage to the tree is done by the grub of the beetle, which skeletonizes the foliage of the tree and cause it soon to drop, and in a few seasons this damage so weakens the trees that many soon become worthless. In warmer climates this beetle is double brooded, and hibernates as an adult, frequently entering houses, barns, boxes or any place where it can get shelter from winter storms. I mention this to show that it would be an easy matter for this pest to be transported for a long distance. The fight against this insect is very costly on account of the large size of elm trees, and generally specially equipped outfits have to be used to do thorough work with sprays.

**Foes of Eucalypts.**—Eucalyptus growing in our State has taken great strides within the last few years. The idea that this tree is, so to speak, immune from insect attack seems to be general, and it might be well to mention a few of the more injurious species which attack this remarkable tree in its native country.

The Gum Emperor moth (*Antherea eucalypti*) is a very large moth, resembling our *Cecropias* in size and beauty. The larva of this moth does serious damage to the foliage of the tree. The eggs are laid on the leaves and could be easily transported this way. This pest also attacks the pepper tree, *Shinus molle*, which has been extensively planted in Australia.

In New South Wales and Queensland there are two very destructive tree borers, *Zeuzera macleayi* and *Leto staceyi*, which do immense injury to these trees. Both these could be brought here in samples of wood.

The Wattle Goat moth (*Zeuzera eucalypti*) is another tree borer principally attacking the wattle (*Acacia decurrens*), but also reported doing severe damage to some species of gum trees.

Several gall-forming scale insects attack the eucalyptus and do much damage to the smaller branches, stunting the growth and injuring the symmetry of the tree. Other scale insects (such as *Eriococcus eucalypti* and *E. coriaceus*, commonly called the gum tree scale, and some very large scale insects belonging to the *Monophlebnae*) are reported as doing serious injury.

We have found scale insects attacking the blue gum in this State, and we have also found one of our twig borers (*Polycaon stoutii*) attacking this tree. How very fortunate it was for California that eucalyptus growing was started from seedlings raised here, instead of from imported trees, as has been done with other plants. However, there is now such a demand for the different varieties, and a constant inquiry for some species remaining in the native land, it might be well for those interested to take the precaution and not send for trees, but continue to raise seedlings, thus preventing such pests as cited above from ever gaining entrance here.

In concluding I may say that it has been observed that as agriculture, with its various branches advances all over the world, new pests are constantly appearing, and the more acreage is planted to the various crops, the more enemies appear, and are always on the increase. Constant care and untiring vigilance is therefore necessary to keep our crops free from new invaders, and the most sincere co-operation with the various institutions, which are here to help the grower, should be the first thought and duty of those who are engaged in agricultural pursuits.

### DRYING APPLES IN SONOMA COUNTY.

By Mr. W. I. NEWCOMB, of Sebastopol, Sonoma County, at the Sacramento Fruit Growers' Convention.

The disposition of fruit not suitable for green shipment or for canning purposes has, and always will be, more or less of a problem to the fruit grower. In these days, when the market calls more and more for better quality, the apple grower finds, after his best packing fruit is sold, that he still has much fruit on his hands to dispose of—windfalls, fruit bruised in gathering and small sizes. The amount is largely dependent upon thoroughness of spraying, the character of the season, and the pruning and thinning work done.

While evaporated apples today are a by-product of our orchards, a glimpse at the early history of the business in Sonoma county shows that it was to provide a market for the product of the orchards that it was put out by the first settlers. The early pioneers were quick to recognize in the cool coast summers a suitable climate for the apple. Every home had its three or four acres, and some as many as thirty, planted with a multitude of varieties. The fruit of these young orchards, which yielded so abundantly, was often allowed to go to waste for lack of proper market facilities.

**Introduction of Machine Driers.**—In 1874 the late W. J. Hunt bought an Alden evaporator that was shipped out from New York. This was an expensive, cumbersome machine to operate, being sixty trays high and requiring three floors, the fruit being elevated the entire height by chain pulleys on the side. Owing to the cost of operation, Mr. Hunt did not run it again until 1876, when he made another attempt, putting up the fruit in two-pound cartons. The press to pack these packages cost \$130. Although the fruit sold for 25 cents per pound, the venture still did not show a profit, and the machine was never used



again. However, the price obtained for the fruit was an incentive for further effort by Mr. Hunt and others. By 1879 and 1880 Santa Rosa had two, and Petaluma, Bloomfield and Sebastopol each had one large drier, where the farmers sold their apples by the ton, hauling them in some instances ten or twelve miles. But these long hauls of fruit, which, when ready for market, were only about one-seventh of the weight delivered, soon opened the eyes of the apple men to the advantages of operating on a smaller scale at home. By 1885 a number of dryers, as they are called, were built throughout the apple section, and today we have 100 or more scattered about the coast hills of western Sonoma.

The Chinamen were quick to "catch on" to this kind of work. Their habits of rigid economy and thrift soon put the evaporated apple-output in their hands, usually the fruit on a share basis. But the Chinaman's thrift and economy often prompted him to apply too much moisture to his apples to make them pack easy. His horror of waste kept him from "trimming," as he should have done, and he was apt to put in inferior fruit, consequently "China" apples became a trade term. Now the Chinamen are getting old and not much account. The Japanese and Hindus have not taken up this kind of work. Our own young people, however, are becoming very proficient in the art, together with the packing of the green fruit, the two operations going hand in hand. This pleasant occupation furnishes employment to many for four or five months in the summer and fall, and is helping us to solve some of the problems of "Our Country Life."

**The Present Style in Driers.**—The driers we have about the country are cheaply constructed, as far as the building is concerned, on account of fire liability. Scarcely a season passes without two or three of them burning up; consequently few insurance companies care to handle this class of risk. Those that do, charge from 5 to 7 per cent.

Our driers are nearly all built on the same plan, the upright two trays wide and from twelve to fifteen trays long, being the style settled on as being the cheapest and most easily operated. The size of the tray is a personal preference. Usually sloping ground is preferred for a site, in order to get the firebox or furnace low down, to prevent the scorching of fruit. The upper side will then be more convenient for unloading the green fruit from the orchard, truck or wagon. The furnace is enclosed within brick walls, on which the evaporator is set. These walls should be high enough to give from four to seven feet of air space between the top of the furnace and the bottom tray.

Connected with the furnace is a double run of pipes, making a double turn the length of the evaporator. These are to prevent loss of heat. Usually a large drum is connected with the pipes at the back to further hold the heat. The evaporator is made of matched lumber, constructed in "runs" the size of the trays. A ventilator projects from the evaporator through the roof of the building to carry away the moisture in the air. This hot air draft is furnished by cold air ventilators through apertures in the brick walls about a foot square at the ground level. It is more convenient to have the sides of the evaporator all doors, for convenience in putting in and taking out the fruit.

One side of the evaporator is a room for receiving the dried fruit, on the other a larger one for receiving the apple peelings and placing them on the trays. This work is usually done by a man or stout boy to run the peeler and one or two girls or women to "trim" and "spread" the fruit on the trays.

**Sulphuring.**—After the apples are placed on the tray, they are put in the sulphur box and exposed to the fumes of burning sulphur to preserve the natural color of the apple. This exposure requires from twenty to forty minutes, according to the variety of apple, the earlier and more open-grained apple requiring less, while the hard late apple takes more time. When Decision No. 76 of the Pure Food Law was announced last year the apple men came in for their share of consternation, but tests soon proved the apples contained less than one-half of the sulphur dioxide allowed under the law. As taken from the sulphur box it contains two or three times the amount allowed,

but from 75 to 90 per cent passes off in the process of evaporation. From the sulphur box the trays are placed in the evaporator and heat applied. It is possible to fill and get dry the capacity of the drier each day by some firing a part of the night. After the fruit is dry it is taken out and the trays emptied in the packing room, where it is packed or sold or removed for safety.

**The Product.**—About one hundred pounds per day for each person employed is an average day's work. One crew of seven this fall put out 1060 pounds in ten hours—two peelers, four spreaders and one drier tender. From one and one-half to two cords of four-foot pine wood is required to evaporate one ton of dried fruit, and from five to eight pounds of sulphur. Two and one-half cents is about the average cost of drying and packing in 50-pound boxes, which is the standard package.

## Citrus Fruits.

### KEEPING QUALITY IN ORANGES.

Written for the PACIFIC RURAL PRESS  
By MR. THOMAS C. WALLACE.

No subject in connection with orange production has been more thoroughly subjected to the "guessing contest" than decay and keeping quality of fruit. Indeed, the guessing artists had a most attractive field in which to exercise their wits, and even reap tempting profit, until Mr. Powell's common sense investigations dispelled the illusions and spread cold facts broadcast. Previous to this it had been variously claimed that soil conditions, water, fertilizers, climatic influence or fungi pests held the key to the situation. It was pointed out by some learned gentlemen who claimed to have isolated spores with jaw-twisting prefixes, that the remedy was to be found at the drug store. The fertilizer trade furnished wise men who had so cleverly arranged food for the plant that the fruit tree nourished by it would produce fruit resistant to decay. There were those who vigorously denounced the use of organic materials, such as stable manures and animal matter fertilizers. Water, the chief influence of growth, even had its knockers, who pretended to see the baneful effects of its free use in the decay of fruit in transportation. Some would-be ornithologists thought they had detected the trouble as caused by eggs laid or spores carried by winged insects and birds, and there were even those who rung the season's changes in the guess. But now that is all past and no longer interesting, except to point the moral of the practical lesson and perhaps adorn the tale.

All fruits have a covering, a skin or shell. This covering not only encases the flesh, juice or meat, but as well it protects from spores and even insects. The influences of cold or heat are modified by the covering of the fruit, and the dews and rain are shed by it. As the fruit approaches ripening the pores of the skin of most fruits becomes sealed so as to be more resistant to external influences, and this preserves the fruit from attack by the myriads of spores afloat in the atmospheric air, and the innumerable tribes of insect life which fly and crawl. So long as the skin of the healthy fruit remains unharmed, decay of the fruit is practically impossible. As soon as the skin is injured the spores of decay find a welcome lodgment, and a new life gets busy to propagate upon and devour the fallen prey. They come like the hyena, the vulture, and the worm, to revel in the ghastly feast which dead or dying matter spreads before them. Mr. Powell's training no doubt guided him to this theory, and upon it he established investigations to study the skin of the fruit in the packing-house and in the package in transit. The orange is the most practically immune from decay of all the soft fruits, and with proper methods of handling presents the safest marketing product on the list of fresh fruits. The result does not need further recounting, as it is well known among citrus growers that the causes of decay have been practically established as due to careless fruit handling, and the details of the care required are the real points of interest to them.

**Orchard Details.**—The first precaution to observe is in the pruning of the trees, to keep them clear of dead branches, which scar the fruit, and

to encourage dense foliage in the sides of the tree to defend the fruit from the lashing effects of high winds. The thinning of the sides of the tree should be avoided. The tree needs air, but it can be got by inside pruning. Picking the fruit from the trees requires much greater care than has usually been bestowed upon it, as the object is to avoid everything which can either bruise or chip the skin. It is better to double the expense, employing only careful pickers, than to have the picking done cheaply and carelessly. About the worst plan is to employ pickers by the box, as they naturally will pick as rapidly as possible, to earn big wages, and in doing so the fruit will suffer. Ladders should be provided to enable the pickers to comfortably reach all the fruit. The very force required to drag the fruit forward in long reaching is a detriment, and should be avoided as much as possible. As it is not always possible to see the stem of each orange when cutting it from the tree, the rule should be to cut long stems in such cases and then reclip the fruit in hand before putting it in the sack. There are several good clippers on the market, the object of all of them being to clip the stem so short that it does not protrude, while at the same time avoiding any marring of the skin of the fruit. The object of cutting the stem short is to avoid the possibility of puncturing other fruit when closely packed in the shipping box. The stem is left in the fruit to furnish proof that the oranges have been cut from the tree, and are not windfalls or dropped fruit. The sacks used by the pickers should be of the small size, as with the large sacks it is impossible to prevent more or less crushing, and, as well, the contents of the large sacks cannot be so gently emptied into the field boxes. The sack opens at the bottom for emptying, being turned up while being filled. The sack should be put down to the bottom of the box to empty, and after letting down the bottom flap to open the sack, should be carefully withdrawn, not faster than the oranges can gently flow out into the box. The boxes should not be filled so full that when piled any fruit protrudes above the rim to be bruised or crushed by the bottom boards of the boxes that may be piled on top, in stacking. To get pickers to handle fruit carefully, day wages must be paid and a careful watch kept upon them, and a cost of five cents or more per box will repay such care. In one association a test inspection of fruit showed as much as 40% of some growers' fruit injured, while one grower had 97% perfect. This meant the difference between icing and shipping without ice, a saving which any grower will readily appreciate.

**Points of Advantage.**—To sum up, the main points of orange picking are: Proper ladders, nippers that will not scrape or cut the skin, half-box picking sacks, close nipping of stems, handling the fruit "like eggs." The next consideration is taking the fruit from the orchard to the packing house. The boxes should be carefully handled onto the wagon, and the teamster should not be required to do this alone. The wagon should be provided with springs, as the jolting on plain bolsters has been shown to promote damage, the oranges not being packed in the picking boxes, but just laid in loosely. This sounds almost extreme, but so convinced are some of our best associations on this point that they are purchasing wagons with springs to loan to growers who are not so provided and may not be in a position to obtain them readily. They consider that the saving in this respect is quite worth the outlay in co-operative marketing.

**The Results.**—If such care in picking as outlined is observed, and a corresponding vigilance is exercised in handling the fruit in the packing house, the oranges can be carried over the mountains to the Eastern market, and even to Europe, without the use of ice to such an extent as to save thousands of dollars to the growers, and some associations have already thus saved over five thousand dollars per association for their patrons. California has shown the world how to grow and sell oranges, and with the picking operation reduced to a science the California orange is the safest fruit the Eastern dealer can obtain for his trade. Paraphrasing Nelson's famous message to his fleet in Trafalgar bay, "California expects every grower to do his duty," and thus show the orange industry as safe an investment as Mother Earth affords.



## Ready To Ship

10,000 Superlative Raspberry, 2 years old

10,000 Plum Farmer Raspberry, 1 year old

50,000 Crimson Winter Rhubarb, 1 year old

100,000 Strawberry Plants

5,000 Penderosa Lemons

Also Trees, Seeds, Bulbs, Etc., Etc., Etc.

WHOLESALE AND RETAIL.

Send for Catalogue—Ready.

**A. MITTING, Nurseryman**  
17 to 25 Kennan St., Santa Cruz, Cal.

## TREES

### Peach Trees

In connection with our large assortment of Nursery Stock, we have a surplus of extra choice, bright, thrifty, well-rooted stock in Muir, Lovell, Phillip and Tuscan Cling and Elberta Peaches, all grades, including 4 to 6, 3 to 4, 2 to 3 foot and 18 to 24, 12 to 18 and 6 to 12 inch stock.

Shipments made promptly.

**CAPITAL CITY NURSERY CO.,**  
Salem, Oregon.

### EUCALYPTUS EXPERT RETURNED.

Mr. R. S. Webb has just returned from Australia with an abundant supply of seeds of the various Eucalypts, together with practical information from the forests, the mills and the manufacturers of Australia. He is now in charge of the Eucalyptus nurseries of

**AGGELER & MUSSER SEED CO.,**  
113 N. Main St., Los Angeles, Cal.

### IMPROVED BERRY PLANTS

Strawberry, Raspberry, Blackberry, Dewberry, Logan, Phenomenal, Mammoth Black and Giant Himalaya berry plants. Crimson Winter Rhubarb. Send for Catalog.

**G. H. HOPKINS & SON**  
BURBANK, CAL.

## AGRICULTURAL REVIEW.

### HORTICULTURE.

The orange crop around Pomona will be larger than last year, and the quality extra choice.

The olive crop this season will be less than half that of last year in California. From \$70 to \$90 per ton is being paid to growers.

The California Fruit Growers' Exchange has appropriated \$15,000 to advertise oranges and lemons in the newspapers of the East.

The Napa Register reports remarkable peaches grown near that place. They are known as Texas Seedlings, and they ripen in December.

An 80-acre orange grove, with packing house and improvements, located on Magnolia avenue, at Riverside, was sold last week for \$280,000.

A large acreage of fruit trees will be set out in Kings county this season. There are already 593,000 bearing and nonebearing trees in that county.

Many small lots of apples held in storage by the farmers around Watsonville are now being bought up by brokers. The growers are receiving good prices.

A shipment of 1900 young peach and prune trees from an Oregon nursery was condemned at Chico last week, on account of being affected with peach root borers.

The orange crop in Kern county is now being gathered. It is estimated that there will be about an average crop, amounting to 10,300 boxes of oranges and 2500 boxes of lemons.

The berry growers of Sebastopol have decided to incorporate a company to cooperate in marketing next year. Logan, black and raspberry growers will be included in the company.

The annual meeting of the Cloverdale Citrus Fair Association was held recently and new officers elected. Committees were appointed to get everything in shape for the annual citrus fair to be held in February.

A meeting of the Walnut Growers' Association will be held early in January, in southern California, to discuss methods of disposing of the unsold portion of the crop, which amounts to nearly 200 cars.

A meeting of the Tulare County Citrus Fair Association was recently held at Porterville, and officers for the coming year chosen. It was decided to hold the next fair at iDnuba. The one just held at Exeter netted over \$1000.

Several Southern Pacific officials recently visited Luther Burbank's place at Santa Rosa, with a view to learning more about the spineless cactus. It is proposed by the railroad to plant thousands of acres of desert lands to cactus for stock food.

The National Apple Show, held at Spokane, Wash., from December 7 to 12, was a decided success, both as to exhibits and attendance. During the five days over 100,000 people paid admission to the show. Michael Horan of Wenatchee, Wash., captured the \$1000 prize for the best carload exhibit. The show is to be made an annual affair in the future.

Part of last and this week California was visited with an unusually cold wave. While it was much colder in the northern part of the State, yet the southern end perhaps suffered the greater loss. The citrus crop is reported to have escaped damage, but vegetables suffered severely. Tomatoes, peas and beans will be out of the market for some time in consequence.

The Riverside Press last week gave its annual estimate on the orange and lemon crop for the season 1908-09. From reports covering all sections in the South it estimates the orange crop at 25,000 cars, and lemons at 5050 cars. The crop of oranges in Los Angeles and Orange counties will be heavier, and in the counties of Riverside and San Bernardino, lighter than last season.

An all day meeting of the raisin pool selling committee and packers was held at Fresno last Saturday, and as a result it is announced that the proposition that the pool is to pay \$12.50 per ton for all loose raisins packed in 50-lb. boxes and 2c. per pound for all raisins seeded and put in cartons, will be accepted. No money is to be paid to packers till raisins are sold. A meeting of growers forming the pool is to be held soon.

It is now stated that citrus nursery stock may run short of the season's needs.

## MILL

TO

## MAN

Manufacturers

of

Fruit and Vine.

Orange

and Lemon.

Nursery Stock

and Alfalfa.

Fertilizers.



Importers of

Nitrate of Soda  
Sulphate Ammonia  
Sulphate Potash  
Muriate Potash  
Double Manure Salts  
Super Phosphates  
Thomas Phosphates  
Tankage  
Guano  
Bone Meal

**Hawaiian Fertilizer Company, Ltd.**

Works  
Honolulu and San Francisco

224 California Street  
San Francisco

## IT'S FREE

### BONE AND BLOOD FERTILIZER

'FERTILIZE FOR PROFIT.'

It's the results that count in farming and our Fertilizers produce POSITIVE RESULTS, that show in the QUALITY of the products as well as the QUANTITY. Orange and other fruit growers and farmers all over the Coast highly recommend our fertilizers as producing the grandest results in quantity, quality of products, and profits.

Write for Catalogue and Prices.

**CALIFORNIA FERTILIZER WORKS**

OFFICE: 444 Pine St., San Francisco, Cal.

FACTORIES: San Francisco and Oakland.

## ORCHARDISTS and FARMERS

who have used our goods once, will always come to us for their fertilizers. We are making a special study of plant life and are therefore in a position to manufacture fertilizers that exactly meet the requirements of each plant. Let us know what you intend to plant, and we will name your special compositions. Write for our new BOOKS—THE FARMER'S FRIEND, 1908.

**THE PACIFIC GUANO & FERTILIZER COMPANY**  
268E Market St., San Francisco, Cal.

### SOW GOOD SEEDS

Largest Seed House in the West

**LILLY'S  
BEST**



Established 1885

Send Now  
For Free  
Catalog

**SEEDS**

"I am sending you two views of my exhibit at the Lewiston-Clarkston Fair which took first prize. Hope you have read some of the nice things said about the display. We took first on Garden Truck. No doubt Mr. Newton, Secretary, has so notified you. I made a special of an acre exhibit. I can safely say that it takes a lot of my time since the fair showing the many that come how I have my acre planned. I had your card on my exhibit, showing that the seeds came from you. Yours truly, J. W. LIPE, Clarkston, Washington."

THE O.H.S. LILLY CO., SEATTLE, WASHINGTON.

## THE MARSHALL NURSERIES

FOR FRUIT TREES, GRAPEVINES,  
PALMS, ROSES.

FULL LINE OF EVERYTHING GROWN BY US.

**S. W. Marshall & Son, Nurserymen.**

BOX 652, FRESNO, CALIFORNIA.

## EUCALYPTUS

Growers of Commercial and Ornamental Eucalypti.  
EKSTEIN & EKSTEIN, Modesto Euc. Nursery, Modesto, Cal.  
EKSTEIN BROS., Vignolo Euc. Nursery, Anaheim, Cal.



# PEACHES

Best policy to plant when prices are down.

**MUIR  
SELLERS FREE**

Regular bearers; fruit dries heavy.

**TUSCAN CLING  
SELLERS GOLDEN CLING**

Bear heavily; always money makers.

**\$150 per Thousand.**

WRITE FOR FULL CATALOGUE:

**LEONARD COATES NURSERY CO., Inc.**  
Morganhill, Cal.

**GREGORY'S**

Those who plant our seed are sure of good crops, because all the seed we sell is thoroughly tested and warranted to be fresh, pure and reliable. Our packages of vegetable seeds are larger this year. Special cash discounts are offered in our NEW SEED BOOK—FREE to any one who writes for a copy. Every one interested in planting should have a copy.

**J. J. H. GREGORY & SON**  
Marblehead, Mass.

**SEEDS**

## BARTLETT PEARS

I have a large stock of Bartlett Pears that cannot be excelled for size and quality, grown on whole roots one year old. Prices reasonable. Those desiring in any quantity, address,

**R. P. EACHUS, LAKEPORT, CAL.**

**Ask for SNOW'S GRAFTING WAX**

IN USE ALL OVER THE STATE  
For sale by all the large grocers, or

**D. A. SNOW, Lincoln Avenue, San Jose, Cal.**

## Do You Want to Make Money?

If so, write us for prices on our Nursery stock. We have a fine stock of peaches in such varieties as

**MUIRS, LOVELLS, PHILLIPS, TUSCANS and ELBERTAS.**

These are the varieties for California and our trees have proven themselves superior to irrigated stock. We are making SPECIAL rates on the smaller grades, subject to withdrawal when stock becomes exhausted.

Get your trees from "The Old Reliable"

**ALBANY NURSERY COMPANY**  
Albany, Oregon, and they'll be right.

## KIRKMAN NURSERIES

WHOLESALE GROWERS OF

## Deciduous Fruit Trees and Grape Vines

RELIABLE STOCK AND LOWEST PRICES

Main Office, **FRESNO, CAL.** Box 604 B  
BRANCHES AT MERCED AND TURLOCK

## Grafted Walnut Trees

On Black, Soft-shell and Resistant Roots.

Seedlings, Citrus, Deciduous, Berry Bushes, etc.

**A. R. RIDEOUT, MAGNOLIA NURSERY, WHITTIER, CAL.**

## GREENBANK

Powdered Caustic Soda and Pure Potash.  
Best Tree Wash.  
**T. W. JACKSON & CO., Temporary Address,**  
42 Market St., San Francisco.

## OREGON PEACH TREES

**Muir  
Lovells  
Phillips  
Tuscan and  
Elbertas**

In First-Class Trees of following sizes:

2 to 3 feet.  
18 to 24 inches.  
12 to 18 inches.  
6 to 12 inches.

SPECIAL rates given when purchased in lots of 500 or more.

**OREGON NURSERY COMPANY**  
Salem, Oregon.

## CRIMSON WINTER RHUBARB

Now is good time to plant pedigreed plants only.  
\$1.50 per doz; \$6 per 100; \$40 per 1000.

All kinds of small fruit and berry plants,  
**J. B. WAGNER, Pasadena, Cal.**  
The Rhubarb and Berry Specialist. Dept. I.

## MAN, OH MAN!!

Why do you neglect your orchards when Warnocks Remedy cures blight and all the tree diseases. Send for booklet.

**GOLDEN RULE NURSERIES**  
Loomis, Cal.

AGENTS WANTED

### ETTERSBURG GOOSEBERRIES

Are Worthy of a Trial in Your Garden.  
New and distinct variety. Prolific and of highest quality. Skin very tender and seeds few, and half as much acid as other gooseberries. Cuttings root easily and are only 50 cents per dozen by mail, direct from the originator. Order before January 15. Stamps accepted.

**ALBERT F. ETTER, Briceland, California.**

### CHOICE WINTER PEARMAIN APPLES.

50 lb. box, 4 tier, \$1.00; 4 1/2 tier, 75c.  
F. O. B. Family orders solicited.

**W. H. HANNIBAL, R. D. 1, San Jose, Cal.**

R. M. Teague of San Dimas, the largest grower of citrus nursery stock, has already orders for nearly 100,000 trees. Mr. Teague told the writer that over 5000 acres will be planted in Tulare county, and in the Coachella and Imperial valleys large acreages will be set out. Other parts in southern California, besides Arizona, will increase the orange and lemon acreage this season.

### AGRICULTURE.

The Alameda Sugar Co. has about completed the work whereby 2000 acres near Pleasanton will be irrigated next summer if necessary.

Fifteen cars of hops were shipped from Holtville, Imperial valley, one day last week. The hops were sold for \$12,000 by the ranchers.

The Spreckels sugar factory has recently received two big steam plows from England and has put them to work in its beet fields near Soledad.

The crop reporting board of the Bureau of Statistics at Washington estimates the cotton crop for 1908-09 to be 12,920,000 bales of 500 pounds gross weight. Texas will raise more than double any other State, with an estimated production of 3,917,000 bales.

The final revised estimates of the crop reporting board of the Department of Agriculture give the corn crop of the United States in 1908 as 2,668,651,000 bushels, with a farm value of \$1,616,145,000, being an increase in value of nearly \$300,000,000 over the 1907 crop. The wheat crop is given at 664,602,000 bushels, farm value \$616,826,000, a gain over 1907 in value of \$62,389,000. The oat crop is valued at \$381,171,000, a gain of \$47,000,000 over 1907. The barley crop shows a loss of about \$10,000,000 in value. Potatoes show a decrease in production of nearly 20,000,000, but the farm value is \$14,000,000 larger than 1907. Hay shows a larger production by 7,000,000 tons, but loss in farm value of \$100,000,000, the price December 1, 1907, being \$11.68 per ton, as against \$8.98 in 1908.

### MISCELLANEOUS.

An unusually heavy demand for wine is reported from the East. Last week the West winery of Lodi sent six carloads to New York.

The Secretary of the Interior has withdrawn from entry all public lands in Wyoming, Idaho and Utah believed to contain phosphate rock, pending action of Congress.

The well known Farmer & Peterson ranch near Forestville, Sonoma county, was sold last week for \$100,000. The ranch is largely planted to grapes and hops.

A company has been organized at El Centro, Imperial valley, to build cotton gins and compressors and to furnish seed to farmers near there. A carload of seed will soon be distributed to the ranchers.

The U. S. Consolidated Seeded Raisin Co. has been given judgment for \$67,462.49, against the Selma Fruit Co., by Master in Chancery Lynn Helm. The case is an old one. Suit was brought for infringement on the Petit seeding plant.

**FERRY'S**

There is scarcely any limit to the possible improvement in seeds, but it takes time and money. We have been improving flower and vegetable seeds for over 50 years. More than 2000 people are working to make Ferry's Seeds suit you. Buy the best—Ferry's. For sale everywhere.

**FERRY'S 1909 SEED ANNUAL  
FREE ON REQUEST.**  
**D. M. FERRY & CO., Detroit, Mich.**

**SEEDS**

For **DUST SPRAY** Use

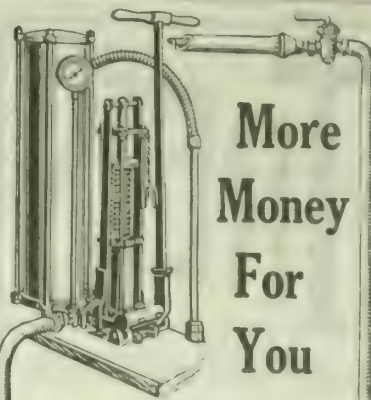
**VIGORITE BRAND  
HYDRATED LIME**

MANUFACTURED BY

**THE HOLMES LIME CO., Inc.**

Mutual Savings Bank Building  
San Francisco

Write for Samples and Prices.



**More  
Money  
For  
You**

Greater productiveness of trees—larger, cleaner, and finer fruit—more money. Isn't that fruit growers' reasoning? Nothing will contribute to this end more than effective spraying. And Effective Spraying can best be attained with

## Bean Magic Spray Pumps

Effective spraying means High Pressure Spraying and till the advent of the Bean Magics a high pressure could not be maintained with a hand pump for any length of time, on account of the body-racking effort needed to operate it. The Bean patent spring divides the work between the two strokes of the handle and works against only one-half the pressure shown on the gauge and saves exactly one-third the labor.

Our illustrated catalog No. 21 describes ten sizes of hand pumps, and contains much valuable spray information, and formulas. Catalog No. 22 describes Power Sprayers. Both books sent free. Write for our special offer; state number of acres and kind of fruit.

**BEAN SPRAY PUMP CO.**  
211 West Julian Street  
San Jose, Cal.

### DIVIDEND NOTICE.

## The German Savings and Loan Society

(Member of Associated Savings Banks of San Francisco.)

**526 CALIFORNIA STREET**

Mission Branch, 2512 Mission St., nr. 22nd

For the half year ending December 31, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Saturday, January 2, 1909. Dividends not called for are added to and bear the same rate of interest as the principal from January 1, 1909.

**GEORGE TOURNEY, Secretary.**

### DIVIDEND NOTICE.

## San Francisco Savings Union

(Member of Associated Savings Banks of San Francisco.)

N. W. Cor. California & Montgomery Sts.  
For the half year ending December 31, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Saturday, January 2, 1909. Dividends not called for are added to and bear the same rate of interest as the principal from January 1, 1909.

Depositors are entitled to draw their dividends at any time during the succeeding half year. A dividend not drawn will be added to the deposit account, become a part thereof and earn dividend from January 1st.

**LOVELL WHITE, Cashier.**

### DIVIDEND NOTICE.

**THE SAVINGS AND LOAN SOCIETY.**  
(Member of Associated Savings Banks of San Francisco.)

101 Montgomery St., corner Sutter St.  
For the half year ending December 31, 1908, a dividend has been declared at the rate of four (4) per cent per annum on all deposits, free of taxes, payable on and after Saturday, January 2, 1909. Dividends not called for are added to and bear the same rate of interest as the principal from January 1, 1909. Money deposited before January 1, 1909, will draw interest from January 1, 1909.

**WM. A. BOSTON, Cashier.**



# TREES

SEASON 1908-9.  
ORDER NOW FOR FUTURE  
DELIVERY.

If your trees are purchased from the Fancher Creek Nurseries they will be true to name, well developed, with good roots.

FOR 25 YEARS we have been engaged in growing reliable nursery stock. Our thorough knowledge of every branch of the business makes it possible for us to raise and deliver stock that meets the demands of this country, and gives satisfaction to growers.

Last season we did the largest business in our history. This year our stock of DECIDUOUS, CITRUS and ORNAMENTAL TREES, GRAPE VINES and ROSE BUSHES is more complete and better than ever.

We are sole propagators and disseminators of LUTHER BURBANK'S NEW CREATIONS. Valuable Burbank booklet, illustrated in colors, mailed for 25c.

SALESMEN WANTED.

PAID-UP CAPITAL \$ 200,000.00

## FANCHER CREEK NURSERIES

Geo. C. Roeding Pres. & Mgr.  
Box 18 Fresno, California, U.S.A.

## GOLDEN RULE NURSERIES

MRS. L. L. CROCKER, Proprietress  
Loomis, Cal.

The celebrated Crocker Bartlett Pear, guaranteed immune from blight.

Golden Rule Summer Apple, dormant buds.

Crocker's New Free Peach, 50 cents each; 5,000 left.

Deciduous Trees and Grape Vines.

## Winegrowers, Take Notice

I am now receiving orders for

### GRAFTED VINES

imported from France. Guaranteed to be first choice, and free from suckers.

Orders should be sent before the first of November to insure the arrival in time for planting.

G. de LATOUR,  
Rutherford, Cal.

## TREES STANISLAUS NURSERY

Formerly Anny Nursery, of Sebastopol.  
T. J. TRUE, Modesto, R. D. 1  
PRICE LIST ON APPLICATION.

PACIFIC SEED CO., Grower and Importer of all kinds of seeds, herbs, onion sets, grass, clover, alfalfa seeds. 609 J. St., Sacramento, Cal. Send for catalogue.

## Patrons of Husbandry.

### NOTES FROM THE NATIONAL GRANGE.

To the Editor: An interesting session of the National Grange in Washington was the one in which the Commission on Rural Conditions, appointed by the President, was received by the Grange, and an informal discussion was had of the needs of country life and the best manner of meeting them.

Dr. Bailey, head of the commission, spoke briefly. He said that 160,000 letters had been sent out, and 70,000 answers received. Suggestions from the members of the Grange that would aid the commission in its work would be welcomed.

Judging from the speaking, there was a general agreement that sanitation should be better understood, and that there was necessity of so teaching it that farmers should carry out its principles in their homes.

Good agricultural schools were urged as a necessity. Mr. Kegley of Washington remarked that the Nez Perce Indians received a better agricultural education than the average farmer's son. The need, also, for the teaching of housework by the best methods was insisted upon.

The district schools were classed in a general way as being wasteful of time and inefficient, as compared with the centralized or consolidated schools, in which several districts uniting could have good buildings, adapted to the use of a graded school, and could afford to engage teachers of superior ability and experience. Mr. Derthick of Ohio and Mr. Wilson of Illinois both spoke in favor of the consolidated schools for the country. Mr. Wilson testified from personal knowledge of the great benefits derived from such a consolidation of schools in his own county. The John Swaney school is becoming deservedly famous as an illustration of what can be done by American farmers of high intelligence who determine to have the best in education, in the country though it be. The story of this school which has been written up in many Illinois papers, as an incentive to other districts to do likewise, was given with a very just appreciation in the September number of The World's Work, and is well worth reading by every farmer in any State who is interested in the best and most practical education for his boys and girls. The country districts in California ought to try this method. It would in the end be much cheaper for the parents, and, what is of more consequence, far better for the children. The conditions of distance and bad weather are met by running bus wagons which convey the children to and from school.

Secretary Freeman spoke on broadening education, and said that no one should be permitted to teach a country school who had not taken an agricultural course. The knowledge helps to put the teacher in sympathy with the conditions of the life of the pupils.

National Master Bachelder said that one of the principal needs of country life was social and educational advantages. The first of these the Grange was endeavoring to supply, and was promoting the second by every means within its power. Mr. Wallace of the commission recommended the Grange to push its organization in the West. He said that he found better conditions in the farming community wherever he found a Grange.

CO-OPERATION.—The Rochdale system in England was referred to as an example of successful co-operation. It has been very successful in various parts of this country when it has been properly and efficiently managed.

REVISION OF THE TARIFF.—The most important subject taken up after the meeting with the commission was the revision of the tariff, the report upon which was presented by Aaron Jones of Indiana. That the incoming administration is pledged to a revision of the tariff was referred to, and the various resolutions made clear, and the wishes of the Grange upon certain points. The third resolution declares that the products of the forest, as well as coal and iron ore, should be placed on the free list. Another resolution declares that in cases in which the present tariff enables manufacturers to sell to foreign countries cheaper than in the United States, such revision is necessary as will make this impossible. It is recommended that a non-partisan tariff commission be appointed by Congress to examine all phases of the subject and se-

# TREES TRUE TO NAME

—AND—

Propagated from the Best  
Specimens of Their Kind

TWO IMPORTANT FACTORS

## PLACER NURSERIES

(ESTABLISHED 1878)

Our assortment comprises all the best commercial varieties of

Peaches  
Plums  
Pears

Apricots  
Almonds  
Cherries

Apples  
Persimmons  
Grapes, Etc.

and our stock is the best that years of experience, care in selection and care in growing can produce. That is what you want.

ORDER NOW

WRITE US

Catalogue and price list mailed on application.

## THE SILVA-BERGTHOLDT CO.

NEWCASTLE, CALIFORNIA.

Agents Wanted.

## SEED

TREES

PLANTS

BULBS

If you are interested in the best seed, etc., etc., write for our 1909 Seed and Plant Annual, which will be mailed to you Free.

## Trumbull Seed Company

(SUCCESSOR TO TRUMBULL & BEEBE)

61 California St., - - - San Francisco.

Please mention this paper.

## 1/2 Million Eucalyptus Trees (in Variety.)

Transplanted in flats of 100 each. We prefer orders of 1,000 rather than 10,000; outside limit 20,000. Our trees are of the highest standard in quality. Correspondence invited. Our Booklet telling when, how, and what to plant free to our patrons only. Address

W. A. T. STRATTON, Nurseryman, Petaluma, Cal.

## SMYRNA PARK NURSERIES

Trees, Vines, Plants all kinds and varieties.

Let us know quantity wanted and we will give you special prices on same.

CAMPIN & MOFFET - - - Ceres, Cal.

## EUCALYPTUS

Large Assortment—All Varieties  
Hardy and Selected Rapid Growers  
Write for prices, giving amount wanted  
LLOYD R. TAYLOR, Modesto, Cal.



## YELLOW MONEY — AND — YELLOW FRUIT

Are a pair that travel together in good shape in an orange or lemon grove; especially is this true if you will plant only robust and true-to-name

## CITRUS TREES

Grown by the San Dimas Nurseries, the largest growers of choice orange and lemon nursery stock in the world. No branch of horticulture offers better inducements in the way of profits, nor is there one more alluring to the person contemplating commercial fruit culture. For the past twenty years we have supplied the leading growers with their trees, and hope to number many more among our friends and patrons.

Orders now being booked, subject to future delivery. Send for book on "The Citrus Fruits: Historically, Horticulturally, Commercially." Beautifully illustrated, and some 20,000 words of text. Price 25 cents.

## THE SAN DIMAS CITRUS NURSERIES

R. M. TEAGUE, Proprietor  
SAN DIMAS, - - - CALIFORNIA

## PEACH TREES AND GRAPE VINES

We can supply any kind of Peach trees and Grape Vines. Write us what variety and quantity you want and we will quote prices on same.

**FOWLER NURSERY CO.,**  
Fowler, Cal.

The Seed House of the Great Southwest  
1909 SEED CATALOGUE.

We are now mailing 45,000 copies of the most complete Manual of Garden, Field, Flower and Tree Seeds, Nursery Stock, Eucalyptus, Incubators and Poultry Supplies ever published on this Coast. If you do not receive yours by the 20th of December, write for it and get your name on the list.

**AGGELER & MUSSER SEED CO.**  
Successors to

Johnson & Musser Seed Co.,  
113-115 N. Main Street, - - - LOS ANGELES.

**SEED GRAIN** BLACK and  
WHEAT, BARLEY, BEAN SCREENINGS, etc.  
constantly on hand and for sale at lowest market rates.  
**BRAY BROTHERS,** 220 Clay St.,  
Buyers of Grain and Beans. San Francisco, Cal.  
Established in 1855. Members Merchants Exchange.  
Correspondence invited.

cure exact information on disputed points.

**TAXATION.**—From the committee on taxation resolutions were reported regarding the continued pushing of the demand for the equitable taxation of property, whether tangible or intangible, to the end that all property may bear its just share of the public's burdens; moreover, that farmers should have fair representation on all tax and equalization boards. Mr. Wilson presented the following resolution, which was adopted:

Whereas, the product known as jute and jute fibre enters very largely into the manufacture of grain bags and other receptacles for farm products, likewise sisal and manila fiber, which is used so largely in the harvesting of grain, baling and bagging other products of the farm, therefore be it resolved by the National Grange that we favor placing the above named products on the free list.

**GOVERNMENT REGULATION OF RAILROADS.**—Mr. Atkeson reported for the committee on transportation. The Grange evidently favors Government regulation of railroads, and a limitation on capitalization, and demands that the powers and duties of the Interstate Commerce Commission be enlarged; also repeats the demand for the improvement of internal waterways.

A delegation from the Association of Agricultural Colleges and Experiment Stations was received in the morning of the last day's session, and a pleasant hour of interchange of information and opinions was had.

**POSTAL PROGRESS.**—Postal improvement resolutions were adopted in favor of both local and general parcels post and of postal savings banks should be furnished that a list of all U. S. Senators and Representatives opposed to parcels post and postal savings banks should be furnished to the Grange, and that this list should be read at suitable intervals to the subordinate Granges by the secretary. It was made the duty of the national secretary to compile such a list and to furnish revised copies to the secretaries of the Granges whenever changes should make such revision necessary. It was also resolved that all Grange publications and also other papers be furnished copies of this list and requested to publish it.

The President's plan of forest reservations was strongly endorsed. It was resolved that the Grange respectfully asks and demands for the representatives of agriculture a fair share of appointments and influence in the administration of the affairs of the National and State governments, especially in matters pertaining to agriculture and rural affairs.

The session of the National Grange which has just closed has been one of close labor for the delegates and much practical work toward the development of Grange ideas. The members have been the guests of the Maryland Grange, to whom the cordial thanks of the association were voted for many courtesies and attentions that made their stay at the national capital a very pleasant one.

GRACE S. HURWOOD.

Geyserville.

Now is the Time for Ordering Trees.

We have a large lot of **EUCALYPTUS, CYPRESS, PINE TREES**, transplanted in flats; also a large variety of **ORNAMENTAL TREES AND SHRUBBERY, EVER-GREEN AND DECIDUOUS**, most suitable for planting along streets and sidewalks and for beautifying parks and gardens. Also **PALMS, DRACENA, ROSES, ERICAS, CAMELLIAS, AZALEAS, RHODODENDRON, FRUIT TREES** and **BERRY BUSHES**.

**THE PACIFIC NURSERIES,**  
3041 Baker Street, - - San Francisco,  
And Millbrae, Cal.  
Send for Catalog. Mention Pacific Rural Press.

## EUCALYPTUS GROWN IN SUNSHINE

with roots balled while growing in flats. Saves all roots; make sure success when removed to the field and good growth the first season. Sample lots at wholesale rates. Can take from flats and send in tight packages to save cost, risk and time.

**HENRY SHAW,**  
320 River St., - - - Santa Cruz, Cal.

**MODESTO NURSERY.**  
Complete Line of Citrus and Deciduous **TREES,**

**BERRIES, VINES AND ORNAMENTAL STOCK.**

Write for PRICES NOW.

**SHERLOCK & CARDWELL,** Modesto, Cal.  
Box 272.



"THE MAN WITH THE HOE"  
SHOULD SOW

## MORSE SEEDS

ALWAYS RELIABLE

Our new general Catalogue is now ready for mailing and will be found of great value to the planters of

## SEEDS, PLANTS AND TREES

This Catalogue is the finest we have ever issued and will be mailed free to all who write us.

**C. C. MORSE & CO.**

IF IN THE CITY CALL AT  
Retail Store:  
125-127 MARKET ST.  
(Opposite Junction with California.)

WHEN WRITING ADDRESS US AT  
44 Jackson Street  
SAN FRANCISCO

## EUCALYPTUS TREES AND GENERAL NURSERY STOCK.

Large supply of Peach trees, Ornamental trees, Ornamental plants, and Rose bushes, in large quantities.

WRITE US FOR PRICE LIST AND DESCRIPTIVE CATALOGUE.

**ORANGE COUNTY NURSERY & LAND CO.**  
FULLERTON, CAL.

Riverside, Cal.

Corcoran, Cal.

## TREES

## GRAPE VINES

YOUR ORDER PLEASE.

Write us if in the market for

APPLES, PEARS, PEACHES, APRICOTS, PLUMS, PRUNES, ALMONDS, FIGS, WINE, RAISIN AND TABLE GRAPES.

We grow our stock on New Virgin soil insuring a healthy growth. Our prices always right. Send for Descriptive Catalogue, also Souvenir Picture of the Largest Tree in the World. All Free. Address:

**THE FRESNO NURSERY**  
F. H. Wilson, Proprietor, - - - Fresno, Cal., Box 615.

## GRAPE VINES, BERRIES AND ROSES

Ornamental, Shade and Deciduous Fruit Trees.

A Good Class of General Nursery Stock.

SEND FOR CATALOGUE

**CHICO NURSERY COMPANY,** Chico, California.

## Bench Grafts

ZINFANDEL on ST. GEORGE

APPLY TO -

**J. S. MOULTON,**  
Ripon, - - - California

## FOR SALE.

Logan, Mammoth, Phenomenal, and Himalaya berry plants. Send for prices to

**R. J. HUNTER**

Oak View Berry Farm  
GRIDLEY, CAL.

## EUCALYPTUS TREES

Large Assortment. All Varieties.

**MONTEREY CYPRESS.**

Transplanted in flats 100 each.

Write for prices, giving amount wanted.

**W. A. REINHOLDT**  
Main Street Nursery, - - - Petaluma, Cal.

## Onion Sets 12½c. a Pound

Special Prices on Larger Quantity.

Headquarters for all kinds of seeds - catalogue upon request - FREE.

**NAVLET BROS.,** 520 K Street, Sacramento, Cal.

## FRUIT TREES—TREES OF ALL KINDS

We make a Specialty of Muir Peaches, Bartlett Pears, French Prunes, and the Commercial Smyrna Figs.

Send in list of your wants and get our prices before writing elsewhere.

**MAYWOOD COLONY NURSERY COMPANY**  
W. Herbert Samson, Prop., Corning, Cal.

## The Ruehl-Wheeler Nursery

Fruit, Ornamental and Citrus Trees.

Strong Field-Grown Roses.

PHONE  
BLUE 1396

BOX #26  
SAN JOSE



## Live Stock and Dairy.

### ATTENTION TO DETAILS IN MILK PRODUCTION.

Written for the PACIFIC RURAL PRESS  
By Mr. LESLIE W. SYMMES.

Touch our pocketbooks and we will generally look for the cause, in order that our returns from a certain product may not be unnecessarily lessened. A dairyman is in the business for the profits he can make. So the up-to-date milk producer should be quick to look for the cause of any falling off in the quality of his product. Too often we blame the creameryman and fail to see our own carelessness. We must look to the source and satisfy ourselves that the article is handled properly on the ranch.

An example of the proper attitude for the milk producer to assume recently came under my observation. A large producer received a complaint from his creamery because of the odor in a certain shipment of cream. The loss of two cents per pound was not to be overlooked, hence the immediate inquiry into the cause of the trouble. Carelessness in washing the milk utensils was rightly blamed for the loss.

What a simple thing. And yet how often is just that detail in the handling of milk the stumbling block and the cause of our troubles.

We have had this point discussed and written about hundreds of times, and yet today we see dairymen who are anxious to make a success, neglecting these easily corrected details.

In any business it is the attention given to the apparently small details that spells success or failure. In the dairy business cleanliness is the foundation of success. The consumer has been gradually educated to demand a clean, wholesome product, and the producer is the man most vitally affected.

We have laws designed not only to protect the consumer but to assist the dairyman to produce a clean, pure product. Some of us are open to suggestion from these sources, but the aid and power of the law is necessary to force others to conduct their business in a sanitary manner.

The product of the creamery is dependent upon the quality of the milk or cream they receive. Their interest in the matter should be more evident, as they are in a position to assist the producer in the improvement of his product. The creameries generally will pay a better price for a clean, wholesome product. Why, then, is it not to the interest of the producer to handle his milk as it should be handled?

The objection generally made is that the small dairyman cannot afford to conduct his dairy in the accepted sanitary manner. The same objection is applicable to small manufacturers and merchants—the smaller the business the more expensive, relatively, is its operation. In this instance it is less appropriate than in most cases. There is no reason why a small dairy cannot be conducted in a cleanly way as well as a large one. It requires some expense to equip and maintain any kind of a dairy, and to properly equip and maintain one requires very little extra expense. The necessary improvements need not be out of reach of farmers with large or small herds, if they are determined to do the right thing and give it the necessary attention. It is not equipment that is so essential, but the proper handling and care of the product and utensils. It is only a question of time when the carelessly conducted dairies will have to improve in order to compete with the well conducted ones, or else go out of business.

The causes of impure milk are easily traced, and can be generally charged to diseased animals and persons, uncleanness in the stable, or uncleanness outside of the stable. It may be due to one or all of these conditions, but most often due to some particular carelessness in the handling of the milk.

#### Short-Horn Sale in San Francisco.

As you stated in last week's issue, a new and important departure in the sale of pure-bred cattle has been announced for January 5 in San Francisco. At that time the Special Combination Sale of Short-horns, from the herds of Mrs. J. H. Glide, of Sacramento, and the Howard Cattle Co., of San Francisco, will be held. The catalogue of the animals to be offered for sale has been received, and includes some exceptionally fine specimens of this popular breed. The sires of the bulls of-



# KENDALL'S SPAVIN CURE

## In Use Everywhere

Kendall's Spavin Cure has been the approved stable remedy for nearly forty years. Thousands of horsemen never have any other doctor. Veterinarians use it in their practice. All find it the most efficient remedy for the ailments and injuries that are most likely to occur—

Spavin, Ringbone, Curb, Splint, Swellings, Sprains, Cuts, Wounds, all Lameness

## World's Greatest Horse Remedy

It Leaves No Scar or Blemish

Nanuet, N. Y., January 16, 1908.  
Dr. B. J. Kendall Co., Enosburg, Vt.  
Gentlemen: I have in my charge all the stock of the Starrett's Shows and find your book, "A Treatise on the Horse and his Diseases," a very valuable book to horsemen. I have tried Kendall's Spavin Cure and Blister and can give you my word of honor that they have answered good for every purpose for which they have been used.  
Yours respectfully, JOSEPH BAUM.

Saville, Pa., Feb. 5, 1908.  
Dr. B. J. Kendall Co., Enosburg, Vt.  
Gentlemen:—I have been using Kendall's Spavin Cure for some time with very satisfactory results. Have cured some very bad cases of Spavin, Ringbone and Shoulder Lameness. Please send me one of your books, "A Treatise on the Horse and his Diseases."  
Very truly yours, H. D. BARKEY.

### All Druggists Sell Kendall's Spavin Cure

It is also an unexcelled liniment for family use. The safest emergency remedy for man and beast. Get it and have it ready. Ask your druggist. See that you get the genuine Kendall's. Look for the trade mark. Ask also for free copy of "A Treatise on the Horse and his Diseases," or write direct to

DR. B. J. KENDALL COMPANY, ENOSBURG FALLS, VERMONT.

## California Short-Horn Sale!

Get of the noted sires, Imported King Edward and Imported Straight Archer  
from the herds of

**40**  
**BULLS**

**MRS. J. H. GLIDE and HOWARD CATTLE COMPANY**

**20**

**HEIFERS**

Sale to be held at Chase's Pavilion, 478 Valencia Street,  
San Francisco, Cal.

Write for Catalogue,  
MRS. J. H. GLIDE,  
SACRAMENTO, CAL.

—ON—  
**JANUARY 5th, 1909**

Write for Catalogue,  
HOWARD CATTLE COMPANY,  
641 Mission St., SAN FRANCISCO.

ferred are known to all Short-horn fanciers who have watched the improvement of this breed in California. Surely the get of such bulls as Imported King Edward, Ruddington Star, Topsman, Straight Archer, and Oxford Grand Duke 10th, should be of great value in the improvement of the smaller herds. About twenty pure-bred cows and heifers, bred to the herd bulls of these two herds, some with calf at foot, are offered at the same time.

The convenience of the purchasers was the motive that prompted these breeders to hold their sale in this city. Here the visitors and prospective buyers can get good and reasonable accommodations, and the shipment of purchased stock is easily accomplished. Interested parties and possible buyers are often deterred from attending sales held on the ranches and in interior towns because of the lack of hotel accommodations and the poor train service, which wastes so much of their time. On the other hand, the stockmen and farmers can make an easy and quick trip to the city and attend to other business besides adding valuable animals to their herds. Visiting the large agricultural implement and dairy supply houses located in the city is a good educational investment in itself, and should be more often indulged in. We hope the results of this sale will lead to its establishment as an annual affair.

L. W. S.

#### "Boarders" Again.

A recent publication of the Iowa State College gives some facts that are worthy of the serious consideration of every dairyman. They are just as true of condition on this Coast as in Iowa. The average annual yield of butter-fat of 1,555,300 milk cows in the State of Iowa

is less than 150 lb. each. According to the investigations, the low yield is due to a few inferior cows in each herd. Approximately one-third of all the cows tested were profitable "machines" for the production of butter-fat. That the scales and the Babcock test are the only safe, sure, and practical method of detecting these unprofitable cows is again proved by these investigations. The cost of an apparatus for testing, and the time required to do the work, are time and money well spent. It is expensive not to make individual tests. A test of the mixed product just before delivery may show whether or not the product complies with the law,

### FOR SALE The Imported Belgian Stallion Desire de Saint Gerard

#### Pedigree:

Desire de St. Gerard	(32008)	Bourgeois 7902	Brin d'Or 7902
		Fauvette de St. Gerard 14489	Marie de Goych 5831

This fine Belgian Stallion was bred by Mr. Martin Firtiaux of Graux St. Gerard, France, foaled February 12, 1902, and was imported by Dunham & Fletcher of Wayne, Illinois, July 10, 1905. He is a magnificent animal, deep bay in color, with star in forehead. His weight is 2200 pounds.

For authenticated records, price, terms, etc., write to or call on

**M. M. AVELLAR, San Leandro, Cal.**

### TULARE LAKE STOCK FARM. REGISTERED Jacks and Jennets For Sale.

We breed the Best. Don't write—come and see. We can show you.

**JAS. W. MCCORD,  
Hanford, Cal.**

## Pure Bred Holsteins

At present we are offering a fine lot of **Young Bulls and Heifers** at very attractive prices. All of this stock have large **Advanced Registry Records** in their pedigrees and are from the famous **Riverside Premier Herd** of the Pierce Land and Stock Co. now owned by the **OAKWOOD STOCK FARM** LATHROP, CAL.

### Cutter's Anthrax and Blackleg Vaccines

are given the preference by 80 per cent of California stockmen because they give better results than others do.

Write for Prices, Testimonials and our New Booklet on Anthrax and Blackleg

#### THE CUTTER LABORATORY

Temporary Address

Grayson and Sixth Streets, BERKELEY, CAL.

West of San Pablo Ave.

### GLIDE BROTHERS

Successors to J. H. GLIDE & SONS

**Famous Blacow, Roberts, Glide French Merino Sheep.**

Glide Grades seven-eighths French and one-eighth Spanish Merino. Thoroughbred Shropshire Rams

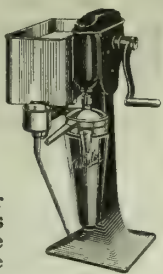
**RAMS FOR SALE AT ALL TIMES**

P. O. Box 297 Sacramento, Cal. Home Telephone Dixon, Cal.



## Has It Ever Occurred to You

that Tubular cream separators are saving the farmers of the United States millions of dollars annually?



That sounds pretty strong, but when you consider the hundreds of thousands that are in use and then remember that those separators *save their cost every year* the statement is not extravagant.

Are you among the farmers who are letting the cream separator build your bank account?

If not investigate at once the

## Tubular Separator

because it skims clean; and due to its simplicity it is easy to clean, oil and handle; furthermore being built of the best materials obtainable we guarantee it to last a lifetime.

Join the prosperous class and enlarge your bank account by buying a Tubular. Don't delay. Write at once for free catalogue 131. Do it now.

THE SHARPLES SEPARATOR CO.,

West Chester, Penna.

Toronto, Can. San Francisco, Calif. Chicago, Ill.

or it may answer as a check on the creamery. But it proves nothing to the dairyman of the profitability of the individual cows he is feeding in his herd.

L. W. S.

## AN OREGON COW-FEEDING PROGRAM.

At the last meeting of the Oregon Dairymen's Association, ex-President E. T. Judd gave a preachment on cow feeding, much of which is applicable in California, where there is rich moist or irrigated land available. This is his advice:

Sow, as early as you can in the fall, some vetch and rye mixed. Begin mowing and feeding this in April. It will last until there is an abundance of grass. But how about that dry time late in summer, before corn is large enough to feed? Let me urge you to try this:

Grow some kale plants this winter, so that you can set them out just as early in the spring as the ground and season will permit, the earlier the better; in March if you can. Cultivate as you would early cabbage, and by the first or middle of July you can begin feeding it to your cows.

By the time this little patch of kale is fed, your green corn will be ready, and when it is gone or frostbitten, have a lot of pumpkins, and when you are through with them you can begin feeding your winter kale, and your cows will not have dried nearly up, but will have kept up a great big flow of milk, and your creamery will have sent you some good big checks which will fatten your bank account and hasten the day when you can buy that other farm.

Don't forget the pumpkins. They are not only one of the very best of cow feeds, but are very valuable as pork producers, as is also kale. Feed your hogs all the pumpkins they can eat for a month or so, and you will be surprised how little grain it will take to finish fattening them. Try it.

Of course, it is understood that kale for winter use should be transplanted from the middle to the last of June, and do not forget that kale fairly loves rich and well fertilized soil. Upon the ground where kale is to be grown should be spread a lot of good fertilizing material from the barnyard. Put on as much as you think you ought to, and then as much again more.

A WORD ABOUT KALE SEED.—Unfortunately, it seems to be nearly impossible to buy seed which will produce a good, uniform crop of kale. In the same field, or patch, you will see several distinct varieties growing, and the probabilities are that more than half of the plants are pale green in color with narrow, spindling leaves, looking more like rutabaga tops than King Kale; but in every field of it

you will find some plants that are true types of this lordly monarch of feed.

You will recognize it by its great size and noble mein. Not only that, but the color is darker, almost blue.

Now this is the way to get seed that with proper care and soil will produce 50 tons to the acre. When you are cutting your kale and find some of these big blue fellows with great wide leaves, let them stand. When you have time, cut off all the leaves except the top two, and transplant them to some place where they can remain and go to seed, and plant seed from only such.

## HOGS AND ALFALFA.

We saw hogs in alfalfa half way up their sides last week in the Imperial Valley. We find in the Swine Breeder an exhortation to keep them there, in the Middle West, which is even better in California, so we give part of it:

The conditions of today offer material for more or less special sermonizing on the staid old business of hog-raising. The farmers of the Western country have been almost or quite of one mind in telling us that during the past thirty years it has been the hog that has proved the regular, easy and quick money-maker in their rather complex line of affairs. Right in the face of this easy-going but well deserved compliment to his hogship as the best end of our over-popular mixed-farming proposition, it might seem at first thought somewhat superfluous to be putting up a fight for still better things for the future of the hog business.

Not so; but to the contrary. The fact is, there have been some pretty hot shots all along the line the past three decades to put the farm hog on the splendid base where he stands today; and it will require some lively firing at the front from this date forward if our present vantage ground is to be maintained and the advance made that shall be in keeping with today's prospects.

But this is precisely what is to be expected. Every inch in advance to be recorded in a man's favor in the hog business has to be fought for. If it were otherwise, and honors came easy, there would be nothing to it.

Conditions today are out of line with the normal. We are bridging over some of the bad places in the roads that have come about us, as we are some of us inclined to think, through the operation of causes over which he have little or no control. Corn has been high in price, and it is staying right up to the record level. Other grain feeds are high accordingly. And yet the market receipts show that there has been a pretty long line of hogs kept back in the country through these trying periods. A little bunch of 46,000 showed up at Chicago the other morning, in response to a little spurt of a day or two before above the 7-cent mark. Aside from showing that there are still some hogs in the country, this incident reflects the fact that it requires something a little out of the ordinary to cause a farmer to cut loose from his hogs, even though feed is high. He takes the view that grass is plentiful, and that with the addition of a light grain ration he will be able to carry them along to a day of still better prices and, so far as the younger hogs are concerned, to a day when the new crop will be available. This is the level-headed thing to do under the circumstances.

But is there not a lesson behind all this manner of dodging from one makeshift to another in these trying times with the hog business? In other words, is it profitable to dodge in and out of the hog business with every little unusual spurt of wind that may happen to blow our way? Is it profitable or good business policy to allow oneself to be put in a position where he must be in the least bit swerved away from the regular course of this business

## Horse Owners! Use

GOMBAULT'S



## Caustic Balsam

A Safe, Speedy, and Positive Cure

The safest, Best BLISTER ever used. Takes the place of all liniments for mild or severe action. Removes all Bunches or Blenches from Horses and Cattle. SUPERSEDES ALL CAUTERY OR FIRING. Impossible to produce scar or blemish. Every bottle sold is warranted to give satisfaction. Price \$1.50 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars. THE LAWRENCE-WILLIAMS CO., Cleveland, O.

## "MAIL ORDER" AND "JOBGING" CREAM SEPARATORS

We have all heard a lot about the "CHEAPNESS" of the "MAIL ORDER" cream separator, but not so much about the "JOBGING" cream separator, and most of us have had a right of the fact that these naturally used words are between them THE SAME "CHEAP" CONSIDERATIONS NECESSARILY CONTROL IN EACH CASE.

The "MAIL ORDER" cream separator has not to be "MAIL cheap" because the "mail order" house has not to be "cheap" in order to sell "cheap" and it must be dependent upon to buy as cheap as it can.

The "JOBGING" cream separator, the one which the implement concern buys and sells to his dealer, has not to be "MADE" "cheap" because the implement concern has not to buy "cheap" in order to re-sell, and it may naturally be depended upon to buy as cheap as it can.

DE LAVAL cream separators are not sold to "MAIL ORDER" concerns because they cost more to MAKE than "mail order" cream separators cost to SELL. DE LAVAL cream separators are not sold to "JOBGING" houses because the jobbers cannot buy them "CHEAP" and because there is no room for any "jobbing" profit in them.

The BUYER-FOR-USE of a cream separator, like the buyer of anything else, GETS WHAT HE PAYS FOR. If he wants "CHEAPNESS" in first cost he stands to get a "MAIL ORDER" or a "JOBGING" separator. If he wants QUALITY and FULL VALUE for his money he is absolutely certain of getting it in a DE LAVAL cream separator.

You pay your money and you take your choice.

## DE LAVAL DAIRY SUPPLY CO.

108 So. LOS ANGELES ST.  
LOS ANGELES  
42 E. MADISON STREET  
CHICAGO  
74 CORTLANDT STREET  
NEW YORK

General Offices:

101 DRUMM STREET,  
SAN FRANCISCO.

107 FIRST STREET  
PORTLAND, OREG.  
1018 WESTERN AVE.  
SEATTLE  
Box 1052  
VANCOUVER, B. C.

because of the vacillating nature of the feeding question? The satisfactory answer to such problems may be found only in the more general use of good alfalfa and clover pastures, and particularly so to Nebraska and Kansas hog men through the storing away of the alfalfa crop for the winter and spring feeding.

This is the one feasible plant for putting Nebraska's hog growing business on a basis where it may stand against all dangers. If Nebraska happens to be favored in this respect by nature beyond other sections, it is our business to profit by it. There is no question that we are so favored, hence our oft-repeated plea for the development of Nebraska's alfalfa industry.

If Nebraska is favored on the alfalfa question, we must wonder what to say about California's alfalfa outlook.

## LIVE STOCK NOTES.

The annual convention of the Santa Barbara County Live Stock Association was held at Lompoc December 19.

The chicken show held at Pomona last week was considered a success. About 400 birds were shown, and the attendance was good.

A. H. McInnes shipped 24 carloads of sheep from Red Bluff from Mendota last week. They were purchased by a Stock ton man.

An auction sale of trotting horses was held recently at the S. B. Wright place, near Santa Rosa. Prices are reported very low.

At the recent bee institutes held at Fresno, Ralph Benton stated that the honey industry in California is valued at \$1,000,000 and is capitalized at \$2,100,000.

Cattle from San Luis Obispo county must be dipped on account of the Texas fever tick, before being shipped from the district. Last week a herd of cattle on its way to Los Angeles was held up and will be dipped.

President H. A. Jastro of Bakersfield and Secretary Tomlinson of Denver were in Los Angeles last week, arranging for the annual meeting of the American National Livestock Association, to be held there January 26 to 28.

The poultry show held at Fresno last week was a success. About 400 birds were on exhibition, and the quality of the exhibits was fully up to the average. The next year's show has already been announced for December 7-11.

## AGRICULTURAL INSTITUTE AT MONTEREY.

The following is the program for a special purpose Farmers' Institute for beekeepers of the coast counties, to be held at Monterey December 28-29, in the Chamber of Commerce of that city:

Monday, Afternoon Session, 1:30.—Call to order and opening remarks, Mr. Ralph Benton of the State University, Berkeley. Beekeeping in the Central Coast Counties, Mr. W. A. Pryal, Oakland. The Bee Disease Situation in California, Mr. Beon. Bee Disease in Monterey County, Mr. K. M. Henneken, Monterey. Economy in the Rendering of Wax, Mr. M. C. Richter of the State University, Berkeley.

Monday, Evening Session, 8:00.—Question box discussion, by Mr. Beon and others. Bee Pasturage and the Selection of Locations, Mr. Vernon Townsend, Soledad, California. The Producing of Extracted Honey, Mr. Richter. The Value of Bee Literature to the Bee Keeper, Mr. Pryal. What the University is Doing for Apiculture, Mr. Benton.

Tuesday, Morning Session, 9:00.—Varieties of Bees and Queen Rearing, Mr. Benton. Question box discussion, Mr. Townsend and others. An Effective State Organization, Mr. Benton.

## HORSES AND CATTLE.

JOHN LYNCH, breeder of registered short horns, milk strain. High class stock. First-class dairy breeding. Smooth cattle. Best pedigree. P. O. Box 321, Petaluma, Cal.

BULLS AND COWS FOR SALE.—Shorthorned Durhams. Address E. S. Driver, Antelope, Cal.

HOWARD CATTLE COMPANY.  
BREEDERS OF SHORTHORN CATTLE  
641 Mission St., San Francisco, Cal.

## SWINE.

GEO. C. ROEDING, Fresno, California. Breeder of Thoroughbred Berkshire Hogs and Bows.

P. H. MURPHY, Perkins, Sac. Co., Cal. Breeder of Shorthorn Cattle and Poland-China Hogs.

BERKSHIRE AND POLAND-CHINA HOGS. C. A. STOWE, Stockton, Cal.

GEO. V. BECKMAN, Lodi, San Joaquin Co., Cal. Registered Poland-China Hogs, both sexes.

G. A. MURPHY, Perkins, Cal. Breeder of Champion Herd of Berkshires also Shorthorns.

30 POLAND-CHINA HOGS FOR SALE.—W. R. McCallin. R. D. Box 214, Sacramento, Cal.

M. BASSETT, Box 106, Hanford, Cal. Registered Poland-China Hogs, and Plymouth Rocks.



## The Poultry Yard.

### "BEASTIES" GOOD AND BAD IN THE POULTRY YARD.

Written for the Pacific Rural Press  
By M. R. JAMES.

By these we mean dogs and cats, mice and rats. The two former come under both heads—they may be very good or they may be very bad. It all depends on their breed and their training, but most upon their training.

A well trained dog and cat are an invaluable pair about the poultry quarters. Their simple presence tends to ward off varmints, and they keep watch and ward while the master sleeps. But when these guardians turn marauders they are the worst of the lot. There are low-down curs, both canine and feline, which can never be depended upon; yet most always they are the result of neglect and abuse—more sinned against than sinning. The dog or cat that asks for bread and gets a kick or a broomstick is not going to develop any trusty or valuable traits; instead, it becomes sneaking and crafty. And let me whisper it—the character of master and mistress is reflected in these humble creatures about their door!

These beasts must be well fed and treated with kindness and respect; then they will respect themselves and their owner's possessions. This does not mean pampering. The disposition to pamper may show a kind heart, but it also shows lack of judgment. They should be taught perfect obedience, and taught in a reasonable way, by firmness and patience, not by abuse and anger. When a dog fully understands what is required of him he is more conscientious in doing it than are most humans. Our collie is as careful about startling the Leghorns as we could be. He never dashes through a bunch of them, scattering the nervous birds in all directions, as an untrained dog is wont to do—and as a boy is almost sure to do—walks around them as gingerly as if treading on eggshells. If he chances to startle one, he has the most apologetic air, which says as plainly as words, "Beg pardon." He was raised with the chickens, and he understands them and feels responsible for them. If he hears their warning ker-er-er, he is alert in an instant, looking for hawk or varmint; when two of them get in a "mix-up" he rushes between and separates the contestants; if an off-colored fowl sneaks in from the neighbors at feeding time he noses it through the flock until he has separated it from the bunch and the feed, and he will catch any chicken indicated without harming it in the least. One may readily see how valuable such an animal is in the poultry yard.

The same may be said of a good cat. Though cats are not so tractable as dogs, they may be taught many useful things, and the first lesson should be that chicks are not their meat. In order to teach this effectively the kittens must be raised with the chicks. Watch them carefully when they begin to play, and at the first disposition to chase the chicks give them a cut with a sharp little switch; they will soon learn to give the chicks a wide berth. In the same way they may be taught to keep off tables and shelves. The commandment, "Thou shalt not steal," may be impressed upon the conscience of both dog and cat—but not if they are kept half starved—and who could blame them for stealing under these circumstances? Let me repeat, these animals must be well fed—not stuffed with meat and pastry till they are sluggish and inclined to liver disease, but fed regularly with plain, wholesome food. There is nothing so good for a dog as corn bread, and this should be his principal diet. He requires very little meat, and what he has should be well cooked and lean; the bones and gristles from the table are good for him, and usually furnish him sufficient of that class of food. When he refuses his ration of corn bread and milk or gravy, don't try to tempt his appetite with cakes and meat but set away his dish until next feeding time, or till he partakes of it with a relish. The cat requires milk and more meat than the dog. Many think that the less a cat is fed the better she will hunt; this is a mistake. She hasn't the energy for persistent watching at a mouse hole, and is more likely to take the first thing that comes her way, which is pretty sure to be a chick. No more cats should be kept than can be properly trained and cared for. The kittens not needed should be drowned at birth. Never, if you call yourself a Christian, keep them till they

begin to run about and then drop them around in hedges and fence corners; it is a hard hearted and cruel deed. Yet people do this, claiming to be too tender-hearted to have the new-born kittens killed, and turn the helpless little creatures out to die of starvation and exposure, and perhaps to be tortured by wicked boys and dogs.

Mice are the most persistent and mischievous of all pests about granaries, barns, store houses, etc. They not only waste and consume a large percentage of food, but they foul and contaminate the whole, making it unfit for poultry or stock. The wide-awake poultryman or farmer will keep his premises clear of them. Good cats will do their share in keeping them down, but there are places where cats cannot get and where it would not be well to allow them. We have overcome this difficulty with the small flat mouse trap called the "devil trap." These traps retail for 5 cents, and probably could be bought much cheaper by the dozen. A bit of cheese the size of a small pea baits them and they are a sure-catch. Keep a number behind the grain sacks and boxes, and wherever these mischievous rodents do congregate always in wait for them. Once a day they should be looked to, and if required emptied and reset. It gets Mr. Mouse every time, for he likes cheese better than grain, and the trap looks so simple that he walks right onto it.

Rats are the most vicious thing about a poultry yard. They are not content with killing and eating, but they cram their burrows with everything they can get their teeth into from eggs and chickens to raw potatoes. They, however, will not locate about properly constructed quarters. If storerooms, poultry houses, pens, etc., are set well up from the ground so that all parts underneath are open to inspection and attention and give ready access to dog and cat, and there are no cess to dog and cat, and there are no piles of old trash, lumber and the like for them to hide in and burrow under, they are not going to make such places their headquarters. With such an arrangement and good dogs and cats about there will be little trouble with rats. Black-and-tan terriers are the best ratters we have ever seen. They are no bigger than a cat and can get almost anywhere that a rat can. The thoroughbreds of this breed are the most wise, faithful and watchful of creatures, but they are rather delicate and very susceptible to cold, and require warm quarters and affectionate care.

With little chicks or half-grown ones, however, we must never take any chances with Mr. Rat, for he is a sly one, and dearly loves spring chicken, either as broilers or fryers or the tasty morsel just out of the shell. Always have tight board floors in their brooders and pens with inch-mesh wire over all openings, and make daily inspections of the corners and floors lest he has gnawed a way in. When this is the case, tack a piece of tin over the hole. Where rats are bad it is wise to tack wire netting on the under side of the floor boards; in case this side cannot be got at tack the netting over the floor and cover with sand.

## Egg Cases

### OUR PRICES

Heavy 36-doz. Cases and Fillers...	.60
Heavy 36-doz. Cases nailed.....	.45
Heavy 36-doz. Shook and Irons...	.40
Heavy 30-doz. Cases and Fillers...	.55
Heavy 30-doz. Cases nailed.....	.40
Heavy 30-doz. Shook and Irons...	.35
Heavy 18-doz. Cases and Fillers...	.40
Heavy 18-doz. Cases nailed.....	.30
Heavy 18-doz. Shook and Irons...	.25
No. 1 Fillers, 10 sets per case.....	1.50
Medium Fillers, 12 sets per case...	1.50
No. 2 Fillers, 15 sets per case.....	1.50
1 doz. Egg Cartons and Fillers, per 1000.....	7.00

### BOXES FOR HATCHING EGGS

15 egg size, per doz.....	1.00
30 egg size, per doz.....	1.75

We also make a full line of paper boxes. Paper Baby Chick boxes; all kinds of Fruit Boxes, Fruit Wrappers, etc.

**E. F. Adams**

364 Main St. Petaluma, Cal.

## REX YOUR TREES WITH LIME & SULPHUR SOLUTION

The well known REX LIME & SULPHUR SOLUTION manufactured by the California Rex Spray Company, at Benicia, is no longer an experiment. Of the thousands of customers that used it last year, we have scarcely a single report but what is in its favor.

It is the best known insecticide and fungicide; is a tonic to the tree; is prepared on scientific principles; is absolutely uniform; every barrel that is made at the factory being of just the same strength, namely, 33% solution, Baume test; is free from sediment; is ready for use in the orchard without having to be boiled; one barrel of 50 gallons makes 600 gallons of the strongest spray, and is by far cheaper, at the reduced price at which it is offered this year, than any farmer can afford to make a home-made, imperfect solution.

Ask your dealer, or address:

CALIFORNIA REX SPRAY CO.  
Benicia, Cal.

YAKIMA REX SPRAY CO.  
N. Yakima, Wash.

THE TOLEDO REX SPRAY CO., Toledo, Ohio.

THE REX COMPANY, Omaha, Neb.

## Was Your Last Catalogue Satisfactory?

### 1. IN TRADE-PULLING POWER.

Was the general get-up genuinely attractive, and did it present your stock so that the reader became interested and in a frame of mind to give you an order? First impressions go a great ways in establishing a friendly attitude toward the offerings of a good book.

### 2. IN QUALITY AND ARRANGEMENT.

Did the manner of its mechanical appearance and literary expression impress possible patrons of the superiority of the seeds and plants you are offering? Was it correct in nomenclature and reliable in cultural directions?

### 3. IN VOLUME AND NUMBER PRINTED.

Did you meet the demand by ending the season with just enough to carry you over, or did you have a surplus, or did you fall a few shy? This is important either way you look at it.

### 4. IN MATTER AND ILLUSTRATIONS.

You don't always discuss with your printer all these points,—but then, The Kruckeberg Press is different from the general run of printers, it is fitted up to be really helpful to the seed and nursery trade, the live stock and agricultural interests, to do this class of work, from the preparation of the copy to the finished product.

Correspondence invited.

## THE KRUCKEBERG PRESS

HORTICULTURAL PRINTING AND ENGRAVING  
CATALOGUE MAKERS. TRI-COLOR PRINTERS

123 South Los Angeles St. A 1420 Home.

Los Angeles, Cal.

## Coulson's No. 3 Condition Powders

BEST AID FOR GETTING HIGH PRICED EGGS

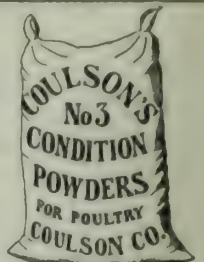
A splendid tonic and digestive. Enables hens to lay lots of eggs during fall and winter.

Sold by Dealers.

Manufactured only by

**Coulson Poultry and Stock Food Co.**

PETALUMA, CALIFORNIA.



## PETALUMA HATCHERY

Pure bred White Leghorns a specialty, also Barred Plymouth Rocks, Light Brahmas, Rhode Island Reds, and Black Minorcas.

Eggs or Stock from any of these varieties. Other varieties hatched to order.

Chicks safely shipped anywhere within three days travel by train.

**L. W. CLARK, 615 Main St., Petaluma, Cal.**

## WOOD PIPE

Made from California Redwood or Selected Washington Douglas Yellow Fir.

## National Wood Pipe Co.

Machine Banded Stave Pipe.

Continuous Stave Pipe.

SAN FRANCISCO OFFICE—318 Market St.  
NORTHERN OFFICE—Olympia, Wash.  
LOS ANGELES OFFICE—404 Equitable Bank Bldg.  
SALT LAKE CITY OFFICE—Dooly Block.

Prices, specifications, hydraulic data and general information furnished upon request.

### POULTRY.

BUFF ORPINGTONS—Sullivan's famous buff excel all others. Eggs for hatching, stock for sale. Catalogue for the asking. **W. SULLIVAN**, Agnew, Santa Clara Co., Cal.

BRONZE Turkeys and Eggs. Ed Hart, Clements Cal. Large size, good plumage, early maturity

### BREEDERS' SUPPLIES.

**JUST OUT** Croley's "Little Red Book No. 51." Free. Send postal **GEORGE H. CROLEY**, 687 Brannan St., San Francisco. **POULTRY SUPPLIES.**

### OAKLAND POULTRY YARDS

Established 36 Years.  
Importer and Breeders of all Varieties of Land and Water Fowls  
Stock for Sale Dept. 31, 320 McAllister St., S. F.

## You Get the Most for Your Money

When buying "Quality S. C. White Leghorn" chicks from us at 10c. each, because we give you **Free** the "Chick Book" containing full instructions for raising them. Order 200 or more.

### RANCHO LOS ENCINAS

R. F. D. 76.

Glen Ellen, Cal.

**Blake, Moffitt & Towne**  
Dealers in **1400 FOURTH ST., SAN FRANCISCO**  
**PAPER** Blake, Moffitt & Towne, Los Angeles  
Blake, McFall & Co., Portland, Oregon



## The Home Circle.

### Touch Us Gently, Time!

Touch us gently, Time!  
Let us glide adown thy stream  
Gently,—as we sometimes glide  
Through a quiet dream.

Touch us gently, Time!  
We've not proud nor soaring wings;  
Our ambition, our content,  
Lies in simple things.  
Humble voyagers are we,  
O'er life's dim, unsounded sea,  
Seeking only some calm clime:  
Touch us gently, gentle Time!

—BARRY CORNWALL.

Years following years, steal something  
every day;  
At last they steal us from ourselves away!

—HORACE.

### A St. Nicholas Blunder.

Written for the PACIFIC RURAL PRESS  
By MARY RUSSELL JAMES.

Christmas was abroad in the streets on the twenty-fourth of that December, but apparently it had not entered the big wholesale house of Goldstein & Co. Through the narrow half of one of the front doors might be distinguished in the semi-twilight, passways between the long lines of compact merchandise piled to the ceiling. Far back under the skylight, where the gas burned all the short winter days, was the office. Here in the heart of the building brooded the essence of the quiet and decorum which ruled throughout. The men at their desks might have been machines, so far as any interest in the spirit abroad was visible on their faces. The scratch of the pen, the click of the typewriter and the occasional low-spoken word were the only sounds.

As the afternoon waned and the bustle outside increased, a solid body obscured the bar of daylight that came in at the half-open door. The clerks did not look up nor pause in their work, yet an electric thrill of consciousness flashed into each face as a measured but energetic tread came down the long aisle. The clerks who had been long with the house—and the most of them had grown up with it—would have had no faith in a Christmas eve that did not bring Mr. Goldstein among them.

With a kindly inquiry, a hearty handshake, and a genial "Wishing you a jolly Christmas!" the head of the great house made the round of the employees, and as he passed on, where his hand had rested by each one glinted a new gold coin; as the boys expressed it: "A double eagle for the upper clerks, an eagle for the others, and a fiver for us fellows."

Perhaps no other part of the great merchant's Christmas afforded him an equal pleasure, and he had often hurried across the continent for this express purpose; the light of grateful affection in the faces of his old employees was precious to this man of dollars.

On this Christmas eve, however, there was one face among them that did not respond to this amiable sentiment; it belonged to the new clerk, Max Heimmer. He resented the air of prosperity and superiority which surrounded this successful man of affairs; and the flame of indignation burned in his dark cheek when the coin was left on his desk. He failed to catch the spirit of the gift, and to him it had about it the significance of the mite tossed to the dependent. His first impulse was to fling it back to the donor, but the necessity of retaining so excellent a position, and the wisdom of that homely adage, "Pride butters no parsnips," staid his hand. He would have enjoyed kicking the blond middle-aged clerk whose desk was near his own, for the idiotic joy that radiated his pale face when the chief placed a double eagle upon his desk. The denomination of the coin meant much to this one, for it brought the assurance that his years of service were to be recognized and that he was to be advanced to a higher clerkship with the New Year. Yes, it meant much to him, and it would mean much to the wife and babies at home, upon whom on the morrow St. Nicholas would shower more gifts than had ever come to that humble home before. Joy melted his heart, and he had to affect a sneeze to hide the tears that filled his eyes.

Comparison is the gauge of human happiness; this man had risen to better con-

ditions and was happy, while Max Heimmer had fallen from what he was pleased to term a higher estate, and was miserable. For ten years from his eighteenth birthday he had been the protegee and secretary and had risen to be the chief deputy of a prominent U. S. marshal. The latter had met his Waterloo in the change of administrations; he had not only lost his office, but had been indicted for some slight irregularity in his administration, through the spite of bitter political enemies. His trusted deputy added his own savings to his devotion in the defense, and with the downfall of his chief, Max found himself adrift, without money or position. Next to the aristocracy of the army comes that of the Federal office holder in fostering self-esteem. This characteristic had assumed undue proportions in the young man's proud nature, and he was likely to receive some hard jolts before he adjusted himself to his new conditions. His really first-class business qualifications, added to his knowledge of Federal procedure, had in a short time secured him a standing with the firm which the other clerks had been compelled to plod along for years to obtain. Clearly, he should have taken the good the gods provided and been grateful, instead of glowering darkly in bitterness of heart on that Christmas eve.

When the office work was done, Max carefully filed away his papers, locked his desk and departed, apparently overlooking the yellow coin.

But Antoine, the colored janitor, had an eye upon it. Never in the five years he had held that position with pride and dignity had temptation fell upon him as now. He thought much of the house and of himself, being a tall, handsome young fellow whose well-oiled skin had the soft glow of satin. Mr. Goldstein, too, was proud of the dusky comeliness of his janitor, and liked to see the dignity of the house reflected in this servitor, who was accordingly treated with much consideration by the clerks. Had the money been left upon any other desk, Antoine would have scorned to touch it; but he disliked the new clerk, for the scant courtesy he paid himself, and did not class him as a bona fide part of the great house.

Like a bird of prey he circled about the coin, and when the office was deserted he swooped down upon it. With the whites of his eyes showing big as he gazed apprehensively amid the dim shadows, he reached for the glistening coin. As he was slipping it into his pocket, a heavy hand from behind was laid upon his arm and a rich brogue hissed into his ear:

"Faith, an' I've got ye this pop!"

It was the night watchman, who had been observing Antoine from the concealment of the piles of merchandise. Poor Antoine sank in a heap, limp with terror. He begged for mercy and offered to divide the coin, and finally to even give up the whole of it to secure his silence; but the big Irishman was not to be tempted. He considered it a "find" and was glad to have something to show for his wages; besides, he rather enjoyed "taken" the big-headed nager down a notch.

Justice was swift with Antoine, and though he was not prosecuted, nor even required to disgorge the unlucky coin, like Lucifer, he fell from his proud position, and the doors of Goldstein & Co. shut him out with the common herd.

The real object, however, of Mr. Goldstein's displeasure was not Antoine, but the new clerk. Max was the serpent who had caused the fall of a trusted servitor, for he considered it little less than criminal to leave unnecessary temptation in the way of an inferior. And—though he might not acknowledge it even to himself—it was a pin-prick to have his well-merited Christmas gift treated with such contempt.

Thus it came about on the New Year that Max Heimmer found on his desk, not a gold coin, but a discharge!

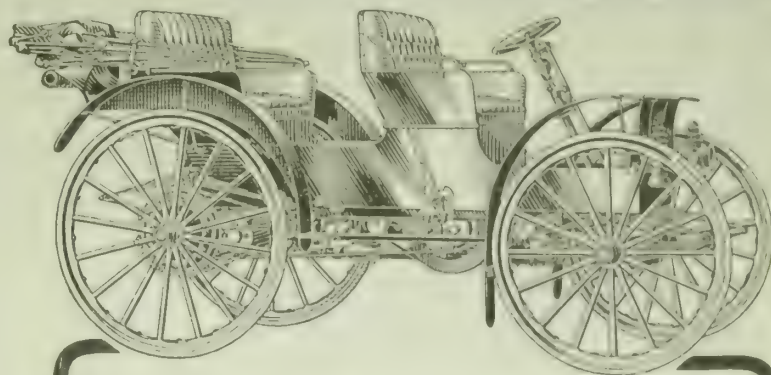
### Health Hints.

**SALT.**—The Family Doctor says that salt may almost be regarded as a panacea, so many are its uses.

It cleanses the palate and furred tongue, and a gargle of salt and water is excellent for hoarseness and other throat troubles.

A pinch of salt on the tongue, followed some minutes afterward by a drink of cold water, often cures sick headache. It hardens the gums and purifies the breath. Bad colds, hay fever and kindred affections may be much relieved by using fine dry salt like snuff.

Dyspepsia, heartburn and indigestion are relieved by a cup of hot water in



## I. H. C. AUTO BUGGY

The International Auto Buggy is a practical vehicle for service in every-day work, and pleasure as well. In design it is built like a buggy, and it is equipped with a powerful engine. It will travel in places where horses cannot go, and is so solidly built that use has but little effect upon the driving mechanism. It will climb steep hills and carry the heaviest kind of loads. For those who are obliged to travel over rough country roads the I. H. C. Auto Buggy has no equal. The wheels are equipped with solid rubber tires, in place of the pneumatic, thereby doing away with tire troubles and the expense attached thereto.

Write for catalog.

### INTERNATIONAL HARVESTER COMPANY OF AMERICA

453 MONADNOCK BLDG.

INCORPORATED.

SAN FRANCISCO, CAL.

## THE HAMLIN SCHOOL

2230 Pacific Avenue, also  
2117-2119 Broadway St.  
SAN FRANCISCO, CALIFORNIA.

A Boarding and Day School for Girls, with a full corps of teachers for all departments in the English branches, Latin, Greek, and the Modern Languages, also accredited by the University of California, Leland Stanford Junior University, and by Eastern Colleges.

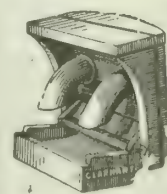
Special attention is given to lessons in elocution, singing, the violin, the piano, and to drawing and painting.

Lectures are given by professors from the University of California, and a course of study for High School graduates and for young women who have left school, is also offered.

Second semester opens January 4, 1909.  
For further particulars address

**Miss Sarah D. Hamlin,**  
2230 Pacific Avenue,  
SAN FRANCISCO, CALIFORNIA.

## Burn Air--Save Fuel



No Odor.

No Dirt.

No Danger.

Used in Factories  
and the Home.

### GEARHART OIL BURNER CO.

1922-1924 Fresno St., FRESNO, CAL.



## PATENTS

Write for our Guide to Inventors, sent free on request; containing nearly 100 mechanical movements and full information about Patents, Caveats, Trademarks, and Infringements.

DEWEY, STRONG & CO.,  
1105-6 Merchants Exchange Bldg., San Francisco. Established 1860.

## Large Land Sale

### The John Crouch Lands

Situated in Colusa, Glenn, Butte and Lassen Counties.

These lands were acquired by the late John Crouch of Butte County. They now belong to the John Crouch Land Company, a corporation having its principal place of business at Chico.

That corporation now offers for sale these extensive holdings.

The agricultural lands in Butte and Glenn Counties are in the richest part of northern California and are all highly improved and will be sold in subdivisions to suit purchasers.

The late John Crouch was extensively engaged in stock raising, devoting his attention to high class sheep and cattle.

This sale offers the greatest advantages to persons desiring to purchase stock properties, which are now exceedingly scarce.

The corporation owns in the foothills east of Chico some 25,000 acres of land, all under fence and with ample barns and improvements. It is the finest winter range in the Sacramento Valley. It would be sold as a whole or cut up, as it can well be naturally, into three ranges.

It offers a tract of some 2,000 acres in Glenn and Colusa Counties, extending for a number of miles along Butte Creek, including the rich bottom lands of that stream, upon which feed of all kinds grows luxuriantly. This place would make a magnificent stock ranch.

It also offers large tracts of land in Glenn County a little northeast of Butte City, fenced and improved, which could be most admirably utilized for stock purposes and for other such lands in the same vicinity for agricultural purposes. They would be sold separately or as a whole.

The properties offered include the celebrated Bowers Ranch on the Sacramento River in Butte County, composed of the richest river bottom agricultural land and upon which alfalfa grows most luxuriantly. This ranch is improved with a fine residence, many barns, good fences and is the best high class stock and agricultural ranch for sale along the Sacramento River. The soil is adapted not only to alfalfa, but to beets and all the grains.

The Home Ranch of the late Mr. Crouch, near Chico, is so well known as not to require any description. It will be mostly sold in small subdivisions. It can be irrigated by a ditch from Butte Creek, carrying 500 inches of water.

The corporation offers also one of the finest mountain ranches in the Sierra Nevada, the Crouch lands in Mountain Meadows, comprising some 12,000 acres, and upon which enormous tonnages of hay can be cut. This property is also highly improved with barns conveniently located for the storage of hay for winter purposes. It is sufficiently timbered to make it attractive from that point of view and possesses great value for the storage of water thereon for power purposes. The Feather River runs through it and the topography of the ground admits of great reservoir sites.

Purchasers desiring information about any of these properties, or to examine the same, will apply to the undersigned personally, or by letter, at the Bank of Butte County in Chico, California.

JOHN R. ROBINSON,

President John Crouch Land Company.



which a small spoon of salt has been dissolved.

Weak ankles should be rubbed with a solution of salt, water and alcohol.

Weak and tired eyes are refreshed by bathing with warm salt and water. Hemorrhage from tooth-pulling is stopped by filling the mouth with salt and water or dry salt on the gums.

Many public singers and speakers use a wash of salt and water before and after speaking and singing, to strengthen the organs of the throat.

Salt should always be eaten with nuts.

## THE MARKETS.

San Francisco, Dec. 23, 1908.

(Unless otherwise noted, quotations represent prices paid to the growers.)

### WHEAT.

Local shipments of wheat have been arriving in this market from Oregon and Washington for the last few weeks. The local market, however, continues in a comparatively dull condition, which is more noticeable with the approach of the holidays, the buyer being unwilling to take on much stock before the first of the year. Local prices are unchanged, but are very strongly held. The northern market is in a similar condition. Growers apparently are holding considerable grain, but are offering comparatively little of it at present.

California White Australian	\$1.75 @ 1.80
California Club	1.67 1/2 @ 1.70
California Milling	1.70 @ 1.72 1/2
California lower grades	1.45 @ 1.60
Northern Club	1.65 @ 1.67 1/2
Northern Bluestem	1.72 1/2 @ 1.77 1/2
Northern Red	1.62 1/2 @ 1.65
Turkey Red	1.75 @ 1.80

### BARLEY.

Some barley is being brought in from Oregon, quite a large shipment arriving at the end of last week. The speculative interest has been somewhat more active this week and May barley is considerably higher, but there is no change in the cash grain, except an advance of 1 1/2 cents in choice feed. A better shipping demand is looked for as a result of the reduction of ocean freights. The local demand for feed is about average, but brewing and chevelier are quiet.

Brewing	\$1.45 @ 1.47 1/2
Shipping	1.15 @ 1.17 1/2
Chevelier	1.37 1/2 @ 1.62 1/2
Good to Choice Feed, per cwt.	1.10 @ 1.13 1/2
Common Feed	1.35 @ 1.38 1/2

### OATS.

Aside from a reduction in the top price of red seed oats, there is no change in values. The local market continues very quiet, and little movement is now expected until after the end of the year. Reports from the north, however, indicate that there has been considerable buying for the California interests, and there is a fair movement of the seed grades in the interior.

Choice White, per cwt.	\$1.70 @ 1.75
No. 1, White	1.65 @ 1.67 1/2
Gray	1.65 @ 1.70
Red, seed	1.75 @ 1.85
Feed	1.50 @ 1.70
Black, seed	2.45 @ 2.65

### CORN.

Two cars of corn from the Western States have come in during the past week, increasing the local stock considerably, but the movement is of small proportions, buyers showing little interest. California grades are all nominal, as none is offered in this market. Slight changes are noted in the prices of sacked yellow and mixed to arrive.

California Small Round Yellow, per cwt.	Nominal
Large Yellow	Nominal
White	Nominal
Western State Yellow	\$1.60 @ 1.65
Mixed, in bulk	1.50
White, in bulk	1.55

### RYE.

Rye is still quoted at the same figures, but there is practically no business on which to base quotations, as very little is needed in this market.

Rye	\$1.42 1/2 @ 1.50
-----	-------------------

### BEANS.

There is still some shipping business for the East and Southwest, but the entire movement is now very light, the demand from outside markets being naturally quiet before the holidays. Some varieties, particularly limas, are lower and growers are reported to be holding considerable stocks in some parts of the State. Bayos are quite firm, but blackeyes are easier. The market for white beans continues very strong, small whites showing a further advance. Reds are also a little firmer.

Bayos, per cwt.	\$2.00 @ 2.05
Black Eyes	3.00 @ 3.25
Cranberry Beans	2.75 @ 3.00
Garbanzos	2.50 @ 3.00
Horse Beans	1.50 @ 2.00
Small Whites	4.50 @ 4.70
Large White	3.65 @ 3.85
Limas	4.20 @ 4.30
Pea	4.50 @ 4.75
Pink	2.40 @ 2.60
Red	3.75 @ 4.00
Red Kidneys	3.25 @ 3.50

### SEEDS.

The demand for seeds has continued very fair, though no great activity can be expected from now until after the first of the year. Arrivals of alfalfa seed are coming in freely, but the price is steadily held at last quotation. Other seeds are quiet. Local dealers quote the following prices:

Alfalfa, per lb.	17 @ 18 c
Broomcorn Seed, per ton	\$20.00 @ 25.00

Brown Mustard, per lb.	3 1/2 @ 3 3/4 c
Canary	1 1/2 @ 1 3/4 c
Flaxseed	2 3/4 @ 3 c
Hemp	4 1/4 @ 4 1/2 c
Millet	2 1/2 @ 3 1/4 c
Timothy	Nominal
Yellow Mustard	Nominal

### FLOUR.

Prices are firmly held at the former quotations. This market shows about the usual activity, the demand for shipment being of small proportions.

Cal. Family Extras	\$5.60 @ 5.70
Bakers' Extras	5.60 @ 5.85
Superfine	1.10 @ 1.70
Oregon and Washington	
Family	4.90 @ 5.40

### HAY.

Arrivals of hay were large at the first of the week, and the receipts since last report have been quite sufficient to supply the regular local demand. Trading has been rather active, but prices are well sustained, both choice wheat and alfalfa being slightly higher. The outlook is for a steady demand, and the supply appears to be sufficient. Weather conditions throughout the State have been excellent for sowing next year's crop, and as a large acreage is being put in the indications are for an unusually heavy crop. The cold weather has been holding back the green feed, and there is consequently a strong demand from the interior, and especially from the south. Several cars have been received from other States, but these have brought very poor prices. Stock hay is very scarce, and experiments are being made with bean straw and other substitutes. Almost any kind of stock feed can be disposed of here at fair prices.

Choice Wheat, per ton	\$20.00 @ 22.50
Other Grades Wheat	16.00 @ 19.50
Wheat and Oat	15.00 @ 20.00
Tame Oat	15.50 @ 19.00
Wild Oat	14.00 @ 18.00
Alfalfa	12.50 @ 16.50
Stock	12.00 @ 13.00
Straw, per bale	60 @ 95c

### MILLSTUFFS.

All varieties of feedstuffs continue to move at unchanged quotations, prices of bran, shorts and middlings being steadily maintained, though the demand is only moderate. Supplies, however, are rather large, and with the prospect of a diminishing demand as the supply of green feed increases the market has an easier tone.

Alfalfa Meal (carload lots) per ton	\$22.00
Jobbing	23.00
Bran, ton—	
White	\$30.00 @ 31.00
Red	29.50 @ 31.00
Broom Corn Feed, per cwt.	1.20 @ 1.25
Cocoanut Cake or Meal at Mills (in 10-ton lots)	25.50
Jobbing	26.50
Corn Meal	37.00 @ 38.00
Cracked Corn	38.00 @ 39.00
Meal/alfalfa	22.00
Jobbing	23.00
Middlings	33.50 @ 35.50
Mixed Feeds	28.00 @ 32.00
Oil Cake Meal, per ton	38.00 @ 39.50
Rollod Barley	30.00 @ 31.00
Shorts	33.00 @ 33.50

### VEGETABLES.

Onions are in very fair demand, with steadily diminishing supplies, and the market consequently shows increasing firmness. The best lots are held at \$1.00 on the wharf, while re-picked stock is still higher. Arrivals of miscellaneous vegetables are light, and most descriptions command very strong prices, as the demand this week is good. Beans and peas from the south show a marked advance and bell peppers and egg plant are also considerably higher. Celery and rhubarb are now plentiful, and bring lower prices, while poor lots of tomatoes find little sale at a lower figure.

Onions	90 @ 1.00
Garlic, lb.	7 @ 9c
String Beans	15 @ 17 1/2 c
Green Peas, lb.	9 @ 12 1/2 c
Cabbage, per cwt.	\$1.00
Marrowfat Squash, per ton	10.00 @ 15.00
Tomatoes, crate	50 @ 1.00
Turnips, sack	60c
Bell Peppers, lb.	15 @ 25c
Chili Peppers, lb.	5 @ 6c
Egg Plant, lb.	12 1/2 @ 15c
Cauliflower, doz.	50 @ 60c
Summer Squash, box	\$1.50
Celery, doz.	25 @ 10c
Rhubarb, box	1.25 @ 1.75

### POULTRY.

The chicken market is in a good condition this week, prices on several lines showing an advance, and the market is quite active at the figures quoted. Local stock, except the choicest lots, is inclined to drag, though first-class offerings are well received, the supply being light. Western chickens are quite plentiful, four cars being on hand at the opening, but all offerings from this quarter have been disposed of without difficulty. The week has not opened well for Christmas turkeys, prices showing little improvement over last week, though a material advance is expected before the holiday. While sales have so far been light, there is plenty of inquiry for choice stock on the street. Supplies at the opening were very light, as few shipments of either live or dressed stock have yet appeared.

Broilers	\$4.50 @ 5.00
Small Broilers	3.50 @ 4.00
Fryers	5.50 @ 6.00
Hens, extra	7.00 @ 9.00
Hens, per doz.	5.00 @ 6.00
Small Hens	4.00 @ 5.00
Old Roosters	4.00 @ 5.00
Young Roosters	6.50 @ 7.00
Young Roosters, full grown	7.50 @ 8.00
Pigeons	1.25
Squabs	2.50
Ducks	4.00 @ 8.00
Geese	2.50 @ 3.00
Turkeys, live, per lb.	19 @ 21c
Turkeys, dressed, per lb.	22 @ 25c

### BUTTER.

The majority of buyers are taking on extra stock for the holidays, and the con-



# Heat

Where you want it—  
When you want it—  
No smoke—no smell—no trouble.

Often you want heat in a hurry  
in some room in the house the fur-  
nace does not reach. It's so easy to  
pick up and carry a

## PERFECTION Oil Heater

(Equipped with Smokeless Device)

to the room you want to heat—suitable for any room in the  
house. It has a real smokeless device absolutely preventing  
smoke or smell—turn the wick as high as you can or  
as low as you like—brass font holds 4 quarts of oil  
that gives out glowing heat for 9 hours. Fin-  
ished in japan and nickel—an ornament  
anywhere. Every heater warranted.

### The Rayo Lamp

is the lamp for the student or  
reader. It gives a brilliant, steady light  
that makes study a pleasure. Made of brass, nickel plated and equipped  
with the latest improved central draft burner. Every lamp warranted.  
If you cannot obtain the Perfection Oil Heater or Rayo Lamp from  
your dealer write to our nearest agency for descriptive circular.

STANDARD OIL COMPANY  
(Incorporated)

sumptive demand has increased considerably, causing a firmer tone to the market. The tendency of prices has accordingly been upward, and the whole line to quite firm, fresh extras being 2 1/2 cents above last quotation. Firsts are also a cent higher.

California (extra), per lb.	33 1/2 c
Firsts	30 c
Seconds	25 c
Thirds	20 c
Storage Ladies, extra	23 c
Cal. Storage, extras	29 c
Pickled Butter	23 1/2 c
Packing Stock, No. 1	21 1/2 c

### EGGS.

In addition to the increased demand for eggs due to the holiday season, the market has been greatly strengthened by the cold weather, which has caused a decrease in the production. There is accordingly a marked scarcity of fancy fresh stock, which has been advanced 5 1/2 cents, now standing at 50 cents per dozen on the Exchange. Firsts are 9 cents higher than last week, and seconds have also advanced. The scarcity of fresh stock has induced a heavy movement of storage and Eastern eggs, which are being well cleaned up at prevailing prices. The following quotations are given by the San Francisco Dairy Exchange:

California (extra), per doz.	50 c
Firsts	49 c
Seconds	37 c
Thirds	29 c
Storage, Cal., extras	35 c
Storage, Eastern extras	30 c

### CHEESE.

No further change has taken place in the prices of cheese, conditions remaining about as before. The market is comparatively quiet this week, but with the supply about balancing the demand most varieties are fairly steady.

Fancy California Flats, per lb.	15 c
Firsts	14 c
New Young Americas, fancy	16 1/2 c
Oregon Flats	14 c
Oregon Y. A.	16 1/2 c
Storage, Cal. Flats	13 c
N. Y. Cheddars	17 c
Storage, Oregon, Flats	14 c

### POTATOES.

Potatoes are very quiet this week, and the market is in a poor condition, as large arrivals have come in, on top of a heavy carry-over from last week. Large quantities of poor stock are being offered, but these receive little interest. First-class stock is fairly firm, and there is a continued movement of Early Rose for seed. Sweet potatoes are plentiful, but former prices are maintained.

River Whites, fancy, cwt.	65 @ 90c
Common	50 @ 60c
Salinas Burbanks, cwt.	\$1.25 @ 1.50
Oregon Burbanks, cwt.	1.15 @ 1.25
Early Rose	1.25 @ 1.35
Sweet Potatoes, cwt.	1.25 @ 1.50

### FRESH FRUITS.

Buying for the holidays has been deferred until the last moment on account of the cold weather, but there is now a fairly good movement of first-class apples and cranberries, all offerings being held at firm prices. Grapes are much higher, few being offered, and a lot of figs from

the south brought high prices. Pears and persimmons are slow.

Apples, fancy	75c @ \$1.50
Apples, common	40 @ 75c
Christmas Apples	1.50 @ 1.75
Cranberries—	
Cape Cod, bbl.	14.00 @ 15.00
Grapes, crate	1.25 @ 1.50
Pears, box, Winter Nellis	50c @ 1.25
Other varieties	50 @ 75c
Persimmons, box	50 @ 1.00

### CITRUS FRUITS.

Grape fruit is lower, other varieties remaining at former quotations. Supplies are plentiful in all lines and the market has been quiet most of the past week, though there is now a fair movement for the holidays. The first lots of oranges from southern California are now coming in. The fruit is of good quality, but so far has not received much interest.

Choice Lemons	\$2.00 @ 2.50
Fancy Lemons	3.00 @ 3.25
Standard	1.25 @ 1.50
Limes	4.00 @ 5.00
Oranges—	
Navel	1.50 @ 2.50
Tangerines	1.00 @ 1.25
Grape Fruit	3.00 @ 3.50

### DRIED FRUITS.

There has been a fairly steady demand for most varieties of dried fruits for December, though the market has been quieting down for the last two weeks, buyers being inclined to put off their purchases until after the first of the year. Prices show no change, though some descriptions are very firm. Apricots are in a very strong position, with a good Eastern demand and very little stock in sight, and peaches are receiving more attention on account of the scarcity of apricots. There is a fair jobbing demand for prunes in the East, large sizes being especially strong, and occasional shipments are being made from this market, though there is no activity in a large way. According to the local packers, the raisin market is in a very poor condition. It is said that with a large stock carried over into the new year, buyers are showing no interest beyond the most pressing needs. They are quoting a reduction of 1/2 cent on all grades and report very little movement at that.

Evaporated Apples	5 1/2 @ 6 1/2 c
Figs, black	2 1/2 @ 3 c
Figs, white	3 @ 4 c
Apricots, new crop	8 @ 10 1/2 c
Peaches, new crop	4 @ 5 1/2 c
Prunes, 4-size basis	3 c
Pears, new crop	4 @ 7 c

### RAISINS—NEW CROP.

Loose Muscels, 1 crown	4 1/2 c
3 Crown	3 1/2 c
2 Crown	3 1/2 c
Thompson Seedless	4 c
Seedless	3 1/2 c
London Layers	\$1.10 @ 1.20

### NUTS.

Less interest is shown in nuts than a few weeks ago, as all holiday requirements were filled some time ago, and nothing will be needed until next month. Prices remain steady to firm as before. Almonds are fairly well cleaned up. While there is a good-sized stock of walnuts still in the hands of the southern associations, it is reported that they are firmly held.



with the prospect of continuing at the present range of values.

Almonds, Nonpareils .....	11 1/2 @ 12 c
I X L .....	10 1/2 @ 11 c
Ne Plus Ultra .....	10 c
Drakes .....	9 1/2 c
Languedoc .....	8 1/2 @ 9 c

## WALNUTS.

Softshell, No. 1 .....	12 1/2 c
Softshell, No. 2 .....	8 1/2 c
Hardshells .....	less 2 c
California Chestnuts .....	10 @ 12 1/2 c
Italian Chestnuts .....	10 @ 11 c

## HONEY.

There is little or no demand for outside markets at present, and the local market is well cleaned up, nothing of the fancy grades being offered. Notwithstanding a steady jobbing demand, the price has shown no change for some time. A lot of comb honey, of the white and light amber grades from Nevada, is now in the market, and is moving off at 9 to 13 cents. Water White, Comb, lb. .... Nominal 15 c  
White .....

Water White, extracted .....

White .....

Light Amber .....

Dark Amber .....

Candied .....

## HOPS.

Considerable more activity is reported in hops this week, as the holders of low-

grade lots have weakened as to prices and are moving their crops at lower figures than were quoted last week. Some fairly large sales have been effected in Sonoma county, the prevailing price being about 7 cents. There is also a larger movement of Oregon hops than for several weeks past.

Hops, per lb. .... 6 1/2 @ 7 1/2 c

## WOOL.

There has been a fair demand for California clip for the past few weeks, and most of the offerings have already been disposed of. Less wool is being offered at the prevailing quotations at present, and the movement is accordingly of smaller proportions. Prices have shown no change this month.

Red Bluff (f. o. b. Red Bluff)	
Free .....	6 @ 7 1/2 c
Defective .....	less 2 c
San Joaquin (at S. F.) free .....	5 @ 6 1/2 c
Defective .....	4 @ 5 c
Mendocino, free .....	7 @ 9 c
Defective .....	5 @ 7 c

## MEAT.

In dressed meats a further advance is noted in small calves and ewes. All weights of live calves are higher and bulls and stags have been advanced by cent. Supplies are not large, but for the present they are about sufficient for the demand, and no further advance is looked for in the immediate future.

Beef: Steers, per lb. ....	6 1/2 @ 7 c
Cows .....	5 @ 6 1/2 c
Heifers .....	5 @ 6 1/2 c
Veal: Large .....	7 @ 9 c
Small .....	9 @ 10 c
Mutton: Wethers .....	7 1/2 @ 8 1/2 c
Ewes .....	6 @ 7 c
Lambs .....	9 @ 10 c
Hogs, dressed .....	8 @ 9 1/2 c

## LIVESTOCK.

Steers, No. 1 .....	4 @ 4 1/4 c
No. 2 .....	3 3/4 c
No. 3 .....	3 @ 3 1/4 c
Cows and Heifers, No. 1 .....	3 @ 3 1/4 c
No. 2 .....	2 3/4 c
Bulls and Stags .....	1 3/4 @ 2 c
Calves, Light .....	4 3/4 @ 5 c
Medium .....	4 1/4 @ 4 1/2 c
Heavy .....	3 3/4 @ 4 c
Sheep, Wethers .....	4 c
Ewes .....	3 3/4 c
Lambs, lb. ....	1 @ 1 1/2 c
Hogs, 100 to 150 lbs. ....	6 c
150 to 250 lbs. ....	6 @ 6 1/4 c
250 to 325 lbs. ....	5 1/2 @ 5 3/4 c
Boars, 50 per cent; stags, 30 to 40 per cent, and sows, 10 to 20 per cent off from above quotations.	

## SPECIAL CITRUS MARKET REPORT.

Los Angeles, Cal., Dec. 27.—The frost of the past week has been the heaviest in six years and the duration of the cold spell the longest in the history of the orange business as a commercial proposition. This does not mean that any material damage has been done or that any great loss will be suffered unless the weather becomes colder than it has so far. The cold streak is still on and there is just as much necessity for the smudgers tonight as there was any night of the past week.

The Redlands district was fully covered today by your correspondent. The lowest and most susceptible sections were visited and the damage to the fruit appeared to be immaterial. The young growth on many orchards was curled and "burnt," but there was no sign of ice in any of the fruit cut and no other signs of frosted fruit, such as broken cells and spotted skin. Neither was there any sign of drop. The very best evidence that there was no damage was in the fact that there was no picking going on, and it is certain that the growers would have been in a hurry to market their crop if they suspected that it had been touched. However, it will be ten days or two weeks before the full extent of the damage is known. It is certain that there will be some frosted oranges shipped from southern California, but there will be no damage to the trees and no material loss to the growers.

From the more northern sections—Tulare, Butte and Kern counties—come reports of excessive frost damage. The daily papers state that the mercury was hardly above 30 degrees all day Sunday at Bakersfield, and though this is not in the citrus district, it is not far from it. A private letter from Lindsay says that at 7:30 a. m. Sunday it was only 26 degrees above zero and that it was certain that some damage had been done.

The markets are in firm shape and though the present demand is not heavy, this is but natural, as jobbers will want to see how the Christmas markets clean up. The asking price is now from \$1.90 to \$2 f. o. b. for fancy fruit from Redlands, with some of the other districts quoting lower. Cash quotations discount this price by from 10 to 15 cents.

Shipments are going out at the rate of 50 cars a day and will likely keep at this figure until the 1st of January.

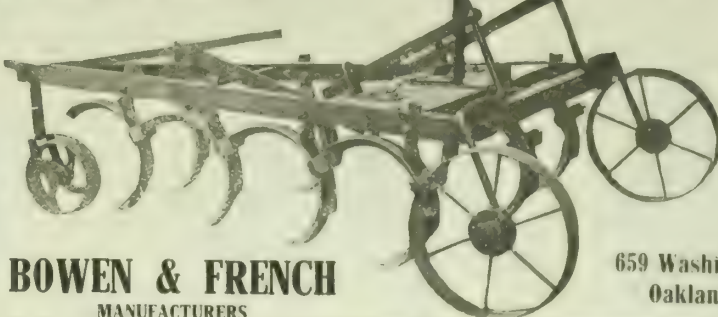
The De Laval Dairy Supply Co. of 101 Drumm St., San Francisco, are distributing a handsome 1909 calendar. Send to them for one.

## THE EVANTS CULTIVATORS

The Evants Cultivator, with 9 Circular V Teeth and Seat, Cutting 4 1/2 feet; also with Wheels and Levers for Lifting Teeth out of Ground and Ratchet for Regulating their depth in the Ground.

1st Premium at State Fair 1907-8.

The Best Summer Fall-low Plow.



Light Draft and great saver of horse flesh. See Catalog for testing needs. Send for Catalogs.

BOWEN & FRENCH  
MANUFACTURERS

659 Washington St.,  
Oakland, Cal.

## THE "SOUTH BEND."



J. MANZ - CHICAGO  
THE BEST CHILLED PLOW  
IN THE WORLD.

The great consideration in a walking orchard and vineyard plow is one on which the beam and handles can be so adjusted that they will not rub over and damage the trees and vines. This requirement is fully met in our No. 2-Vineyard Plow, illustrated above, which turns a furrow 9 1/2 to 10 inches. It has swivel handles, which can be thrown either to right or left, as may be desired. The beam is also capable of great adjustment both ways, so that the horse walks free from the branches and vines. The No. 2-V is light, yet strong, and is very popular in the hop fields. Can be furnished with plain chilled or slip nose chilled shares, and with wheel if required. Weight, 70 pounds.

Write us for Catalogue describing the complete South Bend line of Plows.

General Agents,

PACIFIC IMPLEMENT COMPANY  
135 Kansas St. San Francisco.

## Stickney Gasoline Engines ARE THE BEST

The engine with an outside igniter and a modern open tank cooling system. Our new free catalog and free catechism tells 57 reasons why we have the best engine.

SEND FOR FREE CATALOG Stationary and Portable 1 1/2 to 16 h. p. We have thousands of engines in successful operation because of years of experience of the manufacturers in making engines of the best material, and most accurate workmanship.

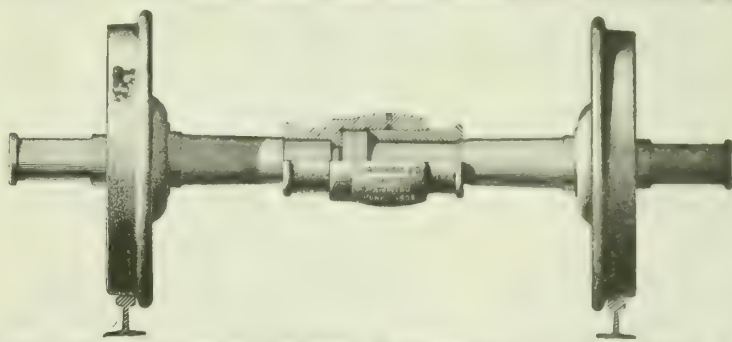
De Laval Dairy Supply Co.  
SAN FRANCISCO - LOS ANGELES - PORTLAND - SEATTLE

## The Fresno Scraper



Send for Raisin Machinery Catalogue.  
FRESNO AGRICULTURAL WORKS  
FRESNO CALIFORNIA.

## Great Excitement AT THE San Bernardino Shops



THE officials and men of the Santa Fe Railway are very enthusiastic about the Seabrook-Box Differential Railway Axle Coupler, which is being applied to an 80,000 pound capacity oil car at the San Bernardino shops. The expression you hear among the men very frequently is, "SAVE YOUR MONEY AND BUY AXLE STOCK."

Mr. Seabrook, a prominent engineer of Los Angeles, has invented a Differential Railway Axle Coupler that promises to make more men rich than any other railroad device ever invented. Mr. Seabrook has had a very wide experience in railroad work, as he was General Manager a great many years for a company which employed from six hundred to one thousand men. Considerable of this work was in repairing and rebuilding locomotives and cars. He, therefore, realized the necessity of a Differential Axle for railroads.

Mr. Seabrook's device is the only device to which railroads of the world can look that will enable them to haul a much greater tonnage and reduce the expense of operation and maintenance.

An axle equipped with a Seabrook-Box Coupler is stronger by 50 per cent than a rigid axle.

It is pressed together in the same way that the wheels are pressed on the axle.

There are no bolts, screws, rivets or flanges employed in this axle coupler.

There are absolutely no loose parts to it excepting the journal movement, which is perfect.

It meets with the M. C. B. standards in every detail.

It does not in any way interfere with vested interests.

It is interchangeable.

It is more efficient in every way than the rigid axle.

It adds to the life of the axle at least 100 per cent.

It adds to the life of the rails on curves more than 75 per cent.

It adds to the life of wheels 200 per cent.

It enables a locomotive to haul from 25 to 35 per cent greater tonnage without the expenditure of any additional fuel or labor.

It never has to be inspected.

It does away with 75 per cent of the flange wear.

It never has to be lubricated, as this is accomplished at the time of its construction by the use of graphite and will last the entire life of the axle.

It is endorsed by Railroad Officials, Superintendents of Motive Power, Master Car Builders and Master Mechanics all over the world.

A small investment in this stock today will net you enormous returns in dividends. The stock is now selling at One Dollar per share but will be selling very shortly at Two Dollars. It is the consensus of opinion that this stock will be worth Forty Dollars per share in a very few years and should be worth Five Dollars one year from today.

If you wish for further information we should be glad to supply it upon request. The stock may be advanced any day to Two Dollars, so be sure to send in your subscription immediately to the Fiscal Agents.

## THE WESTERN ENGINEERING COMPANY

Bank References.

501-2-3 Herman W. Hellman Bldg., Los Angeles, Cal.

This is an opportunity  
of a lifetime!

Please send me further information in reference to stock in the American Differential Railway Axle Co.

Name

Address

Cut out Coupon and mail at once.

## PEAR-BLIGHT We can CURE IT

Our Remedy will not injure the tree.

SEND US YOUR ORDER NOW.

Process and Formula Patented.

Address Correspondence to Vacaville, Cal.

## PEAR-BLIGHT REMEDY COMPANY



# INDEX TO VOLUME LXXVI OF THE Pacific Rural Press From July to December, 1908.

A	Page
Agriculture, International Institute.....	162, 194
Agricultural Education.....	120, 123, 191, 211, 258, 338, 385, 386
Agriculture, Moon in.....	179
Alaska, Watermelons in.....	220
Alfalfa for Hogs.....	298, 393
Alfalfa for Steers.....	314, 316
Alfalfa Growing.....	8, 17, 23, 40, 58, 115, 163, 291, 307, 323, 329
Alfalfa Inoculation.....	371
Alfalfa in Silo.....	387
Alfalfa Seed.....	17, 183
Alfalfa with Nurse Crop.....	35
Alfalfa Dodder.....	124
Alfalfa for Dry Lands.....	282
Alfalfa Hay Making.....	58, 103, 387
Alfalfa Killed by Heat.....	259
Alfalfa in Furrows.....	329
Alfalfa in Orchard.....	67
Alfalfa on Fruit Drying Yards.....	84
Alfalfa Restorative to Soils.....	51
Alfalfa, Various.....	403
Alfalfa, Disking.....	371
Alfalfa, Grinding.....	167
Alkali and Lime.....	121
Alkali and Grasses.....	67
Alkali and Fruit Trees.....	328
Alkali, Manure for.....	293, 328
Alkali, Washing Out.....	386
Almond Growing.....	83, 103, 211, 243, 339, 371
Almond Hulls for Stock.....	243
Angora Pants, Taft's.....	104
Angora Association.....	200
Ant, Argentine.....	68, 250
Apiary, Runaway in.....	39
*Apiary, View of Valley.....	35
Apiculture, Government Work in.....	230, 344
Apple Blight.....	35, 51
Apple Growing.....	119, 167
Apple Mildew.....	356
Apple Aphids.....	179, 323
Apple Bloom and Frost.....	100
Apple on Quince.....	244
*Apples, Pajaro Valley.....	305
Apples Shipped to Australia.....	4, 308
Apples in Washington.....	4, 308
Apples, Handling for Market.....	27
Apples, Pruning.....	19, 211
Apricot in California.....	3, 23, 81, 147, 195
Apricot, Branch Failure.....	275
Apricot in Washington.....	82
Artichokes, Globe.....	387
Ashe, Value of.....	179
Asparagus Growing.....	114, 264
Attention to Details in Milk Production.....	410
Automobile and Horse.....	25, 217
Automobile in Agriculture.....	177
B	Page
Bacteria of the Soil.....	196, 243
Banana Growing.....	51
Barley Growing.....	8, 71, 195, 196, 258
Barley, Beardless.....	115
Bean Growing.....	131, 199
"Beasties" in Poultry Yard.....	112
Bee, Breeds of.....	73, 139, 151, 209, 282
Bees in San Joaquin.....	185
Bees and Bees.....	39
Bees, Foul Brood.....	218
Bees, Forage for.....	54
Bees, Transferring.....	139
Bees, Resqueening.....	105, 122, 171
Bees, Carniolan.....	73, 361
Beekeeping.....	21, 33, 266
Bee Growing.....	135
Bee Sugar Factories.....	119, 309
Belladonna Growing.....	343
Berry Growing.....	99, 241, 371, 356
Blackberry Growing.....	356
Blackberry Prices.....	8, 18, 34
Blackberry, Himalayan.....	212
Blackberry Training.....	356
"Boards" Again.....	410
Buhach Growing.....	231
Burnet, Forage Plant.....	83
Bull Growing.....	318
Burr Clover in Texas.....	184, 243, 398
Butter Awards, State Fair.....	201
Butter Making for Government.....	72
C	Page
Cabbage Growing.....	114, 329
Cactus in Australia.....	38
Cactus, Value for Stock.....	57
Calves, Scours of.....	379
Calf Feeding.....	41
*California Fruit Drying.....	97
California Fruits, Fourth Edition.....	321
California Irrigation Statistics.....	49
California Progress.....	146
*California Polytechnic School.....	193
California Rural Life, Quality of.....	370
Canalgre.....	99, 147
Canning Industry.....	227
Canning Methods.....	52
Cantaloupes.....	8, 23, 71, 101, 340, 345
Cement, Strong.....	301
Chestnut Growing.....	243, 310, 387
Cherry Grafting.....	3
Cherry Growing.....	183, 371
Chicken and Corn Contest.....	396
*Citrus Orchard with Field Peas.....	165, 373
Citrus Protective League.....	36, 47
Citrus Fair, Tulare County.....	374
Citrus Trees, Health and Disease.....	133, 369
City People for Farmers.....	18
Codlin Moth, Destroying.....	359
Coffee, "California".....	131
Co-operative Marketing.....	82, 178
Corn Smut.....	387
Cotton in California.....	27, 167
Country Life, American.....	385
Country Life Commission.....	99, 166, 290, 370
Cover Crops vs. Manure.....	373
*Cover Crops in Orchard.....	149, 161, 159, 212, 243, 244, 373
Cow Peas in California.....	89, 121, 410
Cow Feeding.....	234
Cows, Abortion in.....	57
Cows, Register of Merit.....	297
Cows, Shelter for.....	9, 72, 249, 347
Cow Testing.....	123, 347
Coyotes.....	58
Cream Business, San Joaquin.....	298, 331
Creamery Operators' Meeting.....	262
Cultivation for Mulch.....	262
*Illustration.....	

D	Page
Dairy Bureau, California.....	394
Dairy Industry of California.....	121
Dairy Inspection.....	394
Dairy Cattle, Breeding.....	153, 362
Dairy Hints to Beginners.....	72
Dairy in Tulare Lake Region.....	23
Denmark, Premier of.....	66
Diabrotica, Sense of Smell.....	86
Disk in Orchard.....	134
Dodder, Spraying for.....	196, 245
Dry Farming.....	73, 267, 318
Duck Growing.....	266
*Dutch Belted Cattle.....	99
Dwarf Fruit Trees.....	401
Drying Apples in Sonoma County.....	401
E	Page
Eastward Ho!.....	322
Eggs, Preserving.....	43, 75
Egg-Laying Contests.....	155, 200, 283
Eggs in Winter.....	239
Entomological Conferences.....	21, 308
Eucalyptus in Foothill.....	27
Eucalyptus and Alkali.....	99, 275
Eucalyptus in Butte County.....	307
Eucalyptus Insects.....	195
Eucalyptus from Cuttings.....	325
Eucalyptus Rostrata.....	115, 151
Eucalyptus Growing.....	117, 151, 179, 275, 282, 291, 339
F	Page
Fairs in San Joaquin.....	191, 249
Farm, Back to the.....	114
Farmers' Cyclopaedia.....	15
Farmers' Institute Train.....	258
Farmers' Institutes.....	200, 213, 242, 379
Farming, Diversified.....	354
Fence Laws, California.....	33
Fern Killing.....	278, 292, 294, 371
Fertilizers for Fruit.....	227
Fertilizer Dust on Fruit.....	3
Fertilizing for Grain.....	228, 340
Fig Growing.....	228
Fig Insect in California.....	340
Fig, Crop of Dried.....	182, 323
Flaxseed Growing.....	379, 294
Foot and Mouth Disease.....	227, 259
Forest Experiment Stations.....	213
Forest Planting, State Aid.....	75
Forest Restoration.....	165, 191
Forest Reserves in California.....	38
Forestry, Purposes of.....	226
Forests and Water Storage.....	309
Freight Rates on Fruit Products.....	386
Frost Fighting.....	196, 211, 357
Fruit Exchange.....	82, 178
Fruit Growers' Convention.....	321, 355
Fruit Marketing.....	4, 50, 82, 123, 178, 212, 244
Fruit Shipments, Powell's.....	5, 37
Fruit Shipments, 1908.....	326
Fruit Trees.....	328
Fruit Trees, Pruning.....	83, 211, 289
Fruit, Outlook for Profit.....	389
Fruit Bloom, Delaying.....	97, 35
Fruit Drying Industry.....	97, 227
Fruit in Hotels.....	95, 146, 162
Fruit On and Off Cars.....	107
Fruit Preserving for Exhibition.....	68, 147
Fruit Trees, Staking.....	115
Fruit Wagons, Springs for.....	216
Fruit Worm, Dried.....	227
Fruit, Tariff on.....	6, 18, 34, 36, 66, 98, 310, 354
Fruits on Poor Soil.....	20, 36
Fruits Preferred by Cannors.....	52
G	Page
Game Laws of California.....	27
Geese, Growing.....	267, 364
Glanders.....	50
Goats and Dynamite.....	66
Goats' Milk.....	71
Good Roads Convention.....	259
Gopher Extermination.....	58
Grain for Exhibition.....	51
Grange Matters.....	7, 55
134, 146, 182, 193, 246, 278, 303, 313, 369	
Grape Growing in California.....	1, 31, 199
Grape Pomace as Fertilizer.....	40
Grape Sales.....	31, 37, 152, 181, 235, 341
Grape Shipping.....	118
Grape, Almeria.....	161, 194
Grape, Thompson.....	161
Grape, Tokay.....	161
Grape, Zinfandel.....	1, 326
Grape, "California Concord".....	69
Grape, Emperor.....	164, 181
Grape, Black Ferrara.....	164, 181
Grape, Cornichon.....	164, 181
Grape, Chasselas.....	161
Grape, Malaga.....	161, 181
Grape Juice, Bottling.....	267
Grape, Muscat.....	161, 181, 277
*Grape, Sultanina Rose.....	161
Grapes for Home Vineyards.....	341
Grapes, Raisin and Dried.....	65
Grapes, Flavors of.....	244
Grapes, Soils for.....	20
Grapes, Wine.....	1, 135
*Grapes, Table.....	69, 161
Grass, Orchard.....	179
Grass, Paspalum Dilatatum.....	259
Grass, Tall Out and Silvery Out.....	47
Green Manure Crops.....	19, 261
Greensey Cattle.....	362
*Gum Disease of Citrus Trees.....	87, 133, 359
Gypsum.....	35, 99, 227, 356
Gypsum, Fearful of.....	403
H	Page
Hardpan for Fruit.....	228, 356
Harvester, Australian.....	34
Harvester Co., International.....	187
Harvesting, Moonlight.....	202
Hay-Making, California.....	85
Hog in California.....	51
Hog Breeding.....	314
Hog Cholera.....	41
Hog Feeding.....	169
Hog, Berkshire.....	214
Hogs on Alfalfa.....	298, 411
Holstein Veal in Chicago.....	57
Holstein-Friesian, True Type of.....	265, 262
Home Circle.....	Each Issue
Honey, Marketing Comb.....	21
Honey, Ripening.....	90
Hop Picking Machine.....	167
Hop Product.....	19, 79
Horse Meat in Germany.....	109
Horse Breeding.....	41
Horse Dipping for Mange.....	71
Horses, How to Handle.....	41, 330
Hotbeds and Transplanting.....	340
Humus, Offices of.....	325
Hydrangeas.....	83, 86

I	Page
Imperial Valley Institute.....	386
Imperial Valley Live Stock.....	362
Irrigation Congress.....	226
Irrigation by Percolation.....	403
Irrigation, Pumping for.....	8
Irrigation and Fruit Growing.....	19, 81, 211, 212, 270, 357, 373
Irrigator's Level.....	157
*Irrigated Agriculture Dominant.....	19
Irrigation, Frost and.....	357
J	Page
Japanese Floral Calendar.....	310
Jersey Cattle, Characters of.....	362
Jersey Cattle in Kings County.....	200
Johnson Grass Law.....	195
June Drop.....	19
K	Page
Kaffir Corn and Egyptian Corn.....	11
Kale as a Winter Feed for Cows.....	393
L	Page
Labor and Fruit Industries.....	66
Labor From Abroad.....	2, 34, 258
Land for Alfalfa.....	403
Lawns, Grasses for.....	401
Lead Arsenate.....	20, 227, 225
Lemon Gum Disease.....	87, 133, 369
Lemons, To Increase Tariff on.....	376
Lime, Uses of.....	99, 115, 131, 293
Lippia and Morning Glory.....	308
Live Stock Business.....	104
Loam and Loaming.....	262
M	Page
Malva Tree in Poultry Yards.....	131
Manure on Light Soils.....	117
Manure for Orchard.....	42, 293
Market Reports.....	Each Issue
Markets, Free in San Francisco.....	329
Meats Used in Germany.....	169
Milk, Feeding for.....	89
Milking Machines.....	21, 104
Miller, Henry, Cattle King.....	233
Morning Glory.....	163, 303
Mules, Raising.....	167
N	Page
Nitrogen Bacteria.....	243
Nitrogen, Importance of.....	293
Nursery Trees, Age of.....	403
Nuts—See Almond, Walnuts, etc.....	
O	Page
Oat Yield in Napa.....	88
Oleanders Poisonous to Stock.....	42
*Olive Growing in California.....	337, 340
Onion Growing.....	209, 210, 293
Orange Crop.....	257
Orange Fertilizing.....	293
Orange Growing.....	100, 132, 228
Orange Packing.....	68
Orange Pruning.....	308
Orange Sales.....	8, 100, 135
Orange Trees, Unthrifty.....	369
Orange Shipments, Powell's.....	5
Orange, Co-operative Selling.....	82
*Orange Growers' Troubles.....	257
*Orange Industry in California.....	53, 100, 113, 116
Orange, Off-Bloom Fruit.....	53
Oranges, Keeping Qualities of.....	405
Oranges, Florida and California.....	5, 100, 116
Orchard Cultivation.....	1, 181, 325
Oregon Cow Feeding Program.....	410
P	Page
PACIFIC RURAL PRESS, Historical Sketch.....	306
Parcels Post.....	22, 38, 253
Peach Growing.....	183, 279, 355
Peach Pits, California.....	291
Peach Prices.....	23, 71
Peach Variations.....	341
Peach, The Lovell.....	83
Peach Mildew.....	19
Peach Pits for Fuel.....	119
Peachtree.....	130
Pear Blight.....	84, 88, 167, 183, 357
Persimmons, Growing.....	340
Pests to Guard Against.....	372, 388, 404
Pheasant Growing.....	90
Phosphoric Fertilizers.....	99
Pigeons, Shearing.....	293
Pistachio.....	195
Plant Garden at Chico.....	32
Plants for California Gardens.....	85
Plants Not Living Well Together.....	180
*Planting in Nooks and Corners.....	337
Plowing Deep.....	33, 119
Plum, Simon.....	115
Poison Oak Remedies.....	169
Poisonous Plants.....	191, 363, 378
Pomegranates.....	327
Potash Fertilizers.....	293
Potato Scab.....	357
Potato Digger.....	305
Potato Growing.....	125
Potato, Philippi.....	376
Potatoes for Poultry.....	171
Potatoes, Sweet.....	135, 326
Poultry Feeding.....	59, 155, 202, 235, 339, 348
Poultry for the Home.....	10, 26, 94
Poultry for Farmers.....	186, 251, 267, 283
Poultry Hatching.....	10, 26
Poultry Industry.....	166, 220
Poultry Products, Selling.....	43, 311
Poultry Profits.....	43, 138, 200, 235, 283, 332
Poultry and Dairy.....	184
Poultry House Floors.....	10, 106, 138, 348
Poultry Diseases.....	81, 170, 332, 380
Poultry for Exhibition.....	43
Poultry Manure.....	122
Poultry Mites.....	43
Poultry Moulting.....	122
Poultry Yards, Sparrows in.....	155
*Poultry Breeds.....	74, 81, 122, 171, 316
Poultry, Breed for.....	122
Poultry, Select Breeding for Eggs.....	219
Poultry, Summer Care of.....	74
Poultry, Raising Chicks.....	26, 235
Poultry, Starting With.....	139
*Poultry, Orpingtons.....	107
Products Must Indicate Localities.....	107
Prune Dipping.....	3
Prune Prices.....	157, 310, 324
Prune Yield.....	147, 310
*Prunes, California.....	289, 341
*Prunes, Failures With.....	289, 356
Pruning for Shape.....	289, 368
Pruning, Summer.....	83, 211

	Page
Quail Eating Black Scale.....	35
Quarantine for Fruit Pests.....	37
Quince Stock for Apples.....	24
<hr/>	
R	
*Raisin Grapes.....	165, 8
Raisin Marketing.....	263, 292, 312, 325, 331
Range Steer, The.....	21
Range Stock, Better Care of.....	21
Raspberry Growing.....	195, 373
Raspberry, Superlative.....	27
Reclamation Projects.....	27
Red Spider on Prunes.....	8
Redwoods, Growing.....	19
Rhubarb Forcing for Exhibition.....	9
River Bank Trees for Shasta County.....	33
Root Rot Fungus.....	13
Rose, Cherokee.....	26
Roses, Resting.....	19
Rural Mail Delivery.....	19
Rye Grass, Australian.....	49
PACIFIC RURAL PRESS for 33 Years.....	39
<hr/>	
S	
Sacaline Again.....	10
Salt Land near Salton.....	10
Sage Brush Land.....	16
Salt Bush, Why Not Grown.....	19
Santa Fe Trail.....	37
Sawdust as Absorbent.....	30
Scale Insects, Fighting.....	19
*Seed Growing, California.....	209, 37
Sheep Declining.....	12
Sheep and Dogs.....	105, 13
Sheep on Reserves.....	23
Sheep Scab Laws.....	12
*Shields, Judge Peter J.....	10
Shot for Linnets.....	10
*Short-Horns in California.....	11
*Short-Horns as Dairy Cattle.....	32
Short-Horns, History of.....	12
Short-Horns, Sale of.....	136, 145, 395, 41
Silage.....	9, 147, 38
Silo, Preserving, Not Improving.....	10
Silo, Frame.....	10
Silk Culture.....	19
Silage, Best.....	40
Snail Breeding.....	8
Snails and Sense of Smell.....	8
Soil, Improving Low.....	22
Soils for Fruits.....	20, 36, 227, 262, 323, 33
Sorghum for Horses.....	3
Sorghum Growing.....	1
Sparrows and Mites.....	1
Speltz.....	179, 2
Squash Growing.....	2
State Fair.....	150, 163, 16
State Forester, Advice From.....	1
Strawberry Proliferation.....	1
Strawberry in California.....	35, 71, 99, 117, 1
Strawberry in Oregon.....	1
Strawberries, Etter's New.....	117, 132, 118, 1
Sul-trigated Land.....	1
Sulphur in Fruit Drying.....	130, 3
Sunburn of Fruit Trees.....	1
Sunflower Leaves for Forage.....	1
Stock Exhibits, Preparing.....	1
Stock, Judging.....	1
<hr/>	
T	
Tap-root Nonsense.....	41
Taxation Reforms in California.....	2
Texas Fever.....	121, 14
Thrips on Fruit Trees.....	33, 2
Ticks, Dipping for.....	14
Tobacco Growing.....	10
Tomato Growing.....	1
*Teague, R. M.....	1
Trees, Transplanting in Nursery.....	163, 3
Truffles in California.....	1
Tuberculosis in England.....	11
Tuberculosis, Testing for.....	24, 33
Tule Hay for Packing.....	41
Turkey Blackhead.....	10
Turkey Growing.....	33
Twig Borer (Polycaon) in Apple.....	1
<hr/>	
U	
United States, Outlook of.....	11
University Agricultural Building.....	1
University Agricultural Investigations.....	10
*University Farm.....	42, 136, 185, 225, 242, 260, 37
<hr/>	
V	
Vedalia in Action.....	9
Vegetables in Southern California.....	9
Veterinary Advice.....	217, 281, 31
Vine Planting.....	53, 25
Vine Disease, Anaheim.....	7
*Vine Grafting.....	102, 213, 229, 35
Vine Root Rot.....	6
Vine, Wire Graft.....	35
Vines, Pruning Young.....	35
Vines, Resistant.....	3
Vines, Root Worms.....	37
Vines, Care of.....	6
Vines Sulphuring.....	87, 149, 17
Viticulture, Works on.....	11
<hr/>	
W	
Walnut From Seed.....	51, 148, 270
Walnut Growing.....	148, 164, 243, 273, 387
Walnut Selling.....	247
Walnut, California Black.....	53, 68, 27
Walnut, French Varieties.....	273, 276
*Walnut Grafting.....	3, 273
Walnut Bleach.....	5
Walnut Gathering by Suction.....	132
Walnuts and Overflow.....	307
Walnuts, Budding.....	148, 244
Walnuts, Buds.....	35
Walnuts, Pickling.....	148
Walnuts, Soils for.....	134
Walnuts, Sulphuring.....	4
Water, Killing Scum on.....	259
Weed Killing, Chemical.....	6, 19, 162
Weeds, Laws Against.....	6
Wheat Experiments.....	7
Wheat, Preparing Land for.....	196
Wheat, Alaska, Fake.....	66, 117, 162
Wheat Lands, Decline of.....	133
Wheat to Bread.....	151
*Wickson, E. J.....	321
Winery Pomace as Fertilizer.....	69
Wine, Unfermented.....	261
Wine and Prohibition.....	66
Wool and the Tariff.....	195
<hr/>	
Z	
Zante Currants in California.....	55, 67



211

211  
212  
213  
214  
215  
216  
217  
218  
219  
220  
221  
222  
223  
224  
225  
226  
227  
228  
229  
230  
231  
232  
233  
234  
235  
236  
237  
238  
239  
240  
241  
242  
243  
244  
245  
246  
247  
248  
249  
250  
251  
252  
253  
254  
255  
256  
257  
258  
259  
260  
261  
262  
263  
264  
265  
266  
267  
268  
269  
270  
271  
272  
273  
274  
275  
276  
277  
278  
279  
280  
281  
282  
283  
284  
285  
286  
287  
288  
289  
290  
291  
292  
293  
294  
295  
296  
297  
298  
299  
300

301  
302  
303  
304  
305  
306  
307  
308  
309  
310  
311  
312  
313  
314  
315  
316  
317  
318  
319  
320  
321  
322  
323  
324  
325  
326  
327  
328  
329  
330  
331  
332  
333  
334  
335  
336  
337  
338  
339  
340  
341  
342  
343  
344  
345  
346  
347  
348  
349  
350  
351  
352  
353  
354  
355  
356  
357  
358  
359  
360  
361  
362  
363  
364  
365  
366  
367  
368  
369  
370  
371  
372  
373  
374  
375  
376  
377  
378  
379  
380  
381  
382  
383  
384  
385  
386  
387  
388  
389  
390  
391  
392  
393  
394  
395  
396  
397  
398  
399  
400

401  
402  
403  
404  
405  
406  
407  
408  
409  
410  
411  
412  
413  
414  
415  
416  
417  
418  
419  
420  
421  
422  
423  
424  
425  
426  
427  
428  
429  
430  
431  
432  
433  
434  
435  
436  
437  
438  
439  
440  
441  
442  
443  
444  
445  
446  
447  
448  
449  
450  
451  
452  
453  
454  
455  
456  
457  
458  
459  
460  
461  
462  
463  
464  
465  
466  
467  
468  
469  
470  
471  
472  
473  
474  
475  
476  
477  
478  
479  
480  
481  
482  
483  
484  
485  
486  
487  
488  
489  
490  
491  
492  
493  
494  
495  
496  
497  
498  
499  
500

501  
502  
503  
504  
505  
506  
507  
508  
509  
510  
511  
512  
513  
514  
515  
516  
517  
518  
519  
520  
521  
522  
523  
524  
525  
526  
527  
528  
529  
530  
531  
532  
533  
534  
535  
536  
537  
538  
539  
540  
541  
542  
543  
544  
545  
546  
547  
548  
549  
550  
551  
552  
553  
554  
555  
556  
557  
558  
559  
560  
561  
562  
563  
564  
565  
566  
567  
568  
569  
570  
571  
572  
573  
574  
575  
576  
577  
578  
579  
580  
581  
582  
583  
584  
585  
586  
587  
588  
589  
590  
591  
592  
593  
594  
595  
596  
597  
598  
599  
600

601  
602  
603  
604  
605  
606  
607  
608  
609  
610  
611  
612  
613  
614  
615  
616  
617  
618  
619  
620  
621  
622  
623  
624  
625  
626  
627  
628  
629  
630  
631  
632  
633  
634  
635  
636  
637  
638  
639  
640  
641  
642  
643  
644  
645  
646  
647  
648  
649  
650  
651  
652  
653  
654  
655  
656  
657  
658  
659  
660  
661  
662  
663  
664  
665  
666  
667  
668  
669  
670  
671  
672  
673  
674  
675  
676  
677  
678  
679  
680  
681  
682  
683  
684  
685  
686  
687  
688  
689  
690  
691  
692  
693  
694  
695  
696  
697  
698  
699  
700

701  
702  
703  
704  
705  
706  
707  
708  
709  
710  
711  
712  
713  
714  
715  
716  
717  
718  
719  
720  
721  
722  
723  
724  
725  
726  
727  
728  
729  
730  
731  
732  
733  
734  
735  
736  
737  
738  
739  
740  
741  
742  
743  
744  
745  
746  
747  
748  
749  
750  
751  
752  
753  
754  
755  
756  
757  
758  
759  
760  
761  
762  
763  
764  
765  
766  
767  
768  
769  
770  
771  
772  
773  
774  
775  
776  
777  
778  
779  
780  
781  
782  
783  
784  
785  
786  
787  
788  
789  
790  
791  
792  
793  
794  
795  
796  
797  
798  
799  
800

801  
802  
803  
804  
805  
806  
807  
808  
809  
810  
811  
812  
813  
814  
815  
816  
817  
818  
819  
820  
821  
822  
823  
824  
825  
826  
827  
828  
829  
830  
831  
832  
833  
834  
835  
836  
837  
838  
839  
840  
841  
842  
843  
844  
845  
846  
847  
848  
849  
850  
851  
852  
853  
854  
855  
856  
857  
858  
859  
860  
861  
862  
863  
864  
865  
866  
867  
868  
869  
870  
871  
872  
873  
874  
875  
876  
877  
878  
879  
880  
881  
882  
883  
884  
885  
886  
887  
888  
889  
890  
891  
892  
893  
894  
895  
896  
897  
898  
899  
900



